

RFB NO. 319016



# **CONSTRUCTION DOCUMENTS PROJECT MANUAL**

DANE COUNTY DEPARTMENT OF PUBLIC WORKS,  
HIGHWAY AND TRANSPORTATION

**PUBLIC WORKS ENGINEERING DIVISION**  
1919 ALLIANT ENERGY CENTER WAY  
MADISON, WISCONSIN 53713

**REQUEST FOR BIDS NO. 319016  
FEN OAK KITCHEN REMODEL  
LYMAN F. ANDERSON AGRICULTURE & CONSERVATION CENTER  
5201 FEN OAK DRIVE  
MADISON, WISCONSIN**

Due Date / Time: **TUESDAY, JANUARY 14, 2020 / 2:00 P.M.**

Location: **PUBLIC WORKS OFFICE**

Performance / Payment Bond: **100% OF CONTRACT AMOUNT**

Bid Deposit: **5% OF BID AMOUNT**

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FOR INFORMATION ON THIS REQUEST FOR BIDS, PLEASE CONTACT:

RYAN SHORE, PROJECT MANAGER  
TELEPHONE NO.: 608/266-4475  
FAX NO.: 608/267-1533  
E-MAIL: [SHORE@COUNTYOFDANE.COM](mailto:SHORE@COUNTYOFDANE.COM)

## **TABLE OF CONTENTS FOR RFB NO. 319016**

### **DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS**

Project Manual Cover Page  
Table of Contents  
Advertisement for Bids (Legal Notice)  
Best Value Contracting Application  
Instructions to Bidders  
Bid Form  
Fair Labor Practices Certification  
Sample Public Works Construction Contract  
Sample Bid Bond  
Sample Performance Bond  
Sample Payment Bond  
Conditions of Contract  
Supplementary Conditions

### **DIVISION 01 - GENERAL REQUIREMENTS**

01 00 00 - Basic Requirements  
01 74 19 - Construction Waste Management, Disposal & Recycling

### **DIVISION 02 - EXISTING CONDITIONS**

02 41 19 - Selective Structure Demolition

### **DIVISION 06 - WOOD, PLASTICS AND COMPOSITES**

06 10 00 - Rough Carpentry  
06 41 16 - Plastic Laminate Clad Casework  
06 61 18 - Solid Surface

### **DIVISION 07 - THERMAL AND MOISTURE PROTECTION**

07 92 00 - Joint Sealants

### **DIVISION 08 - OPENINGS**

08 11 13 - Hollow Metal Doors and Frames  
08 14 16 - Flush Wood Doors  
08 33 00 - Rolling Counter Shutters  
08 71 00 - Door Hardware  
08 80 00 - Glass and Glazing

### **DIVISION 09 - FINISHES**

09 29 00 - Gypsum Board  
09 30 00 - Tiling  
09 51 00 - Acoustical Ceilings  
09 65 00 - Resilient Flooring  
09 90 00 - Painting

### **DIVISION 26 - ELECTRICAL**

26 05 00 - General Electrical Requirements  
26 20 00 - Basic Materials and Methods  
26 51 13 - Lighting

## **DRAWINGS**

Plot drawings on 11"x17" (ANSI B) paper for correct scale or size.

Sheet G1.0 - Lyman F. Anderson Agriculture and Conservation Center Kitchen  
Renovation Cover Sheet  
Sheet G2.0 - Existing First Floor Plan  
Sheet D2.1 - First Floor Demolition Plan  
Sheet D3.1 - Demolition Reflected Ceiling Plan  
Sheet A2.1 - First Floor Plan  
Sheet A3.1 - Reflected Ceiling Plan  
Sheet A7.0 - Interior Elevations, Sections and Partirion Types  
Sheet A7.1 - Door and Frame Schedule and Elevations, Details  
Partial First Floor Plan Fire Protection, FP100  
Partial First Floor Plan Plumbing Demolition, PD100  
Partial First Floor Plan Plumbing. P100  
Plumbing Specifications, Abbreviations and Symbols, P200  
Partial First Floor Plan HVAC Demolition, MD100  
Partial First Floor Plan HVAC New Work, M100  
HVAC Schedules, M200  
HVAC Specifications, M300  
HVAC Specifications, M301  
Sheet E0.0 - Electrical Sheet Index, Symbols and Abbreviations  
Sheet E1.0 - Overall First Floor Plan  
Sheet E2.0 - First Floor Lighting Demolition Plan  
Sheet E2.1 - First Floor Power and Systems Demolition Plan  
Sheet E3.0 - First Floor Lighting Plan  
Sheet E3.1 - First Floor Power and Systems Plan  
Sheet E4.0 - Schedules and Details

**LEGAL NOTICE**

**INVITATION TO BID**

Dane County Dept. of Public Works, Hwy & Transp., 1919 Alliant Energy Center Way, Madison, WI 53713, will receive sealed Bids until:

**2:00 P.M., TUESDAY, JANUARY 14, 2020**

**RFB NO. 319016**

**FEN OAK KITCHEN REMODEL**

**LYMAN F. ANDERSON AGRICULTURE & CONSERVATION CENTER**

**5201 FEN OAK DRIVE**

**MADISON, WI**

Dane County is inviting Bids for construction services to update and remodel the UW Extension kitchen.

Request for Bids document may be obtained after **2:00 p.m. on Tuesday November 19, 2019** by downloading it from [bids-pwht.countyofdane.com](http://bids-pwht.countyofdane.com). Please call Ryan Shore, Project Manager, at 608/266-4475, or our office at 608/266-4018, for any questions or additional information.

All Bidders must be pre-qualified as a Best Value Contractor before award of Contract. Complete Pre-qualification Application for Contractors at [countyofdane.com/pwht/BVC\\_Application.aspx](http://countyofdane.com/pwht/BVC_Application.aspx) or obtain one by calling 608/266-4029.

A pre-bid facility tour will be held on Thursday, December 5, 2019 at 9:00 a.m. at Lyman F. Anderson Agriculture & Conservation Center, starting in the Main Lobby. Bidders are strongly encouraged to attend this tour.

**PUBLISH:    NOVEMBER 19 & 26, 2019 - WISCONSIN STATE JOURNAL**  
**NOVEMBER 19 & 26, 2019 - THE DAILY REPORTER**



Department of Public Works, Highway & Transportation  
**Public Works Engineering Division**

608/266-4018

Gerald J. Mandli, P.E.  
**Commissioner / Director**

Joseph T. Parisi  
**County Executive**

**Deputy Director**  
Todd Draper

1919 Alliant Energy Center Way  
Madison, Wisconsin 53713  
Fax: 608/267-1533

[www.countyofdane.com/pwht/public\\_works.aspx](http://www.countyofdane.com/pwht/public_works.aspx)

## **BEST VALUE CONTRACTING APPLICATION**

### **CONTRACTORS / LICENSURE APPLICANTS**

The Dane County Department of Public Works requires all contractors to be pre-qualified as a best value contractor with the County prior to being awarded a contract. In addition, the County pre-qualifies potential contractors and sub-contractors who wish to work on County contracts. Subcontractors must become pre-qualified ten (10) days prior to commencing work under any Dane County Public Works Contract. Potential subcontractors are urged to become pre-qualified as early as possible. This document shall be completed, properly executed, along with the necessary attachments and additional information that the County requires for the protection and welfare of the public in the performance of a County contract.

Contractors or subcontractors of any tier who attain pre-qualification status will retain that status for a period of two (2) years from the date of qualification. Contractors shall notify the Dane County Department of Public Works, Highway & Transportation within fifteen (15) days of any changes to its business or operations that are relevant to the pre-qualification application. Failure to do so could result in suspension, revocation of the contractor's pre-qualification, debarment from County contracts for up to three (3) years and / or other sanctions available under the law.

No contracts will be awarded for construction work performed on Dane County projects unless the contractor is currently approved as a Wisconsin Trade Trainer or has applied for approval as an Apprenticeship Trade Trainer to the Wisconsin Department of Workforce Development and agrees to an acceptable apprenticeship program. If you are not currently approved as a Wisconsin Trade Trainer, or have not applied for approval as an Apprenticeship Trade Trainer, please contact the Department of Workforce Development - Bureau of Apprenticeship Standards at 608/266-3133 or visit their web site at: [dwd.wisconsin.gov/apprenticeship/](http://dwd.wisconsin.gov/apprenticeship/).

### **EXEMPTIONS**

- Contractors who employ less than five (5) apprenticeable trade workers are not required to pre-qualify.
- Contractors performing work that does not apply to an apprenticeable trade, as outlined in Appendix A.
- The contractor / subcontractor provides sufficient documentation to demonstrate one or more of the following:
  - apprentices are not available in a specific geographic area;
  - the applicable apprenticeship program is unsuitable or unavailable; or
  - there is a documented depression of the local construction market which prevents compliance.

SEC.	PROOF OF RESPONSIBILITY	CHECK IF APPLICABLE
1	Does your firm possesses all technical qualifications and resources, including equipment, personnel and financial resources, necessary to perform the work required for any project or obtain the same through the use of responsible, pre-qualified subcontractors?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
2	Will your firm possess all valid, effective licenses, registrations or certificates required by federal, state, county, or local law, which are necessary for the type of work to be performed including, but not limited to, those for any type of trade work or specialty work?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
3	Will your firm meet all bonding requirements as required by applicable law or contract specifications?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
4	Will your firm meet all insurance requirements as required by applicable law or specifications, including general liability insurance, workers compensation insurance and unemployment insurance requirements?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
5	Will your firm maintain a substance abuse policy for employees hired for public works contracts that comply with Wis. Stats. Sec. 103.503?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
6	Does your firm acknowledge that it must pay all craft employees on public works projects the wage rates and benefits required under Section 66.0903 of the Wisconsin Statutes?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
7	Will your firm fully abide by the equal opportunity and affirmative action requirements of all applicable laws, including County ordinances?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
8	In the past three (3) years, has your firm had control or has another corporation, partnership or other business entity operating in the construction industry controlled it? If so, please attach a statement explaining the nature of the firm relationship?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
9	In the past three (3) years, has your firm had any type of business, contracting or trade license, certification or registration revoked or suspended?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
10	In the past three (3) years, has your firm been debarred by any federal, state or local government agency?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
11	In the past three (3) years, has your firm defaulted or failed to complete any contract?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
12	In the past three (3) years, has your firm committed a willful violation of federal, state or local government safety laws as determined by a final decision of a court or government agency authority.	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
13	In the past three (3) years, has your firm been in violation of any law relating to your contracting business where the penalty for such violation resulted in the imposition of a penalty greater than \$10,000?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
14	Is your firm Executive Order 108 pre-certified with the State of Wisconsin?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
15	Is your firm an active Wisconsin Trade Trainer as determined by the Wisconsin Bureau of Apprenticeship Standards?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
16	Is your firm exempt from being pre-qualified with Dane County?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach reason for exemption.
17	Does your firm acknowledge that in doing work under any County Public Works Contract, it will be required to use as subcontractors only those contractors that are also pre-qualified with the County or become so ten days prior to commencing work?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
18	Contractor has been in business less than one year?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
19	Is your firm a first time Contractor requesting a one time exemption, but, intend to comply on all future contracts and are taking steps typical of a "good faith" effort?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
20	Not applicable. My firm does not intend to work on Best Value Contracts. Note: Best Value Contracting is required to bid on most Public Works Contracts (if unclear, please call Todd Draper 608-267-0119).	Yes: <input type="checkbox"/> No: <input type="checkbox"/>

## SIGNATURE SECTION

Your firm's Officer, or the individual who would sign a bid and / or contract documents must sign this document.

I do hereby certify that all statements herein contained are true and correct to the best of my knowledge:

Signature: \_\_\_\_\_

(Application is invalid without signature)

Print Name: \_\_\_\_\_ Date: \_\_\_\_\_

Title: \_\_\_\_\_

NAME AND ADDRESS OF CONTRACTOR	
Name of Firm:	
Address:	
City, State, Zip:	
Phone Number:	
Fax Number:	
E-mail Address:	

## REMEMBER!

**RETURN ALL TO FORMS AND ATTACHMENTS, OR QUESTIONS TO:**

**TODD DRAPER  
EMAIL: DRAPER@COUNTYOFDANE.COM  
OFFICE: (608)267-0119, FAX: (608)267-1533**

**DANE COUNTY DEPARTMENT OF PUBLIC WORKS, HIGHWAY & TRANSPORTATION  
1919 ALLIANT ENERGY CENTER WAY  
MADISON, WI 53713**

## APPENDIX A

### APPRENTICEABLE TRADES:

- Bricklayer
- Carpenter
- Cement Mason (Concrete Finisher)
- Cement Mason (Heavy Highway)
- Construction Craft Laborer
- Data Communications Installer
- Electrician
- Elevator Mechanic / Technician
- Environmental Systems Technician / HVAC Service Technician / HVAC Install & Service
- Glazier
- Heavy Equipment Operator / Operating Engineer
- Insulation Worker (Heat & Frost)
- Iron Worker (Assembler, Metal Buildings)
- Painter / Decorator
- Plasterer
- Plumber
- Roofer / Waterproofer
- Sheet Metal Worker
- Sprinkler Fitter
- Steamfitter (Service & Refrigeration)
- Taper & Finisher
- Telecommunications (Voice, Data & Video) Installer / Technician
- Tile Setter



# INSTRUCTIONS TO BIDDERS

## TABLE OF CONTENTS

INSTRUCTIONS TO BIDDERS.....	1
1. GENERAL.....	1
2. DRAWINGS AND SPECIFICATIONS.....	1
3. INTERPRETATION.....	2
4. QUALIFICATIONS OF BIDDER (CONTRACTOR AND SUBCONTRACTOR)....	2
5. BID GUARANTEE.....	3
6. WITHDRAWAL OF BIDS.....	3
7. CONTRACT FORM.....	3
8. CONTRACT INTERESTS BY COUNTY PUBLIC OFFICIALS.....	3
9. METHOD OF AWARD - RESERVATIONS.....	4
10. SECURITY FOR PERFORMANCE AND PAYMENTS.....	4
11. TAXES.....	4
12. SUBMISSION OF BIDS.....	5
13. SUBCONTRACTOR LISTING.....	5
14. ALTERNATE BIDS.....	5
15. INFORMATIONAL BIDS.....	6
16. UNIT PRICES.....	6
17. COMMENCEMENT AND COMPLETION.....	6
19. SPECIAL HAZARDS COVERAGE.....	6

### **1. GENERAL**

- A. Before submitting Bid, bidder shall thoroughly examine all Construction Documents. Successful Bidder shall be required to provide all the Work that is shown on Drawings, set forth in Specifications, or reasonably implied as necessary to complete Contract for this project.
- B. Bidder shall visit site to become acquainted with adjacent areas, means of approach to site, conditions of actual site and facilities for delivering, storing, placing, and handling of materials and equipment.
- C. Pre-bid meeting is scheduled on December 5, 2019 at 9:00 a.m.at the Lyman F. Anderson Agriculture & Conservation Center,, 5201 Fen Oak Drive in the Main Lobby. Attendance by all bidders is optional, however bidders and subcontractors are strongly encouraged to attend Failure to visit site or failure to examine any and all Construction Documents will in no way relieve successful Bidder from necessity of furnishing any necessary materials or equipment, or performing any work, that may be required to complete the Work in accordance with Drawings and Specifications. Neglect of above requirements will not be accepted as reason for delay in the Work or additional compensation.

### **2. DRAWINGS AND SPECIFICATIONS**

- A. Drawings and Specifications that form part of this Contract, as stated in Conditions of Contract, are enumerated in Document Index of these Construction Documents.
- B. Complete sets of Drawings and Specifications for all trades will be available to all Bidders, irrespective of category of work to be bid on, in order that all Bidders may be familiar with work of other trades as they affect their bid.

- C. For deposit refund, return complete sets of Drawings and Specifications to same location they were picked up within ninety (90) calendar days after Bid Due Date. After that time, deposit will be forfeited.

### **3. INTERPRETATION**

- A. No verbal explanation or instructions will be given in regard to meaning of Drawings or Specifications before Bid Due Date. Bidders shall bring inadequacies, omissions or conflicts to Owner or Architect / Engineer's attention at least ten (10) calendar days before Bid Due Date. Prompt clarification will be available to all bidders by Addendum.
- B. Failure to so request clarification or interpretation of Drawings and Specifications will not relieve successful Bidder of responsibility. Signing of Contract will be considered as implicitly denoting that Contractor has thorough understanding of scope of the Work and comprehension of Construction Documents.
- C. Owner or Architect / Engineer will not be responsible for verbal instructions.

### **4. QUALIFICATIONS OF BIDDER (CONTRACTOR AND SUBCONTRACTOR)**

- A. Before award of Contract can be approved, Owner shall be satisfied that Bidder involved meets following requirements:
  - 1. Has completed at least one (1) project of at least fifty percent (50%) of size or value of Division of work being bid and type of work completed is similar to that being bid. If greater magnitude of experience is deemed necessary, other than size or value of work, such requirements will be described in appropriate section of Specifications.
  - 2. Maintains permanent place of business.
  - 3. Can be bonded for terms of proposed Contract.
  - 4. Has record of satisfactorily completing past projects. Criteria which will be considered in determining satisfactory completion of projects by bidder will include:
    - a. Completed contracts in accordance with drawings and specifications.
    - b. Diligently pursued execution of work and completed contracts according to established time schedule unless Owner grants extensions.
    - c. Fulfilled guarantee requirements of construction documents.
    - d. Is not presently on ineligible list maintained by County's Department of Administration for noncompliance with equal employment opportunities and affirmative action requirements.
    - e. Authorized to conduct business in Wisconsin. By submitting Bid, bidder warrants that it has: complied with all necessary requirements to do business in State of Wisconsin; that persons executing contract on its behalf are authorized to do so; and, if corporation, that name and address of bidder's registered agent are as set forth in Contract. Bidder shall notify Owner immediately, in writing, of any change in its registered agent, their address, and bidder's legal status. For partnership, term "registered agent" shall mean general partner.
- B. County's Public Works Project Engineer will make such investigations as are deemed necessary to determine ability of bidder to perform the Work, and bidder shall furnish to County's Public Works Project Engineer or designee all such information and data for this purpose as County's Public Works Project Engineer may request. Owner reserves right to reject Bid if evidence submitted by, or investigation of, bidder fails to satisfy Owner that

bidder is responsible and qualified to carry out obligations of Contract and to complete the Work contemplated therein.

## **5. BID GUARANTEE**

- A. Bank certified check, cashier's check or Bid Bond, payable to County in amount not less than five percent (5%) of maximum bid, shall accompany each Bid as guarantee that if Bid is accepted, Bidder will execute and return proposed Contract and Performance and Payment Bonds within ten (10) business days after being notified of acceptance of Bid. Company issuing bonds must be licensed to do business in Wisconsin.
- B. Any bid, which is not accompanied by bid guarantee, will be considered "No Bid" and will not be read at Bid Due Date.
- C. If successful Bidder so delivers Contract, Certificate of Insurance, and Performance and Payment Bonds, check will be returned to Bidder. In case Bidder fails to deliver such Contract, insurance, and bond, amount of bid guarantee will be forfeited to County as liquidated damages.
- D. All checks tendered as bid guarantee, except those of three (3) lowest qualified, responsible bidders, will be returned to their makers within three (3) business days after Bid Due Date. All such retained checks will be returned immediately upon signing of Contract and Performance and Payment Bonds by successful Bidder.

## **6. WITHDRAWAL OF BIDS**

- A. Bids may be withdrawn by written request received from bidder or authorized representative thereof prior to time fixed for Bid Due Date, without prejudice to right of bidder to file new Bid. Withdrawn Bids will be returned unopened. Negligence on part of bidder in preparing their Bid confers no right for withdrawal of Bid after it has been opened.
- B. No Bid may be withdrawn for period of sixty (60) calendar days after Bid Due Date.
- C. If Bid contains error, omission or mistake, bidder may limit liability to amount of bidder's guarantee by giving written Notice of Intent not to execute Contract to Owner within seventy-two (72) hours of Bid Due Date.

## **7. CONTRACT FORM**

- A. Sample copy of contract that successful Bidder will be required to enter into is included in these Construction Documents and bidders are required to familiarize themselves with all conditions contained therein.

## **8. CONTRACT INTERESTS BY COUNTY PUBLIC OFFICIALS**

- A. In accordance with Wisconsin Statute 946.13, county official may not bid for or enter into any contract involving receipts or disbursements of more than \$15,000.00 in a year, in which they have private pecuniary interest, direct or indirect if at same time they are authorized to take official action with respect to making of this Contract. Any contract entered into in violation of this Statute is void and County incurs no liability thereon. This subsection does not affect application and enforcement of Wisconsin Statute 946.13 by state prosecutors in criminal courts of this state.

## **9. METHOD OF AWARD - RESERVATIONS**

- A. Following will be basis of award of Contract, providing cost does not exceed amount of funds then estimated by County as available to finance Contract(s):
  - 1. Lowest dollar amount submitted by qualified responsible bidder on Base Bid for all work comprising project, combined with such additive Owner accepted alternates.
  - 2. Owner reserves right to reject all bids or any bid, to waive any informality in any bid, and to accept any bid that will best serve interests of County.
  - 3. Unit Prices and Informational Bids will not be considered in establishing low bidder.

## **10. SECURITY FOR PERFORMANCE AND PAYMENTS**

- A. Simultaneous with delivery of signed Contract, Bidder shall be required to furnish Performance and Payment Bonds as specified in Article 2 of Conditions of Contract, "Guarantee and Bond". Surety Company shall be licensed to do business in Wisconsin. Performance and Payment Bonds must be dated same date or subsequent to date of Contract. Performance and Payment Bonds must emulate information in Sample Performance and Payment Bonds in Construction Documents.
- B. Provide certified copy of power of attorney from Surety Company showing that agent who signs Bond has power of attorney to sign for Surety Company. Secretary or Assistant Secretary of company must sign this certification, not attorney-in-fact. Certification must bear same or later date as Bond. Power of Attorney must emulate model power of attorney information detailed in Sample Performance and Payment Bonds.
- C. If Bidder is partnership or joint venture, State certified list, providing names of individuals constituting partnership or joint venture must be furnished. Contract itself may be signed by one partner of partnership, or one partner of each firm comprising joint venture, but Performance and Payment Bonds must be signed by all partners.
- D. If Bidder is a corporation, it is necessary that current certified copy of resolution or other official act of directors of corporation be submitted showing that person who signs Contract is authorized to sign contracts for corporation. It is also necessary that corporate seal be affixed to resolution, contract, and performance and payment bonds. If your corporation has no seal, it is required that above documents include statement or notation to effect that corporation has no seal.

## **11. TAXES**

- A. Wisconsin Statute 77.54 (9m) allows building materials that become part of local unit government facilities to be exempt from sales & use tax. Vendors & materials suppliers may not charge Bidders sales & use tax on these purchases. This does not include highways, streets or roads. Any other Sales, Consumer, Use & other similar taxes or fees required by law shall be included in Bid.
- B. In accordance with Wisconsin Statute 71.80(16)(a), successful nonresident bidder, whether incorporated or not, and not otherwise regularly engaged in business in this state, shall file surety bond with State of Wisconsin Department of Revenue payable to Department of Revenue, to guarantee payment of income taxes, required unemployment compensation contributions, sales and use taxes and income taxes withheld from wages of employees, together with any penalties and interest thereon. Amount of bond shall be three percent (3%) of Contract or subcontract price on all contracts of \$50,000 or more.

## **12. SUBMISSION OF BIDS**

- A. All Bids shall be submitted on standard Bid Form bound herein and only Bids that are made on this Bid Form will be considered. Entire Bid Form and other supporting documents, if any, shall be removed or copied from Construction Documents, filled out, and submitted in manner specified hereinafter. Submit completed Bid Bond with Bid as well.
- B. No bids for any subdivision or any sub-classification of this Work, except as indicated, will be accepted. Any conditional Bid, amendment to Bid Form or appended item thereto, or inclusion of any correspondence, written or printed matter, or details of any nature other than that specifically called for, which would alter any essential provision of Construction Documents, or require consideration of unsolicited material or data in determining award of Contract, will disqualify Bid. Telecommunication alterations to Bid will not be accepted.
- C. Bidders must submit single Bid for all the Work.
- D. Bid amounts shall be inserted in words and in figures in spaces provided on Bid Form; in case of conflict, written word amounts will govern.
- E. Addenda issued after Bid Letting shall become part of Construction Documents. Bidders shall acknowledge receipt of such addenda in appropriate space provided on Bid Form. Bid may be rejected if receipt of any particular addendum applicable to award of Contract has not been acknowledged on Bid Form.
- F. Bids shall be signed, placed in envelope, sealed and delivered before due time to place designated in Invitation to Bid, and identified with project name, bid number, location, category of work being bid upon, Bid Due Date, name and address of bidder.
- G. Bidder shall be responsible for sealed Bid being delivered to place designated for Bid Due Date on or before date and time specified. Bids received after time of closing will be rejected and returned to bidder unopened.
- H. Bid will be considered invalid and will be rejected if bidder has not signed it.
- I. Faxed or emailed Bids will not be accepted.
- J. Bidder's organization shall submit completed with Bid, Fair Labor Practices Certification form, included in these Construction Documents.

## **13. SUBCONTRACTOR LISTING**

- A. Bidders shall be required to submit list of major subcontractors for General Construction, Plumbing, HVAC, and Electrical work proposed for this project to include committed prices for each subcontractor. List shall be placed in separate sealed envelope that must be clearly identified as "Major Subcontractor List", for named project and name of Bidder submitting it. County must receive envelope no later than date by which successful Bidder is required to submit his or her signed Contract, as established in Construction Documents.

## **14. ALTERNATE BIDS**

- A. Bidder shall carefully read requests for Alternate Bids, and thoroughly examine Drawings and Specifications to determine extent various changes and conditions will affect Bid.

- B. Space is provided in Bid Form for requested Alternate Bids. Failure to submit bid for any requested Alternate Bids may result in rejection of entire Bid.
- C. Bidder shall state amount to be added / subtracted to Base Bid for providing alternates, including all incidentals, omissions, additions, and adjustments as may be necessary or required by such changes. If there is no difference in price, Bidder shall state, "No Change".
- D. Descriptions of requested Alternate Bids are as set forth in Construction Documents.

**15. INFORMATIONAL BIDS**

- A. Not Applicable

**16. UNIT PRICES**

- A. Not Applicable.

**17. COMMENCEMENT AND COMPLETION**

- A. Successful Bidder shall commence work when schedule and weather permit, but no later than stated in Bid Form. Contractor shall pursue the Work regularly and continuously at reasonable rate to insure completion of the Work within time stated in Bid.
- B. Should it be found impossible to complete the Work on or before time specified for completion, written request may be submitted for extension of time setting forth reasons believed to justify granting of such request. Refer to "Time for Completion", Article 5 of Conditions of Contract, titled "Contract Provisions"

**18. WORK BY OWNER**

- A. Not Applicable.

**19. SPECIAL HAZARDS COVERAGE**

- A. Not Applicable.

Name of Bidding Firm: \_\_\_\_\_

**BID FORM**

**BID NO. 319016**

**PROJECT: FEN OAK KITCHEN REMODEL  
LYMAN F. ANDERSON AGRICULTURE & CONSERVATION CENTER**

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

**NOTE: WISCONSIN STATUTE 77.54 (9M) ALLOWS FOR NO SALES & USE TAX ON  
THE PURCHASE OF MATERIALS FOR COUNTY PUBLIC WORKS PROJECTS.**

**BASE BID - LUMP SUM:**

Dane County is inviting Bids for construction services to update and remodel the UW Extension kitchen. The undersigned, having examined the site where the Work is to be executed and having become familiar with local conditions affecting the cost of the Work and having carefully examined the Drawings and Specifications, all other Construction Documents and Addenda thereto prepared by Dane County Department of Public Works, Highway & Transportation hereby agrees to provide all labor, materials, equipment and services necessary for the complete and satisfactory execution of the entire Work, as specified in the Construction Documents, for the Base Bid stipulated sum of:

\_\_\_\_\_ and \_\_\_\_\_ /100 Dollars  
Written Price

\$ \_\_\_\_\_  
Numeric Price

The undersigned agrees to add the alternate(s) portion of the Work as described, for the following addition(s) to or subtraction(s) from the Base Bid, as stipulated below.

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

Addendum No(s). \_\_\_\_\_ through \_\_\_\_\_

Dated \_\_\_\_\_

Dane County UW Extension must have this project completed by May 22, 2020. Assuming this Work can be started by March 2, 2020, what dates can you commence and complete this job?

Commencement Date: \_\_\_\_\_ Completion Date: \_\_\_\_\_  
(final, not substantial)

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

---

(Name of Corporation, Partnership or Person submitting Bid)

Select one of the following:

1. A corporation organized and existing under the laws of the State of \_\_\_\_\_, or
  2. A partnership consisting of \_\_\_\_\_, or
  3. A person conducting business as \_\_\_\_\_;
- Of the City, Village, or Town of \_\_\_\_\_ of the State of \_\_\_\_\_.



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

The undersigned agrees to be qualified as a Best Value Contractor or will have proven their exemption before the award of this contract.

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

**SIGNATURE:** \_\_\_\_\_  
(Bid is invalid without signature)

Print Name: \_\_\_\_\_ Date: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

Email Address: \_\_\_\_\_

Contact Person: \_\_\_\_\_

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

**BID CHECK LIST:**

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

Bid Form

Bid Bond

Fair Labor Practices Certification

**DANE COUNTY BEST VALUE CONTRACTING PRE-QUALIFICATION**

General Contractors & all Subcontractors must be pre-qualified as a Best Value Contractor with the Dane County Public Works Engineering Division before the award of contract. Qualification & listing is not permanent & must be renewed every 24 months. Obtain a *Best Value Contracting Application* by calling 608/266-4018 or complete one online at:

[countyofdane.com/pwht/BVC\\_Application.aspx](http://countyofdane.com/pwht/BVC_Application.aspx)

**DANE COUNTY VENDOR REGISTRATION PROGRAM**

All bidders are strongly encouraged to be a registered vendor with Dane County. Registering allows vendors an opportunity to receive notifications for RFBs & RFPs issued by the County and provides the County with up-to-date company contact information. Complete a new form or renewal online at:

[danepurchasing.com/Account/Login?](http://danepurchasing.com/Account/Login?)

**FAIR LABOR PRACTICES CERTIFICATION**

The undersigned, for and on behalf of the BIDDER, APPLICANT or PROPOSER named herein, certifies as follows:

- A. That he or she is an officer or duly authorized agent of the above-referenced BIDDER, APPLICANT or PROPOSER, which has submitted a bid, application or proposal for a contract or agreement with the county of Dane.
  
- B. That BIDDER, APPLICANT or PROPOSER has (check one):

\_\_\_\_\_ not been found by the National Labor Relations Board (“NLRB”) or the Wisconsin Employment Relations Commission (“WERC”) to have violated any statute or regulation regarding labor standards or relations in the seven years prior to the signature date of this Certification.

\_\_\_\_\_ been found by the National Labor Relations Board (“NLRB”) or the Wisconsin Employment Relations Commission (“WERC”) to have violated any statute or regulation regarding labor standards or relations in the seven years prior to the signature date of this Certification.

\_\_\_\_\_  
Officer or Authorized Agent Signature Date

\_\_\_\_\_  
Printed or Typed Name and Title

\_\_\_\_\_  
Printed or Typed Business Name

**NOTE:** You can find information regarding the violations described above at: [www.nlr.gov](http://www.nlr.gov) and [werc.wi.gov](http://werc.wi.gov).

For reference, Dane County Ordinance 25.09 is as follows:

- (1) BIDDER RESPONSIBILITY. (a) Any bid, application or proposal for any contract with the county, including public works contracts regulated under chapter 40, shall include a certification indicating whether the bidder has been found by the National Labor Relations Board (NLRB) or the Wisconsin Employment Relations Committee (WERC) to have violated any statute or regulation regarding labor standards or relations within the last seven years. The Controller shall investigate any such finding and make a recommendation to the committee, which shall determine whether the conduct resulting in the finding affects the bidder’s responsibility to perform the contract.

**If you indicated that the NLRB or WERC have found you to have such a violation, you must include copies of any relevant information regarding such violation with your proposal, bid or application.**

Include this completed Certification with your bid, application or proposal.

**COUNTY OF DANE**

**PUBLIC WORKS CONSTRUCTION CONTRACT**

Contract No. \_\_\_\_\_ Bid No. 319016

Authority: 2019 RES - \_\_\_\_\_

**THIS CONTRACT**, made and entered into as of the date by which authorized representatives of both parties have affixed their signatures, by and between the County of Dane (hereafter referred to as "COUNTY") and \_\_\_\_\_ (hereafter, "CONTRACTOR"), and

**WITNESSETH:**

**WHEREAS**, COUNTY, whose address is c/o Public Works Director, 1919 Alliant Energy Center Way, Madison, WI 53713, desires to have CONTRACTOR provide construction services to update and remodel the UW Extension kitchen at the Lyman F. Anderson Agriculture & Conservation Center, 5201 Fen Oak Drive, Madison, Wisconsin ("the Project"); and

**WHEREAS**, CONTRACTOR, whose address is \_\_\_\_\_ is able and willing to construct the Project, in accordance with the Construction Documents;

**NOW, THEREFORE**, in consideration of the above premises and the mutual covenants of the parties hereinafter set forth, the receipt and sufficiency of which is acknowledged by each party for itself, COUNTY and CONTRACTOR do agree as follows:

1. CONTRACTOR agrees to construct, for the price of \$ \_\_\_\_\_ the Project and at the CONTRACTOR'S own proper cost and expense to furnish all materials, supplies, machinery, equipment, tools, superintendence labor, insurance, and other accessories and services necessary to complete the Project in accordance with the conditions and prices stated in the Bid Form, General Conditions of Contract, the drawings which include all maps, plats, plans, and other drawings and printed or written explanatory matter thereof, and the specifications therefore as prepared by Dorschner Associates (hereinafter referred to as "the Architect / Engineer"), and as enumerated in the Project Manual Table of Contents, all of which are made a part hereof and collectively evidence and constitute the Contract.
2. COUNTY agrees to pay the CONTRACTOR in current funds for the performance of the Contract subject to additions and deductions, as provided in the Conditions of Contract, and to make payments on account thereof as provided in Article entitled, "Payments to Contractor" of the Conditions of Contract.
3. During the term of this Contract, CONTRACTOR agrees to take affirmative action to ensure equal employment opportunities. The CONTRACTOR agrees in accordance with Wisconsin Statute 111.321 and Chapter 19 of the Dane County Code of Ordinances not to discriminate on the basis of age, race, ethnicity, religion, color, gender, disability, marital status, sexual orientation, national origin, cultural differences, ancestry, physical appearance, arrest record or conviction record, military participation or membership in the national guard, state defense force or any other reserve component of the military forces of the United States, or political beliefs.

Such equal opportunity shall include, but not be limited to, the following: employment, upgrading, demotion, transfer, recruitment, advertising, layoff, termination, training, rates of pay, and any other form of compensation. CONTRACTOR agrees to post in conspicuous places, available to all employees and applicants for employment, notices setting forth the provisions of this paragraph.

**4. NOT USED**

**5.** During the term of this Contract, all solicitations for employment placed on CONTRACTOR'S behalf shall include a statement to the effect that CONTRACTOR is an "Equal Opportunity Employer".

**6.** CONTRACTOR agrees to furnish all information and reports required by COUNTY'S Contract Compliance Officer as the same relate to affirmative action and nondiscrimination, which may include any books, records, or accounts deemed appropriate to determine compliance with Chapter 19, Dane County Code of Ordinances, and the provisions of this Contract.

**7.** This Contract is intended to be a Contract solely between the parties hereto and for their benefit only. No part of this Contract shall be construed to add to, supplement, amend, abridge or repeal existing rights, benefits or privileges of any third party or parties including, but not limited to, employees of either of the parties.

**8.** The entire agreement of the parties is contained herein and this Contract supersedes any and all oral agreements and negotiations between the parties relating to the subject matter hereof. The parties expressly agree that the express terms of this Contract shall not be amended in any fashion except in writing, executed by both parties.

**9.** CONTRACTOR must be pre-qualified as a Best Value Contractor with Dane County Public Works Engineering Division before award of Contract. Subcontractors must be pre-qualified ten (10) business days prior to commencing Work under this Contract.

**IN WITNESS WHEREOF**, COUNTY and CONTRACTOR, by their respective authorized agents, have caused this Contract and its Schedules to be executed, effective as of the date by which all parties hereto have affixed their respective signatures, as indicated below.

\* \* \* \* \*

**FOR CONTRACTOR:**

\_\_\_\_\_  
Signature Date

\_\_\_\_\_  
Printed or Typed Name and Title

\_\_\_\_\_  
Signature Date

\_\_\_\_\_  
Printed or Typed Name and Title

**NOTE:** If CONTRACTOR is a corporation, Secretary should attest. In accordance with IRS Regulations, unincorporated entities are required to provide either their Social Security or Employer Number in order to receive payment for services rendered.

\* \* \* \* \*

This Contract is not valid or effectual for any purpose until approved by the appropriate authority designated below, and no work is authorized until the CONTRACTOR has been given notice to proceed by COUNTY'S Assistant Public Works Director.

**FOR COUNTY:**

\_\_\_\_\_  
Joseph T. Parisi, County Executive Date

\_\_\_\_\_  
Scott McDonell, County Clerk Date

# AIA<sup>®</sup> Document A310<sup>™</sup> – 2010

## Bid Bond

**CONTRACTOR:**

(Name, legal status and address)

**SURETY:**

(Name, legal status and principal place of business)

**OWNER:**

(Name, legal status and address)

**BOND AMOUNT:****PROJECT:**

(Name, location or address, and Project number, if any)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_

_____	(Contractor as Principal)	_____	(Seal)
(Witness)		_____	(Title)
		_____	(Surety)
_____		_____	(Seal)
(Witness)		_____	(Title)

**CAUTION:** You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

# AIA<sup>®</sup> Document A312<sup>™</sup> – 2010

## Performance Bond

**CONTRACTOR:**

*(Name, legal status and address)*

**SURETY:**

*(Name, legal status and principal place of business)*

**OWNER:**

*(Name, legal status and address)*

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

AIA Document A312–2010 combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

**CONSTRUCTION CONTRACT**

Date:

Amount:

Description:

*(Name and location)*

**BOND**

Date:

*(Not earlier than Construction Contract Date)*

Amount:

Modifications to this Bond:  None  See Section 16

**CONTRACTOR AS PRINCIPAL**

Company: *(Corporate Seal)*

**SURETY**

Company: *(Corporate Seal)*

Signature: \_\_\_\_\_

Name \_\_\_\_\_  
and Title: \_\_\_\_\_

Signature: \_\_\_\_\_

Name \_\_\_\_\_  
and Title: \_\_\_\_\_

*(Any additional signatures appear on the last page of this Performance Bond.)*

*(FOR INFORMATION ONLY — Name, address and telephone)*

**AGENT or BROKER:**

**OWNER'S REPRESENTATIVE:**

*(Architect, Engineer or other party:)*



§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

#### § 14 Definitions

§ 14.1 **Balance of the Contract Price.** The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 **Construction Contract.** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 **Contractor Default.** Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 **Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 **Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

Sample

*(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)*

**CONTRACTOR AS PRINCIPAL**

**SURETY**

Company: \_\_\_\_\_

*(Corporate Seal)*

Company: \_\_\_\_\_

*(Corporate Seal)*

Signature: \_\_\_\_\_

Name and Title: \_\_\_\_\_

Address \_\_\_\_\_

Signature: \_\_\_\_\_

Name and Title: \_\_\_\_\_

Address \_\_\_\_\_

**CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.**



# AIA<sup>®</sup> Document A312<sup>™</sup> – 2010

## Payment Bond

**CONTRACTOR:**

*(Name, legal status and address)*

**SURETY:**

*(Name, legal status and principal place of business)*

**OWNER:**

*(Name, legal status and address)*

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

AIA Document A312–2010 combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

**CONSTRUCTION CONTRACT**

Date:

Amount:

Description:

*(Name and location)*

**BOND**

Date:

*(Not earlier than Construction Contract Date)*

Amount:

Modifications to this Bond:  None  See Section 18

**CONTRACTOR AS PRINCIPAL**

Company: *(Corporate Seal)*

**SURETY**

Company: *(Corporate Seal)*

Signature: \_\_\_\_\_

Name \_\_\_\_\_  
and Title: \_\_\_\_\_

Signature: \_\_\_\_\_

Name \_\_\_\_\_  
and Title: \_\_\_\_\_

*(Any additional signatures appear on the last page of this Payment Bond.)*

*(FOR INFORMATION ONLY — Name, address and telephone)*

**AGENT or BROKER:**

**OWNER'S REPRESENTATIVE:**

*(Architect, Engineer or other party:)*

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

#### § 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 **Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 **Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

*(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)*

**CONTRACTOR AS PRINCIPAL**

Company: \_\_\_\_\_

(Corporate Seal)

**SURETY**

Company: \_\_\_\_\_

(Corporate Seal)

Signature: \_\_\_\_\_

Name and Title: \_\_\_\_\_

Address \_\_\_\_\_

Signature: \_\_\_\_\_

Name and Title: \_\_\_\_\_

Address \_\_\_\_\_

**CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.**

**CONDITIONS OF CONTRACT**

**TABLE OF CONTENTS**

1. BIDS AND QUOTATIONS .....	1
2. GUARANTEE AND BOND .....	2
3. SHOP DRAWINGS, PRODUCT DATA AND SAMPLES .....	3
4. AWARDS .....	4
5. CONTRACT PROVISIONS .....	5
6. GENERAL GUARANTEE.....	9
7. IDENTICAL BIDDING.....	10
8. BINDING CONTRACTS .....	10
9. AFFIRMATIVE ACTION PROVISION AND MINORITY / WOMEN / DISADVANTAGED BUSINESS ENTERPRISES .....	10
10. COMPLIANCE WITH FAIR LABOR STANDARDS .....	11
11. DOMESTIC PARTNERSHIP BENEFITS .....	11
12. INSURANCE REQUIREMENTS .....	11

**1. BIDS AND QUOTATIONS**

- A. **Addressing of Bids.** Bids shall be addressed to attention of Public Works Engineering Division and received at Dane County Department of Public Works, Highway & Transportation, 1919 Alliant Energy Center Way, Madison, WI 53713, on or before local time and date specified herein for Bid Due Date. Seal all bids in envelopes and clearly mark front with bid number and reference to specified contents of bid. All uses of term “County” in Construction Documents shall mean Dane County.
- B. **Only One Copy Required.** Unless otherwise specified, only one copy of bid or quotation on prescribed Bid Form will be required.
- C. **Additional Data with Bid.** Bidder may submit, on firm’s letterhead only, additional data and information deemed advantageous to County. County shall hold optional consideration of such data and information.
- D. **More than One Bid.** Bidders desiring to submit more than one bid may do so provided such additional bid or bids are properly submitted on Dane County Department of Public Works, Highway & Transportation’s Bid Form. Obtain extra sets of Construction Documents from Dane County Department of Public Works, Highway & Transportation. All uses of term “Department” in Construction Documents shall mean Department of Public Works, Highway & Transportation, which is Dane County government unit.
- E. **Withdrawal or Late Bids.** County will not accept formal bids, amendments thereto, or requests for withdrawal of bid or any part thereof, after time of Bid Due Date.
- F. **Preparation and Submission.** All written bids, unless otherwise provided for, must be submitted on and in accordance with forms provided by County properly signed in ink. Bids not signed by hand are not accepted. Bidders must register in advance with Purchasing Division.
- G. **Products by Name.** Intention of Specifications of products by name is to be descriptive of quality, workmanship, finish, function and approximate characteristics desired; intention is not necessarily restriction. Consideration of products substitution for those named is possible, provided substitute offered is, in opinion of Dane County Public Works Project



Manager, equal or superior in quality, workmanship, finish, function and approximate characteristics to that specified in Project Manual Specifications listed herein.

- H. **Visitation of Sites.** Bidder shall visit site(s) that will receive intended work or installation, and in so doing, be held responsible for job deemed satisfactory by County after completion of the Work or installation. No additional compensation shall be allowed for any condition of which bidder could have been informed.
- I. **Completeness.** Supply all information required by Construction Documents to constitute regular bid. This shall include:
  - 1. Completed Bid Form.
  - 2. Completed Fair Labor Practices Certification.
  - 3. Completed Bid Bond.
- J. **Bids Binding Sixty (60) Calendar Days.** Unless otherwise specified all formal bids submitted shall be binding for sixty (60) calendar days following Bid Due Date.
- K. **Conditional Bids.** Qualified bids are subject to complete rejection, or partial rejection.
- L. **All or Part.** Bids or quotations may be considered and award made for all or any part of total quantities as specified in Construction Documents.
- M. **Errors.** Unit bid price shall govern when extending total prices has errors. Carelessness in quoting prices or in preparation of bid otherwise, will not relieve bidder. Explain all erasures in bids and include signature of bidder.
- N. **Regulation by State Statutes.** Bidding and letting of contracts are subject to provisions of Wisconsin Statutes 59.52(29) and 66.0901 and all subsequent sections and amendments thereof.
- O. **Bidders Present.** Bid Due Date is time fixed for opening of formal bids. Bids' contents will be made public for information of bidders and others properly interested, who may be present either in person or by representative. Bidders are encouraged to attend all openings, and to offer constructive suggestions for improvements to bid format or ways in which County can realize greater savings.
- P. **Taxes.** Contractor does not need to pay State and local sales & use taxes. See Wisconsin Statute 77.54 (9m).

## 2. GUARANTEE AND BOND

- A. **Bid Bond / Guarantee.** Bid Bond shall accompany Bids, which shall be either flat sum or percentage figure as shown on Project Manual Cover. This Bid Bond shall serve as warrant that successful bidder will fulfill terms of bid within time limit as indicated in bid after notice of award by Dane County. Bid Bond may be certified bank check (note: uncertified checks will not be acceptable), cashier's check or United State money order payable to Treasurer of Dane County; or on Bid Bond with corporate surety authorized to do business in State of Wisconsin and warranty of attorney to confess judgment thereon attached thereto. County will return negotiable Bid Bonds to unsuccessful bidders after awarding of bid. County shall return check held from Contractor after satisfactory completion of Contract or after receipt by

County of Performance Bond from Contractor, if one is required. Surety Bid Bonds will not be returned unless specifically requested by individual bidders.

- B. **Guarantor Liability.** When guarantee is required, failure of bidder to furnish acceptable Performance Bond (Article 2.C.) within twenty (20) business days after receipt of notice of award shall render guarantor liable to County. Bids covered by certified check or bond such security shall become absolute property of County and shall be deposited with County Treasurer for benefit of County as liquidated damages. County shall forthwith proceed to collect on Bid Bond.
- C. **Performance / Payment Bond.** When required, file guarantee that successful bidder will faithfully perform obligations of bid as accepted. Such guarantee must be bond complying with Wisconsin Statute 779.14 with corporate surety authorized to do business in this State, and that Contractor or subcontractors will be responsible for all claims for injuries to persons or damages to property or premises arising out of or in connection with their operations prior to acceptance of finished work or supplies, and that they will promptly make payments to all persons supplying them with labor or materials in execution of the Work provided for in Contract; guarantee to indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives from all costs, damages and expenses growing out of or by reason of successful bidder's failure to comply and perform the Work and complete Contract in accordance with Construction Documents; attach thereto a warrant of attorney authorizing confession of judgment thereon for benefit of County.

### 3. SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by Contractor or subcontractor, sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.
- B. Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by Contractor to illustrate materials or equipment for some portion of the Work.
- C. Samples are physical examples that illustrate materials, equipment or workmanship and establish standards to compare the Work.
- D. Shop Drawings, Product Data, Samples and similar submittals are not Construction Documents. Purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required how Contractor proposes to conform to information given and design concept expressed in Construction Documents.
- E. Contractor shall review, approve and submit to Public Works Project Manager Shop Drawings, Product Data, Samples and similar submittals required by Construction Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in activities of County or of separate contractors. Submittals made by Contractor not required by Construction Documents, may be returned without action.
- F. Contractor shall perform no portion of the Work requiring submittal and review of Shop Drawings, Product Data, Samples or similar submittals until Public Works Project Manager has approved respective submittal. Such Work shall be in accordance with approved submittals.

- G. By approving and submitting, Shop Drawings, Product Data, Samples and similar submittals, Contractor represents that Contractor has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated information contained within such submittals with requirements of the Work and of Construction Documents.
- H. Contractor shall not be relieved of responsibility for deviations from requirements of Construction Documents by Public Works Project Manager's approval of Shop Drawings, Product Data, Samples and similar submittals unless Contractor has specifically informed Public Works Project Manager in writing of such deviation at time of submittal and Public Works Project Manager has given written approval to specific deviation. Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Sample or similar submittals by Public Works Project Manager's approval thereof.
- I. Contractor shall in writing direct specific attention to revised and / or resubmitted Shop Drawings, Product Data, Samples or similar submittals that were not requested by Architect / Engineer or Public Works Project Manager on previous submittals.
- J. Unless specified otherwise, Contractor shall submit three (3) copies of all Shop Drawings, Product Data, Samples or similar submittals for each submission, until receiving final approval. After final approval, provide five (5) additional copies for distribution and such other copies as may be required.

#### 4. AWARDS

- A. **Lowest Responsible Bidder.** Award will be to lowest responsible bidder conforming to Construction Documents or on most advantageous bid to County.
- B. **Other Considerations.** Quantities involved, time of delivery, purpose for which required, competency of bidder, ability to render satisfactory service and past performance will be considered in determining responsibility.
- C. **Rejection of Bids.** County reserves right to reject any or all bids or quotations in whole or in part and to award by items, parts of items, or by any aggregate group of items specified. County also reserves right to waive technical defects when in its judgment best interests of County thereby will be served.
- D. **Notice of Acceptance.** Sufficient notification of acceptance of bid will be written notice of award to bidder in form of Purchase Order or similar, mailed or delivered to address shown on Bid Form.
- E. **Tie Bids.** If two or more bidders submit identical bids, decision of County to make award to one or more of such bidders shall be final. Cash discount will be taken into consideration in determining award. Also, see Article 7.A. IDENTICAL BIDDING, Antitrust Laws.
- F. **Qualifying Bidders.** Prior to solicitation and / or awarding of bid, County may require submission by bidder of complete financial statement and questionnaire describing bidder's financial ability and experience in performance of similar work. Refer to Instructions to Bidders.
- G. **Disqualification.** Awards will not be made to any person, firm or company in default of Contract with County, or to any bidder having as its sales agent or representative or as member of firm, any individual previously in default or guilty of misrepresentation.

- H. **Bid Results.** Bidders may secure information pertaining to results of bids by visiting Public Works' website, [bids-pwht.countyofdane.com/](http://bids-pwht.countyofdane.com/).

## 5. CONTRACT PROVISIONS

- A. **Acceptance Constitutes Contract.** Written acceptance by Public Works Project Manager of proposal for services shall constitute Contract, which shall bind bidder to perform the Work as detailed in Construction Documents, for bid amount and in accordance with all conditions of said accepted bid. Formal Contract containing all provisions of Contract signed by both parties shall be used when required by Public Works Project Manager.
- B. **Local Restrictions and Permits.** All work shall be done according to applicable laws, ordinances and codes. Contractor shall procure and pay for all required permits for permanent or temporary work.
- C. **Payment of Invoices.** Payment may be made only after inspection and acceptance by using agency and approval by Dane County Public Works Project Manager, and, where required by ordinances, approval by Dane County Board of Supervisors. If materials or equipment were delivered, constructed, erected, installed or tested on site, payment shall be made based on ninety-five percent (95%) of value of all the Work performed up to fifty percent (50%) of scheduled values less total of previous payments. Authorized extra work will be included in progress payments. Payment of balances will be made only after approval and final acceptance by County in consideration and elimination of possibilities of imperfect work, faulty materials or equipment, liens that have been filed, or if evidence indicates possible filing of claims.
- D. **Contract Alterations.** No alterations or variables in terms of contract shall be valid or binding upon County unless made in writing and signed by Purchasing Agent or authorized agent.
- E. **Assignments.** No contract may be assigned, sublet or transferred without written consent of Public Works Project Manager.
- F. **Cancellations.** Contract may be canceled or voided by Public Works Project Manager upon non-performance or violation of contract provisions, and award made to next low bidder or articles specified may be purchased on open market. In either event, defaulting contractor (or their surety) shall be liable to Dane County for costs to County in excess of defaulting contractor's contract prices.
- G. **Right of Department to Terminate Contract.**
1. In event that Contractor or any subcontractors violate any provisions of this Contract, County may serve written notice upon Contractor and Surety of its intention to terminate Contract. Such notice to contain reasons for such intention to terminate Contract, and unless within ten (10) business days after serving of such notice upon Contractor, such violation or delay shall cease and satisfactory arrangement or correction be made, Contract shall, upon expiration of said ten (10) business days, cease and terminate.
  2. In event of any such termination, County shall immediately serve notice thereof upon Surety and Contractor, and Surety shall have right to take over and perform Contract subject to County's approval. However, if Surety does not commence performance thereof within ten (10) business days from date of mailing to such Surety of notice of termination, County may take over the Work and prosecute same to completion by

Contract or by force account for account and at expense of Contractor. Contractor and Surety shall be liable to County for any excess cost occasioned County thereby, and in such event County may take possession of and utilize in completing the Work, such equipment, materials and / or supplies as may be on site of the Work and therefore necessary.

- H. **Non-Liability.** Contractor shall not be liable in damages for delay in shipment or failure to deliver when such delay or failure is result of fire, flood, strike, transporting carrier, act of God, act of government, act of alien enemy or by any other circumstances which, in Public Works Project Manager's opinion, is beyond control of Contractor. Under such circumstances, however, Public Works Project Manager may in discretion, cancel Contract.
- I. **Quality Assurance.** Inspection of equipment, materials and / or supplies shall be made by or at direction of County or Agency to which goods are delivered, and any articles supplied that are defective, or fails in any way to meet Specifications or other requirements of Contract, will be rejected. Public Works Project Manager shall direct all required laboratory tests. Decision of Public Works Project Manager on acceptance shall be final.
- J. **Time for Completion.** Contractor agrees that the Work shall be prosecuted regularly and diligently and complete entire project as stated in Construction Documents.
- K. **Changes in the Work.**
1. Except in cases of emergency, no changes in the Work covered by approved Construction Documents shall be made without having prior written approval of Department. Charges or credits for work covered by approved change shall be determined by one of these methods:
    - a) Unit bid prices previously approved.
    - b) Agreed lump sum based on actual cost of:
      - 1) Labor, including foremen, and all fringe benefits that are associated with their wages;
      - 2) Materials entering permanently into the Work;
      - 3) Ownership or rental cost of construction plant and equipment during time of use on extra work;
      - 4) Power and consumable supplies for operation of construction or power equipment;
      - 5) Workmen's Compensation Insurance, Contractor's Public Liability and Property Damage Insurance, and Comprehensive Automobile Liability Insurance;
      - 6) Social Security, pension and unemployment contributions;
      - 7) To cost under K.1.b), there shall be added fixed fee to be agreed upon, but not to exceed fifteen percent (15%) of actual cost of the Work performed with their own labor force; fee shall be compensation to cover cost of supervision, overhead, bond, profit and any other general expense;
      - 8) On that portion of work under K.1.b) done under subcontract, Contractor may include not over seven and one-half percent (7½%) for supervision, overhead, bond, profit and any other general expense; and
      - 9) Contractor shall keep and present in such form as directed, correct amount of cost together with such supporting vouchers as may be required by Department.
    - c) Cost-Plus Work, with not-to-exceed dollar limit, based on actual cost of:
      - 1) Labor, including foremen, and all fringe benefits that are associated with their wages;
      - 2) Materials entering permanently into the Work;
      - 3) Ownership or rental cost of construction plant and equipment during time of use on extra work. (Rental cost cannot exceed fifty percent (50%) replacement value of rented equipment);

- 4) Power and consumable supplies for operation of construction or power equipment;
  - 5) Workmen's Compensation, Contractor's Public Liability and Property Damage Insurance, and Comprehensive Automobile Liability Insurance;
  - 6) Social Security, pension and unemployment contributions;
  - 7) To cost under K.1.c) there shall be added fixed fee to be agreed upon, but not to exceed fifteen percent (15%) of actual cost of the Work performed with their own labor force; fee shall be compensation to cover cost of supervision, overhead, bond, profit, and any other general expense;
  - 8) On that portion of work under K.1.c) done under subcontract, Contractor may include not over seven and one-half percent (7½%) for supervision, overhead, bond, profit, and any other general expense; and
  - 9) Contractor shall keep and present in such form as directed, correct amount of cost together with such supporting vouchers as may be required by Department.
2. If Contractor claims that by any instructions given by Architect / Engineer, Department, by drawings or otherwise, regarding performance of the Work or furnishing of material under Contract, involves extra cost, Contractor shall give Department written notice thereof within two weeks after receipt of such instructions and in any event before proceeding to execute work, unless delay in executing work would endanger life or property.
  3. No claim for extra work or cost shall be allowed unless same was done in pursuance of written order of Architect / Engineer and approved by Department, as previously mentioned, and claim presented with payment request submitted after changed or extra work is completed.
  4. Negotiation of cost for change in the Work shall not be cause for Contractor to delay prosecution of the Work if Contractor has been authorized in writing by Public Works Project Manager to proceed.

**L. Payments to Contractor.**

1. County will make partial payments to Contractor for value, proportionate to amount of Contract, of all labor and material incorporated in the Work during preceding calendar month upon receipt of approved Application and Certificate of Payment from Architect / Engineer and approval of Department.
2. Contractor shall submit to Architect / Engineer Application and Certificate of Payment. Architect / Engineer will review and approve this before sending it to Public Works Project Manager. Evidence may be required, and supplied on demand, that supports request and Contractor's right to payment claimed.
3. Request for payment for preparatory work and materials delivered and suitably stored at site to be incorporated into the Work at some future period, will be given due consideration. Requests involving materials stored off site, may be rejected; however, if deemed essential for reasons of job progress, protection, or other sufficient cause, requests will be considered conditional upon submission by Contractor of bills of sale and such other procedures as will adequately protect County's interest such as storage in bonded warehouse with adequate coverage. If there is any error in payment, Contractor is obligated to notify Department immediately, but no longer than ten (10) business days from receipt of payment.
4. Payments by County will be due within forty-five (45) business days after receipt by Department of certified request.

5. Five percent (5%) of each request for certification will be retained until final completion and acceptance of all the Work covered by Contract. However, anytime after fifty percent (50%) of the Work has been furnished and installed at site, remaining payments will be made in full if Architect / Engineer and Public Works Project Manager find that progress of the Work corresponds with construction progress schedule. If Architect / Engineer and Public Works Project Manager find that progress of the Work does not correspond with construction progress schedule, up to ten percent (10%) of each request for payment may be retained for the Work completed.
6. All material and work covered by partial payments made shall become sole property of County. This provision shall not be construed as relieving Contractor from sole responsibility for care and protection of materials and work upon which payments have been made or restoration of any damaged work, or as waiver of right of County to require fulfillment of all of terms of Contract.
7. Final payment will be made within sixty (60) calendar days after final completion of the Work, and will constitute acceptance thereof. Submit Equal Benefits Compliance Payment Certification with final pay request. Payment may be denied if Certification is not included.
8. On completion and acceptance of each separate division of Contract, on which stated price is separated in Contract, payment may be made in full, including retained percentages thereon, less authorized deductions.
9. Every contractor engaged in performance of any contract for Department of Public Works, Highway & Transportation shall submit to this Department, as requested and with final application for payment for work under said contract, affidavit(s) as required to prove that all debts and claims against this Work are paid in full or otherwise satisfied, and give final evidence of release of all liens against the Work and County.

**M. Withholding of Payments.**

1. County, after having served written notice on said Contractor, may either pay directly any unpaid bills of which Department has written notice, or withhold from Contractor's unpaid compensation, sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged. Then payment to Contractor shall be resumed in accordance with terms of this Contract, but in no event shall these provisions be construed to impose any obligations upon County to either Contractor or Contractor's Surety.
2. In paying any unpaid bills of Contractor, County shall be deemed Agent of Contractor, and any payment so made by County, shall be considered as payment made under Contract by County to Contractor and County shall not be liable to Contractor for any such payment made in good faith.
3. Contractor shall indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives from all claims growing out of lawful demands of subcontractors, laborers, workmen, mechanics, material men, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in performance of this Contract.
4. At Department's request, Contractor shall furnish satisfactory evidence that all obligations of nature designated above have been paid, discharged or waived.

**N. Acceptance of Final Payment as Release.**

1. Making of final payment shall constitute waiver of all claims by County except those arising from:
  - a) Unsettled lien;
  - b) Faulty or defective work appearing after substantial completion;
  - c) Failure of the Work to comply with requirements of Construction Documents; or
  - d) Terms of any special guarantees required by Construction Documents.
2. Acceptance of final payment shall constitute waiver of all claims by Contractor.

**O. Lien Waivers.** Contractor warrants that title to all work covered by application for Payment will pass to County no later than time of payment. Contractor further warrants that upon submittal of Application for Payment all work for which Certificates for Payment have been previously issued and payments received from County shall, to best of Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of Contractor, subcontractor, material suppliers, or other persons or entities making claim by reason of having provide labor, materials and equipment related to the Work.

**P. Use and Occupancy Prior to Acceptance.** Contractor agrees to use and occupancy of portion or unit of project before formal acceptance by Department, provided Department:

1. Secures written consent of Contractor; except when in opinion of Department's Public Works Project Manager, Contractor is chargeable with unwarranted delay in final cleanup of punch list items or other Contract requirements;
2. Secures endorsement from insurance carrier and consent of Surety permitting occupancy of building or use of project during remaining period of construction, or, secures consent of Surety;
3. Assumes all costs and maintenance of heat, electricity and water; and
4. Accepts all work completed within that portion or unit of project to be occupied, at time of occupancy.

**Q. Correction of Work.**

1. All work, all materials whether incorporated in the Work or not, and all processes of manufacture shall at all times and places be subject to inspection of Architect / Engineer and Public Works Project Manager who shall be judge of quality and suitability of work, materials, and processes of manufacture for purposes for which they are used. Should they fail to meet Architect / Engineer's and Public Works Project Manager's approval they shall be reconstructed, made good, replaced or corrected, as case may be, by Contractor at Contractor's expense. Rejected material shall immediately be removed from site.
2. If Contractor defaults or neglects to carry out the Work in accordance with Construction Documents or fails to perform any provision of Contract, Department may, after ten (10) business days written notice to Contractor and without prejudice to any other remedy County may have, make good such deficiencies. In such case, appropriate Change Order shall be issued deducting from payments then or thereafter due Contractor cost of correcting such deficiencies, including cost of Architect / Engineer's additional services made necessary by such default, neglect or failure.

**6. GENERAL GUARANTEE**

A. Neither final certificate of payment nor any provision in Construction Documents nor partial or entire occupancy of premises by County shall constitute acceptance of work not done in



accordance with Construction Documents or relieve Contractor of liability in respect to any expressed warranties or responsibility for faulty materials or workmanship.

1. In no event shall making of any payment required by Contract constitute or be construed as waiver by County of any breach of covenants of Contract or waiver of any default of Contractor and making of any such payment by County while any such default or breach shall exist shall in no way impair or prejudice right of County with respect to recovery of damages or other remedy as result of such breach or default.
- B. Contractor shall remedy and make good all defective workmanship and materials and pay for any damage to other work resulting therefrom, which appear within period of one year from date of substantial completion, providing such defects are not clearly due to abuse or misuse by County. Department will give notice of observed defects with reasonable promptness.
- C. Guarantee on work executed after certified date of substantial completion will begin on date when such work is inspected and approved by Architect / Engineer and Public Works Project Manager.
- D. Where guarantees or warranties are required in sections of Construction Documents for periods in excess of one year, such longer terms shall apply; however, Contractor's Performance / Payment Bond shall not apply to any guarantee or warranty period in excess of one year.

## **7. IDENTICAL BIDDING**

- A. **Antitrust Laws.** All identical bids submitted to County because of advertised procurement for materials, supplies, equipment or services exceeding \$1,000,000.00 in total amount shall be reported to Attorney Generals of the United States and State of Wisconsin for possible violation and enforcement of antitrust laws.

## **8. BINDING CONTRACTS**

- A. **Contract Commitment.** Any contracts resulting from this bid shall be binding on successful bidder(s) to its conclusion and on its assigns, heirs, executors, administrators or successors.

## **9. AFFIRMATIVE ACTION PROVISION AND MINORITY / WOMEN / DISADVANTAGED BUSINESS ENTERPRISES**

- A. **Affirmative Action Provisions.** During term of its Contract, Contractor agrees not to discriminate on basis of race, religion, color, sex, handicap, age, sexual preference, marital status, physical appearance, or national origin against any person, whether recipient of services (actual or potential), employee, or applicant for employment. Such equal opportunity shall include, but not be limited to following: employment, upgrading, demotion, transfer, recruitment, advertising, layoff, termination, training, rates of pay, and any other form of compensation or level of service(s). Contractor agrees to post in conspicuous places, available to all employees, service recipients and applicants for this paragraph. Listing of prohibited bases for discrimination shall not be construed to amend in any fashion state or federal law setting forth additional bases and exceptions shall be permitted only to extent allowable in state or federal law.
- B. Contractor is subject to this paragraph only if Contractor has ten (10) or more employees and receives \$10,000.00 or more in annual aggregate contracts with County. Contractor shall file Affirmative Action Plan with Dane County Contract Compliance Officer in accord with

Chapter 19 of Dane County Code of Ordinances. Contractor must file such plan within fifteen (15) business days of effective date of this Contract and failure to do so by that date shall constitute grounds for immediate termination of Contract. During term of this Contract, Contractor shall also provide copies of all announcements of employment opportunities to County's Contract Compliance Office, and shall report annually number of persons, by race, sex and handicap status, which apply for employment and, similarly classified, number hired and number rejected.

- C. Contact Dane County Contract Compliance Officer at Dane County Contract Compliance Office, 210 Martin Luther King, Jr. Blvd., Room 421, Madison, WI 53703, 608/266-4114.
- D. In all solicitations for employment placed on Contractor's behalf during term of this Contract, Contractor shall include statement to effect that Contractor is "Equal Opportunity Employer."
- E. Contractor agrees to furnish all information and reports required by County's Contract Compliance Officer as same relate to affirmative action and nondiscrimination, which may include any books, records, or accounts deemed appropriate to determine compliance with Chapter 19, Dane County Code of Ordinances, and provision of this Contract.
- F. **Minority / Women / Disadvantaged / Emerging Small Business Enterprises.** Chapter 19.508 of Dane County Code of Ordinances is official policy of Dane County to utilize Minority Business Enterprises (MBEs), Women Business Enterprises (WBEs), Disadvantaged Business Enterprises (DBEs) and Emerging Small Business Enterprises (ESBEs) fully.
- G. Contractor may utilize MBEs / WBEs / DBEs / ESBEs as subcontractors or suppliers. List of subcontractors will be required of low bidder as stated in this Contract. List shall indicate which subcontractors or suppliers are MBEs / WBEs / DBEs / ESBEs and what percentage of subcontract is awarded, shown as percentage of total dollar amount of bid.

## **10. COMPLIANCE WITH FAIR LABOR STANDARDS**

- A. During term of this Contract, Contractor shall report to County Contract Compliance Officer, within ten (10) business days, any allegations to, or findings by National Labor Relations Board (NLRB) or Wisconsin Employment Relations Commission (WERC) that Contractor has violated statute or regulation regarding labor standards or relations. If investigation by Contract Compliance Officer results in final determination that matter adversely affects Contractor's responsibilities under this Contract, and which recommends termination, suspension or cancellation of this Contract, County may take such action.
- B. Contractor may appeal any adverse finding by Contract Compliance Officer as set forth in Dane County Ordinance 25.015(11)(c) through (e).
- C. Contractor shall post this statement in prominent place visible to employees: "As condition of receiving and maintaining contract with Dane County, this employer shall comply with federal, state and all other applicable laws prohibiting retaliation or union organizing."

## **11. DOMESTIC PARTNERSHIP BENEFITS**

- A. Not Used.

## **12. INSURANCE REQUIREMENTS**


- A. Contractor shall indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives from and against all claims, damages, losses and expenses including attorneys' fees arising out of or resulting from performance of the Work, provided that any such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including loss of use resulting there from, and is caused in whole or in part by any act or omission of Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a part indemnified hereunder.
- B. In any and all claims against Dane County, its boards, commissions, agencies, officers, employees and representatives or by any employee of Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, indemnification obligation under this Contract shall not be limited in any way by any limitation on amount or type of damages, compensation or benefits payable by or for Contractor or any subcontractor under worker's compensation acts, disability benefits or other employee benefit acts.
- C. Obligations of Contractor under this Contract shall not extend to liability of Architect / Engineer, its agents or employees arising out of (1) preparation or approval of maps, drawings, opinion, reports, surveys, change orders, designs or specifications; or (2) giving of or failure to give directions or instruction by Architect / Engineer, its agents or employees provided such giving or failure to give is primary cause of injury or damage.
- D. County shall not be liable to Contractor for damages or delays resulting from work by third parties or by injunctions or other restraining orders obtained by third parties.
- E. **Contractor Carried Insurance.** In order to protect itself and County, Contractor shall not commence work under this Contract until obtaining all required insurance and County has approved such insurance. Contractor shall not allow any subcontractor to commence work on subcontract until insurance required of subcontractor has been so obtained and approved.
1. **Worker's Compensation Insurance**  
Contractor shall procure and shall maintain during life of this Contract, Worker's Compensation Insurance as required by statute for all of its employees engaged in work at site of project under this Contract and, in case of such work sublet, Contractor shall require subcontractor similarly to provide Worker's Compensation Insurance for all of latter's employees to be engaged in such work unless such employees are covered by protection afforded by Contractor's Worker's Compensation Insurance.
  2. **Contractor's Public Liability and Property Damage Insurance**  
Contractor shall procure and maintain during life of this Contract, Contractor's Public Liability Insurance and Contractor's Property Damage Insurance in amount not less than \$1,000,000.00 per occurrence for bodily injury and death, and Contractor's Property Damage Insurance in amount not less than \$1,000,000.00 and shall be primary with Dane County as "Additional Insured".
  3. **Auto Liability Insurance**  
Contractor shall procure and maintain during life of this Contract, Comprehensive Automobile Liability Insurance covering owned, non-owned and hired automobiles for limits of not less than \$1,000,000.00 and shall be primary with Dane County as "Additional Insured".

- F. Contractor either (1) shall require each subcontractors to procure and to maintain during life of subcontract, subcontractor's Public Liability Property Damage Insurance, and Comprehensive Automobile Liability Insurance of type and in same amount specified in preceding paragraphs; or (2) insure that activities of subcontractors in their own policy.
- G. Contractor shall furnish County with certificates showing type, amount, class of operations covered, effective dates and dates of expiration of policies. Such certificates shall also contain substantially this statement: "Insurance covered by this certificate will not be canceled or materially altered, except after ten (10) business days written notice has been received by County."
- H. **Builder's Risk.** County shall provide Builder's Risk insurance coverage for its insurable interests in construction or renovation projects with completed value of \$1,000,000 or less. Therefore, if project completed value is more than \$1,000,000, Contractor shall obtain and maintain in force, at its own expense, Builder's Risk Insurance on all risks for amount equal to full completed value of covered structure or replacement value of alterations or additions. Any deductible shall not exceed \$25,000 for each loss. Policy shall include occupancy clause and list Dane County as loss payee.

## SUPPLEMENTARY CONDITIONS

### 1. APPLICATION & CERTIFICATE FOR PAYMENT

- A. Every contractor engaged in performance of any contract for Department of Public Works, Highway & Transportation shall submit partial and final Application & Certificate for Payment for work under said contract. Form shall provide similar information as shown on AIA G702™ and G703™ forms (samples shown below). Forms shall be submitted to Public Works Project Manager for approval.


**AIA** Document G702™ – 1992

**Application and Certificate for Payment**

TO OWNER:	PROJECT:	APPLICATION NO:	Distribution to:
FROM CONTRACTOR:	VIA ARCHITECT:	PERIOD TO:	OWNER <input type="checkbox"/>
		CONTRACT FOR:	ARCHITECT <input type="checkbox"/>
		CONTRACT DATE:	CONTRACTOR <input type="checkbox"/>
		PROJECT NOS:	FIELD <input type="checkbox"/>
			OTHER <input type="checkbox"/>

---

**CONTRACTOR'S APPLICATION FOR PAYMENT**

Application is made for payment, as shown below, in connection with the Contract. AIA Document G703™, Continuation Sheet, is attached.

1. ORIGINAL CONTRACT SUM ..... \$ \_\_\_\_\_

2. NET CHANGE BY CHANGE ORDERS ..... \$ \_\_\_\_\_

3. CONTRACT SUM TO DATE (Line 1 ± 2) ..... \$ \_\_\_\_\_

4. TOTAL COMPLETED & STORED TO DATE (Column G on G703) ..... \$ \_\_\_\_\_

5. RETAINAGE:

a. \_\_\_\_\_ % of Completed Work  
(Columns D + E on G703) ..... \$ \_\_\_\_\_

b. \_\_\_\_\_ % of Stored Material  
(Column F on G703) ..... \$ \_\_\_\_\_

Total Retainage (Lines 5a + 5b, or Total in Column I of G703) ..... \$ \_\_\_\_\_

6. TOTAL EARNED LESS RETAINAGE ..... \$ \_\_\_\_\_  
*(Line 4 minus Line 5 Total)*

7. LESS PREVIOUS CERTIFICATES FOR PAYMENT ..... \$ \_\_\_\_\_  
*(Line 6 from prior Certificate)*

8. CURRENT PAYMENT DUE ..... \$ \_\_\_\_\_

9. BALANCE TO FINISH, INCLUDING RETAINAGE ..... \$ \_\_\_\_\_  
*(Line 3 minus Line 6)*

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner	\$ _____	\$ _____
Total approved this month	\$ _____	\$ _____
<b>TOTAL</b>	<b>\$ _____</b>	<b>\$ _____</b>
<b>NET CHANGES by Change Order</b>	<b>\$ _____</b>	

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:  
By: \_\_\_\_\_ Date: \_\_\_\_\_  
State of: \_\_\_\_\_  
County of: \_\_\_\_\_  
Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_

Notary Public:  
My commission expires: \_\_\_\_\_

---

**ARCHITECT'S CERTIFICATE FOR PAYMENT**

In accordance with the Contract Documents, based on on-site observations and the data comprising this application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED ..... \$ \_\_\_\_\_  
*(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)*

ARCHITECT:  
By: \_\_\_\_\_ Date: \_\_\_\_\_

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

**CAUTION:** You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

AIA Document G702™ – 1992. Copyright © 1953, 1963, 1965, 1971, 1978, 1983 and 1992 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. Purchasers are permitted to reproduce ten (10) copies of this document when completed. To report copyright violations of AIA Contract Documents, e-mail The American Institute of Architects' legal counsel, copyright@aia.org. 01071142044

**Continuation Sheet**

AIA Document G702™-1992, Application and Certificate for Payment, or G732™-2009, Application and Certificate for Payment, Construction Manager as Adviser Edition, containing Contractor's signed certification is attached. In tabulations below, amounts are in US dollars. Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO:  
APPLICATION DATE:  
PERIOD TO:  
ARCHITECT'S PROJECT NO:

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED		F MATERIALS PRESENTLY STORED <i>(Not in D or E)</i>	G TOTAL COMPLETED AND STORED TO DATE <i>(D+E-F)</i>	H BALANCE TO FINISH <i>(C-G)</i>	I RETAINAGE <i>(if variable rate)</i>
			FROM PREVIOUS APPLICATION <i>(D-E)</i>	THIS PERIOD				
GRAND TOTAL								

**CAUTION:** You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

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NOT FOR  
SUBMITTAL

SECTION 01 00 00  
BASIC REQUIREMENTS

PART 1 GENERAL

1.1 SECTION SUMMARY

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

40. As-Built and Record Drawings and Specifications

1.2 SUMMARY OF THE WORK

- A. Project Description: Perform the Work as specified and detailed in Construction Documents package. Contractor to provide construction services to update and remodel the UW Extension kitchen.
- B. Work by Owner: Not applicable.
- C. Permits: Prior to commencement of the Work, Contractor to secure any and all necessary permits for completion of the Work and facility occupancy.
- D. Diggers Hotline:
  - 1. It is General Contractor's responsibility to contact Diggers Hotline to have all utility locations marked prior to excavation and planning excavation so as not to delay the Work.
  - 2. Diggers Hotline shall also be used to obtain information on safe working clearances from overhead lines.
  - 3. Completely comply with all requirements of each affected utility company.
  - 4. It is General Contractor's responsibility to contact & hire private utility locating services if necessary.

1.3 CONTRACTOR USE OF PREMISES

- A. Limit use of premises to allow work by Contractors or Subcontractors and access by Owner.
- B. Coordinate utility outages and shutdowns with Owner.

1.4 APPLICATIONS FOR PAYMENT

- A. Submit one (1) original copies with "wet" signatures of each application on AIA G702™ and G703™ forms or approved contractors invoice form.
- B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- C. Payment Period: Monthly.
- D. Submit Applications for Payment to Public Works Project Manager for approval & processing for payment.

1.5 CHANGE PROCEDURES

- A. Change Order Forms: Dane County Contract Change Order, Form 014-32-20.



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

#### 1.6 ALTERNATES

- A. Alternates quoted on Bid Form shall be reviewed and accepted or rejected at Owner's option.
- B. Coordinate related work and modify surrounding work as required.
- C. Schedule of Alternates: there are no alternates proposed for this project.

#### 1.7 LUMP SUM ALLOWANCES FOR WORK

- A. Not Used.

#### 1.8 COORDINATION

- A. Coordinate scheduling, submittals, and work of various sections of Specifications to assure efficient and orderly sequence of installation of interdependent construction elements.
- B. Verify utility requirement characteristics of operating equipment are compatible with building utilities.
- C. Coordinate space requirements and installation of mechanical and electrical work that are indicated diagrammatically on Drawings.
- D. Refer to Drawings for recommended work sequence and duration.
- E. Contractor shall provide Public Works Project Engineer with work plan that ensures the Work will be completed within required time of completion.
- F. Construct work in stages to accommodate building operations. All activities shall be coordinated 48 hours (minimum) in advance with Public Works Project Manager unless noted otherwise in these specifications.
- G. Public Works Project Manager may choose to photograph or videotape site or workers as the Work progresses.

#### 1.9 CUTTING AND PATCHING

- A. Employ skilled and experienced installer to perform cutting and patching new work; restore work with new Products.
- B. Submit written request in advance of cutting or altering structural or building enclosure elements.

- C. Fit work tight to adjacent elements. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
- D. Refinish surfaces to match adjacent finishes.

#### 1.10 CONFERENCES

- A. Project shall have pre-bid conference; see Instructions to Bidders.
- B. Owner will schedule preconstruction conference after Award of Contract for all affected parties.
- C. Contractor shall submit Construction Schedule at pre-construction meeting.
- D. When required in individual Specification section, convene pre-installation conference at project site prior to commencing work of Section.

#### 1.11 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at minimum of one (1) per week with Public Works Project Manager.
- B. Preside at meetings, record minutes, and distribute copies within two (2) business days to those affected by decisions made.
- C. Attendance at progress meetings by General Contractor, subcontractors, or their authorized representative, is mandatory.
- D. Contractors shall give verbal reports of progress on the Work, discuss schedule for upcoming period and present all conflicts, discrepancies or other difficulties for resolution.
- E. Day & time of progress meetings to be determined at pre-construction meeting.

#### 1.12 JOB SITE ADMINISTRATION

- A. Contractor shall have project superintendent on site minimum of four (4) hours per day during progress of the Work.
- B. Architect / Engineer shall have representative on site regularly during progress of the Work.

#### 1.13 SUBMITTAL PROCEDURES

- A. Submittal form to identify Project, Contractor, Subcontractor or supplier; and pertinent Construction Documents references.
- B. Apply Contractor's stamp, signed or initialed, certifying that review, verification of Products required, field dimensions, adjacent construction work, and coordination of

information is in accordance with requirements of the Work and Construction Documents.

- C. Identify variations from Construction Documents and Product or system limitations that may be detrimental to successful performance of completing the Work.
- D. Revise and resubmit submittals as required; identify all changes made since previous submittal.

#### 1.14 PROPOSED PRODUCTS LIST

- A. Within fifteen (15) business days after date of Award of Contract, submit complete list of major Products proposed for use, with name of manufacturer, trade name, and model number of each Product.

#### 1.15 SHOP DRAWINGS

- A. Submit number of copies that Contractor requires, plus three (3) copies that shall be retained by Public Works Project Manager.

#### 1.16 PRODUCT DATA

- A. Submit number of copies that Contractor requires, plus two (2) copies that shall be retained by Public Works Project Manager.
- B. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturer's standard data to provide information unique to this Project.

#### 1.17 SAMPLES

- A. Submit samples to illustrate functional and aesthetic characteristics of Product.
- B. Submit samples of finishes from full range of manufacturers' standard colors, textures, and patterns for Public Works Project Manager's selection.

#### 1.18 MANUFACTURERS' INSTRUCTIONS

- A. When specified in individual Specification sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for Product Data.

#### 1.19 MANUFACTURERS' CERTIFICATES

- A. When specified in individual Specification sections, submit manufacturers' certificate to Public Works Project Manager for review, in quantities specified for Product Data.
- B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

1.20 QUALITY ASSURANCE / QUALITY CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Comply fully with manufacturers' instructions.
- C. Comply with specified standards as minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

1.21 REFERENCES

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

1.22 INTERIOR ENCLOSURES

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

1.23 PROTECTION OF INSTALLED WORK

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

1.24 PARKING

- A. Arrange for temporary parking areas to accommodate construction personnel. Parking shall be available at the Work site.
- B. All contractors and their employees shall cooperate with General Contractor and others in parking of vehicles to avoid interference with normal operations and construction activities.
- C. Do not obstruct existing service drives and parking lots with equipment, materials and / or vehicles. Keep accessible for Owner's use at all times.

1.25 STAGING AREAS

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

## 1.26 OCCUPANCY DURING CONSTRUCTION AND CONDUCT OF WORK

- A. Owner reserves right at any time to dismiss from premises any Contractor or construction personnel that do not uphold requirements of this Section.
- B. Owner shall not be held liable for any lost time, wages, or impacts to construction schedule by any Contractor or construction personnel dismissed for failure to uphold requirements of this Section.
- C. Areas of existing facility will be occupied during period when the Work is in progress. Work may be done during normal business hours (7:45 am to 4:30 pm), but confer with Owner, schedule work and store materials so as to interfere as little as possible with normal use of premises. Work performed on Saturday shall be by permission of Owner. Notify Owner when coring or similar noise making work is to be done and obtain Owner's written approval of schedule. If schedule is not convenient for Owner, reschedule and resubmit new times for Owner approval. Coring of floor along with other noisy work may have to be done on second and third shifts.
- D. Work shall be done and temporary facilities furnished so as not to interfere with access to any occupied area and so as to cause least possible interference with normal operation of facility or any essential service thereof.
- E. Contractor shall, at all times, provide approved, safe walkways and facility entrances for use by Owner, employees and public.
- F. Contractor shall provide adequate protection for all parts of facility, its contents and occupants wherever the Work under this Contract is to be performed.
- G. Each Contractor shall arrange with Owner to make necessary alterations, do new work, make connections to all utilities, etc., at such times as will not cause interruption of utility services to facility. Contractor doing this work shall protect, cap, cut off and / or replace and relocate existing pipes, electrical work and other active utilities encountered which may interfere with new construction work.
- H. New work in extension of existing work shall correspond in all respects with that to which it connects or similar existing work unless otherwise indicated or specified.
  - 1. Existing work shall be cut, altered, removed or replaced as necessary for performance of Contract obligations.
  - 2. Work remaining in place, damaged or defaced by reason of work done under this Contract shall be restored equal to its condition at time of Award of Contract.
  - 3. If removal of work exposes discolored or unfinished surfaces or work out of alignment, such surfaces shall be refinished or materials replaced as necessary to make continuous work uniform and harmonious.
- I. Contractor is not responsible for providing & maintaining temporary toilet facilities.

1.27 PROTECTION

- A. Contractor shall provide and maintain barricades & signage to prohibit public access to construction site.

1.28 PROGRESS CLEANING

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

1.29 PRODUCTS

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

1.30 TRANSPORTATION, HANDLING, STORAGE AND PROTECTION

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

1.31 PRODUCT OPTIONS

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

1.32 SUBSTITUTIONS

- A. Public Works Project Manager shall consider requests for Substitutions only within fifteen (15) calendar days after date of Public Works Construction Contract.
- B. Document each request with complete data substantiating compliance of proposed Substitution with Construction Documents.

- C. Submit three (3) copies of requests for Substitution for consideration. Limit each request to one (1) proposed Substitution.
- D. Substitutions shall not change contract price established at Bid Due Date.

#### 1.33 STARTING SYSTEMS

- A. Provide written notification prior to start-up of each equipment item or system.
- B. Ensure that each piece of equipment or system is ready for operation.
- C. Execute start-up under supervision of responsible persons in accordance with manufacturers' instructions.
- D. Submit written report that equipment or system has been properly installed and is functioning correctly.

#### 1.34 DEMONSTRATION AND INSTRUCTIONS

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

#### 1.35 CONTRACT CLOSEOUT PROCEDURES

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

#### 1.36 FINAL CLEANING

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

#### 1.37 ADJUSTING

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

1.38 OPERATION AND MAINTENANCE MANUAL

- A. Provide two (2) bound, hard-copy operation and maintenance manuals that include all systems, materials, products, equipment, mechanical and electrical equipment and systems supplied and installed in the Work. Provide electronic version of operation and maintenance manual also.

1.39 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Provide Products, spare parts, maintenance and extra materials in quantities specified in individual Specification Sections.
- B. Deliver to the Work site and place in location as directed.

1.40 AS-BUILT AND RECORD DRAWINGS AND SPECIFICATIONS

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

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION



## SECTION 01 74 19

### CONSTRUCTION WASTE MANAGEMENT, DISPOSAL & RECYCLING

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Section Includes:
  - 1. Summary
  - 2. Waste Management Goals
  - 3. Construction and / or Demolition Waste Management
  - 4. Waste Management Plan
  - 5. Reuse
  - 6. Recycling
  - 7. Materials Sorting and Storage On Site
  - 8. Lists of Recycling Facilities Processors and Haulers
  - 9. Waste Management Plan Form
  
- B. Related Sections:
  - 1. Section 01 00 00 - Basic Requirements

##### 1.2 WASTE MANAGEMENT GOALS

- A. Dane County requires that as many waste materials as possible produced as result of this project be salvaged, reused or recycled in order to minimize impact of construction waste on landfills and to minimize expenditure of energy and cost in fabricating new materials. Additional information may be found in Dane County Green Building Policy, Resolution 299, 1999-2000.

##### 1.3 CONSTRUCTION AND / OR DEMOLITION WASTE MANAGEMENT

- A. All construction and demolition waste suitable for recycling may go to Dane County Construction & Demolition Recycling Facility located at 7102 US Hwy 12, Madison, located across from Yahara Hills Golf Course. This facility can receive mixed loads of construction and demolition waste. For complete list of acceptable materials see [www.countyofdane.com/pwht/recycle/CD\\_Recycle.aspx](http://www.countyofdane.com/pwht/recycle/CD_Recycle.aspx).
- B. Dane County Landfill, also at 7102 US Hwy 12, Madison, must receive all other waste from this project. [www.countyofdane.com/pwht/recycle/landfill.aspx](http://www.countyofdane.com/pwht/recycle/landfill.aspx).

##### 1.4 WASTE MANAGEMENT PLAN

- A. Contractor shall develop Waste Management Plan (WMP) for this project. Dane County's Special Projects & Materials Manager may be contacted with questions. Outlined in RECYCLING section of this specification are examples of materials that can be recycled or reused as well as recommendations for waste sorting methods.

B. Contractor shall complete WMP and include cost of recycling / reuse in Bid. WMP will be submitted to Public Works Project Manager within fifteen (15) business days of Bid Due date. Copy of blank WMP form is in this Section. Submittal shall include cover letter and WMP form with:

1. Information on:
  - a. Types of waste materials produced as result of work performed on site;
  - b. Estimated quantities of waste produced;
  - c. Identification of materials with potential to be recycled or reused;
  - d. How materials will be recycled or reused;
  - e. On-site storage and separation requirements (on site containers);
  - f. Transportation methods; and
  - g. Destinations.

#### 1.5 REUSE

A. Contractors and subcontractors are encouraged to reuse as many waste materials as possible. Salvage should be investigated for materials not reusable on site.

#### 1.6 RECYCLING

A. These materials may be recycled at Dane County Construction & Demolition Recycling Facility:

1. Wood.
2. Wood Pallets.
3. PVC Plastic (pipe, siding, etc.).
4. Asphalt & Concrete.
5. Bricks & Masonry.
6. Vinyl Siding.
7. Cardboard.
8. Metal.
9. Unpainted Gypsum Drywall.
10. Shingles.

B. These materials can be recycled elsewhere in Dane County area:

1. Fluorescent Lamps.
2. Foam Insulation & Packaging (extruded and expanded).
3. Carpet Padding.
4. Barrels & Drums.

C. All materials must be recycled at WDNR permitted waste processing facilities that adhere to all State Statutes.

#### 1.7 MATERIALS SORTING AND STORAGE ON SITE

A. Contractor shall provide separate containers for recyclable materials. Number of containers will be dependent upon project and site conditions.

B. Contractor shall provide on-site locations for subcontractors supplied recycling containers to help facilitate recycling.

- C. Mixed loads of recycled materials are allowed only per instructions at [www.countyofdane.com/pwht/recycle/CD\\_Recycle.aspx](http://www.countyofdane.com/pwht/recycle/CD_Recycle.aspx).

#### 1.8 LISTS OF RECYCLING FACILITIES PROCESSORS AND HAULERS

- A. Refer to [www.countyofdane.com/pwht/recycle/CD\\_Recycle.aspx](http://www.countyofdane.com/pwht/recycle/CD_Recycle.aspx) for information on Dane County Construction & Demolition Recycling Facility.
- B. Web site [www.countyofdane.com/pwht/recycle/categories.aspx](http://www.countyofdane.com/pwht/recycle/categories.aspx) lists current information for Dane County Recycling Markets. Contractors can also contact Allison Rathack at 608/266-4990, or local city, village, town recycling staff listed at site [www.countyofdane.com/pwht/recycle/contacts.aspx](http://www.countyofdane.com/pwht/recycle/contacts.aspx). Statewide listings of recycling / reuse markets are available from UW Extension at <https://www.uwgb.edu/shwec/>.

#### PART 2 PRODUCTS

Not Used.

#### PART 3 EXECUTION

Not Used.

END OF SECTION

## WASTE MANAGEMENT PLAN FORM



Contractor Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone No.: \_\_\_\_\_ Recycling Coordinator: \_\_\_\_\_

MATERIAL	ESTIMATED QUANTITY	DISPOSAL METHOD (CHECK ONE)		RECYCLING / REUSE COMPANY OR DISPOSAL SITE
Salvaged & reused building materials	_____ cu. yds. _____ tons	_____ Recycled	_____ Reused	Name: _____
Wood	_____ cu. yds. _____ tons	_____ Recycled	_____ Reused	Name: _____
Wood Pallets	_____ units	_____ Recycled	_____ Reused	Name: _____
PVC Plastic	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
Asphalt & Concrete	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
Bricks & Masonry	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
Vinyl Siding	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
Cardboard	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
Metals	_____ cu. yds. _____ tons	_____ Recycled	_____ Reused	Name: _____
Unpainted Gypsum / Drywall	_____ cu. yds. _____ tons	_____ Recycled	_____ Reused	Name: _____
Shingles	_____ cu. yds. _____ tons	_____ Recycled	_____ Reused	Name: _____
Fluorescent Lamps	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
Foam Insulation	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
Carpet Padding	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
Barrels & Drums	_____ units	_____ Recycled	_____ Reused	Name: _____

## WASTE MANAGEMENT PLAN FORM

Glass	_____ cu. yds. _____ tons	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Other	_____	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Other	_____	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Other	_____	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Other	_____	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Other	_____	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____

## SECTION 02 41 19

### SELECTIVE STRUCTURE DEMOLITION

#### PART 1 - GENERAL

##### 1.01 RELATED DOCUMENTS

- A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

##### 1.02 WORK INCLUDED

- A. The work under this section shall consist of providing all work, materials, labor, equipment, and supervision necessary to provide for the demolition of such features as required in these specifications and on the drawings. Included are the following:
  1. Demolish partitions, ceilings, flooring, finishes, doors and other items as indicated.
  2. Protect portions of building adjacent to or affected by selective demolition. Take appropriate measures to protect existing facilities operations against dust contamination. Materials shall be removed from the existing building without disruption to the Owner or facility operations.
  3. Remove and legally dispose of demolished materials off-site.
  4. Demolish and salvage for reuse those items noted on the drawings.
  5. Recycle construction and demolition waste including metals and cardboard. Recycle carpet and ceiling tiles if practicable.

##### 1.03 RELATED WORK

- A. Recycling, Section 01 74 19.

##### 1.04 SUBMITTALS

- A. For utilities or other services requiring removal or abandonment in-place, submit materials documenting completion of such work.
- B. Submit copies of records documenting recycling of demolition materials from the site.

##### 1.05 DEFINITIONS

- A. "Remove": Remove and legally dispose of items, except those indicated to be reinstalled.
- B. "Remove and Reinstall": Remove items indicated; clean, service and otherwise prepare them for reuse; store and protect against damage. Reinstall in the same location or in locations indicated.
- C. "Existing to Remain": Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by the A/E, items may be removed to a suitable, protected storage location during selective demolition and then cleaned and reinstalled in their original locations.

##### 1.06 QUALITY ASSURANCE

- A. Comply with governing codes and regulations.

##### 1.07 RECORD DRAWINGS

- A. Maintain record drawings showing actual locations of utilities and other features encountered, and any deviations from the original design. Show actual limits of removal and demolition.

#### 1.08 SAFETY

- A. Verify that all gas and electrical utilities have been abandoned or disconnected and associated hazards mitigated, prior to beginning any demolition.
- B. Take all necessary precautions while dismantling piping containing gas, gasoline, oil or other explosive or toxic fluids or gases. Purge lines and contain materials in accordance with all applicable regulations. Store such piping outdoors until fumes are removed.
- C. Maintain a clean and orderly site. Remove debris at end of each workday.
- D. If hazardous materials are not anticipated, but encountered, terminate operations and contact the Owner immediately. Follow all applicable local, state and federal regulations pertaining to hazardous materials.

#### 1.09 PERMITS

- A. Unless otherwise noted, Contractor shall be responsible for obtaining and paying for all permits necessary to complete demolition work.
- B. If necessary, file and maintain Notification of Demolition and/or Renovation and Application for Permit Exemption (WDNR Form 4500-113) in accordance with the Wisconsin Administrative Code Chapter NR447.

#### 1.010 DISCONNECTION OF SERVICES

- A. Prior to starting removal and/or demolition operations be responsible and coordinate disconnection of all existing utilities, communication systems, alarm systems and other services.
- B. Disconnect all services in manner which insures continued operation in facilities not scheduled for demolition.
- C. Disconnect all services in manner which allows for future connection to that service.
- D. Disconnect services to equipment at unions, flanges, valves, or fittings wherever possible.

#### 1.011 REMOVAL/SALVAGING OF ITEMS

- A. Carefully remove all items that are scheduled to be salvaged.
- B. Secure salvaged items to allow for future movement; provide pallets, skids and other devices as necessary. Secure all loose parts.
- C. Provide crates, padding, tarps and other measures necessary to protect salvaged items during storage. Store items in secure location, safe from vandalism, weather, dust and other adverse elements.
- D. Where salvaged items are indicated to be turned over to Owner, deliver to location on property where designated by Owner.

- E. Where indicated to be incorporated into new work, store the salvaged item in secure location until trade responsible for re-installation mobilizes his equipment and storage facilities to the site, or otherwise accepts responsibility for the salvaged item.
- F. Items of salvage value that are not to be returned to the Owner or the A/E shall be removed from the structure. Storage or sale of such salvage items at project site is prohibited.

## PART 2 - PRODUCTS

### 2.01 EQUIPMENT

- A. Use Contractor's normal equipment for demolition purposes and which meets all safety requirements imposed on such equipment.

## PART 3 - EXECUTION

### 3.01 GENERAL

- A. Examine all areas of work, verify all existing conditions, and report any unsatisfactory conditions.

### 3.02 PROTECTION OF EXISTING WORK AND FACILITIES

- A. Verify the locations of, and protect, any building elements, utilities, and all other such facilities that are intended to remain or be salvaged.
- B. Make such explorations and probes as necessary to ascertain any required protection measures that shall be used before proceeding with demolition.
- C. Take all measures necessary to safeguard all existing work and facilities which are outside the limits of the work.
- D. Furnish and install temporary enclosures or other barriers as shown on the plans or as otherwise necessary to protect existing features.
- E. Protect adjacent interior areas from collection of dust and noxious fumes. Seal HVAC system ductwork and grilles to prevent contamination of building or mechanical systems.
- F. Provide protection for workers, public, adjacent construction and occupants of existing building(s).
- G. Report damage of any facilities or items scheduled for salvaging to the Owner.
- H. Repair or replace any damaged facilities that are not scheduled for demolition.
- I. Do not damage building elements and improvements indicated to remain.
- J. Do not close or obstruct walks, drives, other occupied or used spaces, or facilities without the written permission from the A/E and the authorities having jurisdiction.
- K. Do not interrupt utilities serving occupied facilities without permission from the A/E and authorities having jurisdiction. If necessary, provide temporary utilities.
- L. Cease operations if public safety or remaining structures are endangered. Perform temporary corrective measures until operations can be continued properly.



- M. If necessary, provide additional materials to protect existing building components that are to remain.
- N. Where necessary to prevent collapse of any construction, install temporary shores, struts or bracing. Do not commence demolition work until all temporary construction is complete.
- O. Take precautions to guard against movement, settlement or collapse of any surrounding construction designated to remain and be liable for any such movement, settlement or collapse.

### 3.03 DEMOLITION

- A. Remove all equipment, fixtures and other materials scheduled for salvage prior to beginning demolition operations.
- B. Abandon gas, electric and communication utilities in accordance with local utility company requirements, or applicable substantive requirements if considered private.
- C. Remove all sealant, fasteners and damaged or rotten blocking from existing construction to remain where demolition occurs.

### 3.04 RECYCLING

- A. Transport and dispose all demolition waste in accordance with local, state, and federal guidelines and Section 01 74 19 Recycling.

### 3.05 SCHEDULE

- A. Items to be removed shall be as indicated on the Drawings.
  - 1. Items to be stored and reinstalled.
  - 2. Items to be removed from site by Contractor.
- B. Items to remain (if clarification required).

### 3.06 CLEANING

- A. All adjacent areas shall be broom cleaned and ready to receive new construction.
- B. Remove from the site all debris resulting from the Work of this Section.

END OF SECTION 02 41 19

1 SECTION 06 10 00

2  
3 ROUGH CARPENTRY

4  
5 PART 1 - GENERAL

6  
7 1.01 RELATED DOCUMENTS

- 8  
9 A. Conditions of the Contract and portions of Division One of this Project Manual apply to this  
10 Section as though repeated herein.

11  
12 1.02 SCOPE

- 13  
14 A. Perform all Work required to complete the Rough Carpentry indicated by the Construction  
15 Documents, and furnish all items necessary for its proper installation.

16  
17 1.03 RELATED WORK

- 18  
19 A. Resilient Flooring, Section 09 65 00.

20  
21 1.04 SUBMITTALS

- 22  
23 A. Submit in accordance to the General Conditions of the contract.  
24  
25 B. Material certificates for dimensional lumber specified to comply with minimum allowable unit  
26 stresses indicated on the documents. Indicate species and grade selected for each use, and  
27 design values approved by American Lumber Standards Committee.  
28  
29 C. Framing plan indicating field verified dimensions, structural performances, ratings,  
30 compliance with resilient flooring manufacturers' substrate requirements and shop fabricated  
31 architectural woodwork requirements for Owner and A/E approval and coordination of Owner  
32 provided electrical.  
33  
34 D. Schedule for completion of rough framing for coordination of templating for shop fabrication  
35 of architectural woodwork.  
36  
37 E. Wood treatment data as follows, including chemical treatment manufacturer's warranty and  
38 instructions for handling, storing, installing, and finishing treated materials:  
39  
40 1. For each type of preservative-treated wood product, include certification by treating plant  
41 stating type of preservative solution and pressure process used, net amount of  
42 preservative retained, and compliance with applicable standard.

43  
44 1.05 REFERENCES

- 45  
46 A. American Institute of Timber (AITC)  
47 1. AITC, Timber Construction Manual  
48  
49 B. American Forest and Paper Association (AFPA)  
50 1. AFPA, National Design Specification for Wood Construction.  
51 2. AFPA, Design Values for Wood Construction, NDS Supplement.  
52  
53 C. American Plywood Association (APA)  
54 1. APA, Plywood Design Specification.  
55

- 1 D. American National Standards Institute (ANSI)
- 2 1. ANSI A190.1, Structural Glued Laminated Wood.
- 3 2. ANSI A208.1, Material Formed Wood Particle Board.
- 4
- 5 E. American Society for Testing and Materials (ASTM)
- 6 1. ASTM E84, Test for Surface Burning Characteristics of Building Materials.
- 7
- 8 F. American Wood Preservers Association (AWPA)
- 9 1. AWPA C-20, Structural Lumber - Fire Retardant Treatment by Pressure Processes.
- 10
- 11 G. American Wood Preservers Bureau (AWPB)
- 12 1. AWPB LP-2, Pressure Treatment with Water-Borne Preservatives.
- 13
- 14 H. National Bureau of Standards (NBS)
- 15 1. NBS PS 1, Voluntary Product Standard for Construction and Industrial Plywood.
- 16 2. NBS PS 20, Voluntary Product Standard for Lumber.
- 17

#### 18 1.06 DELIVERY, STORAGE AND HANDLING

- 19
- 20 A. Deliver materials to the site dry and store above ground on level wood blocking, cover from
- 21 rain, allowing drainage of water from all parts. Handle with care to avoid damage.
- 22

#### 23 1.07 COORDINATION

- 24
- 25 A. Correlate location of all framing, furring, blocking, grounds and similar items with all trades
- 26 including electrical by Owner.
- 27
- 28 B. Verify all dimensions and shop drawing requirements prior to proceeding with work.
- 29
- 30 C. Avoid delay of work of other trades dependent on or affected by carpentry work.
- 31

#### 32 1.08 QUALITY ASSURANCE

- 33
- 34 A. Sub-floor preparation and installation per Resilient Flooring specifications.
- 35
- 36 B. Structural Performances
- 37 1. Platforms shall be capable of withstanding a uniform load of 100 lbs. per sq. ft. or a
- 38 concentrated load of 300 lbs. located to produce maximum stress conditions.
- 39

#### 40 1.09 ENVIRONMENTAL REQUIREMENTS

- 41
- 42 A. Low-Emitting Materials, Adhesives, and Sealants: Materials used on the interior of the
- 43 building (defined as inside the weatherproofing system and applied on site) must not exceed
- 44 the following requirements.
- 45 1. Adhesives, Sealants and Sealant Primers: South Coast Air Quality Management
- 46 (SCAQMD) Rule # 1168, requirements in effect on July 1, 2005, and rule amendment
- 47 date January 7, 2005.
- 48 2. Aerosol Adhesives: Green Seal Standard for Commercial Adhesives GS-36,
- 49 requirements in effect on October 19, 2000.
- 50
- 51 B. Low- Emitting Materials, Composite Wood & Agrifiber Products: Composite wood and
- 52 agrifiber products used inside the weatherproofing system shall contain no added urea-
- 53 formaldehyde resins.
- 54 1. Laminating Adhesives used to fabricate on-site and shop applied composite wood and
- 55 agrifiber assemblies shall contain no added urea-formaldehyde resins.

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PART 2 - PRODUCTS

2.01 MATERIALS

- A. Light framing shall be construction grade-marked according to WWPA, S4S, dried, 19 percent maximum moisture content; Douglas Fir, Hem Fir, Southern Pine, Spruce-Pine-Fir, or as indicated on the Drawings.
- B. Structural Framing
  - 1. Wood 2x6 and smaller structural members shall be No. 2 grade-marked according to WWPA, S4S, dried, 19 percent maximum moisture content; Douglas Fir, Hem-Fir, Southern Pine, or as indicated on the Drawings.
  - 2. Wood 2x8 and larger structural members shall be No. 2 grade-marked according to WWPA, S4S, dried, 19 percent maximum moisture content; Douglas Fir, or as indicated on the Drawings.
- C. Wood for nailers, blocking, furring, sleepers and other miscellaneous boards: Construction grade, S4S, dried, 19 percent maximum moisture content. Pressure preservative treat items in contact with flashing, waterproofing, masonry, concrete or the ground.
- D. Plywood sheathing shall be 5/8 inch thick, 5-ply, CDX APA Rated, un-sanded with a minimum 24/0 span rating. Sheathing shall be by 48 inches wide by 96 inches long.
- E. Per ASTM F 1482, "A combination of a wood subfloor and panel underlayment shall be of double layer construction. Total thickness shall be a minimum of 1".
- F. Wood Underlayments: Use only approved underlayment panel such as Arctic birch (also known as Baltic birch) in 1/4" thickness (5 ply) or 3/8" thickness (7 ply). Halex and Tecply are two brand names for these types of products. A/C grade plywood with one side finished is also acceptable.
- G. Fire-retardant treated wood products shall be pressure-impregnate wood materials to comply with ASTM E84, Class A and with AWWPA C-20 and C-27. Each piece shall bear UL label "FR-S" for 25 maximum flame spread. Moisture content after treatment shall be 19 percent for lumber and 15 percent for plywood.
  - 1. Treated materials shall be "Dricon" as manufactured by Koppers Company, Inc.
- H. Rough hardware shall include all nails, spikes, screws, bolts and similar items of types and sizes sufficient to draw and rigidly secure members for which they are used. Fasteners shall be galvanized plated at exterior locations and at all treated wood applications.
  - 1. Truss tie-down clips shall be fabricated from 18 gauge galvanized steel with sufficient length to allow it to be fasten below to two plates. Clips shall have a maximum allowable uplift load up to 415 pounds. Clips shall be "Du-al" as manufactured by Teco Corporation; "H2.5" as manufactured by Simpson Strong-Tie Company, Inc.; "RT-7 Kant-Sag" as manufactured by United Steel Products Company; or approved equal.
- I. Adhesive shall be of proper design and characteristics to rigidly secure materials for which they are used. Adhesive shall be "Titebond VOC-Compliant Heavy Duty Construction Adhesive" conforming with ASTM C557, as manufactured by Franklin International; or approved equal.
  - 1. Provide construction adhesive with a VOC content of less than 70 g/l.

PART 3 - EXECUTION

1 3.01 PREPARATION

- 2
- 3 A. Examine all adjoining work, verify all governing dimensions, and report any unsatisfactory
- 4 conditions.
- 5
- 6 B. Provide temporary enclosures, partitions, or stairs to properly protect and facilitate the work.
- 7

8 3.02 GENERAL INSTALLATION

- 9
- 10 A. Install materials and systems in accordance with manufacturer's published instructions and
- 11 requirements. Install materials with uniform appearance and in proper relation with adjacent
- 12 construction.
- 13
- 14 B. Framing Standard: Comply with AF&PA's "Manual for Wood Frame Construction," unless
- 15 otherwise indicated.
- 16
- 17 C. Maximum concentrated load on any joist to not exceed 100 pounds. Add joists when
- 18 concentrated load exceeds this value.
- 19
- 20 D. Provide a minimum of three inches of bearing for dimensional lumber. Refer to the supplier
- 21 requirements for bearing of laminated veneer lumber, unless noted otherwise.
- 22
- 23 E. Cut and frame all lumber into the respective locations, true to line, grade, plumb and level.
- 24 Form nailers, blockings and bucks to the shape and dimension indicated. Cut and frame all
- 25 rough carpentry work required by the other sections.
- 26
- 27 F. Use only sound, thoroughly seasoned materials of longest practical lengths and sizes to
- 28 minimize jointing. Use materials free from warp which cannot be easily corrected by
- 29 anchoring and attachment.
- 30
- 31 G. Wall stud supporting concentrated loads (i.e. joist or truss, etc.) shall be layed out to align
- 32 with these concentrated loads.
- 33
- 34 H. Double studs at all openings, triple at corners, and partition junctures.
- 35
- 36 I. Treat all wood nailers, sleepers, blocking, furring, other wood in contact with concrete,
- 37 masonry adjacent to grade or exterior which shall be inaccessible in finished work.
- 38
- 39 J. Provide blocking, bucks and framing for all trades as required.
- 40
- 41 K. Include 2 inch nominal blocking in metal stud partitions required for backing of all
- 42 accessories, cabinetry, and other surface or recessed items, including Audio/Visual.
- 43
- 44 L. Where finish trim is applied directly to framing members or blocking, such members shall be
- 45 perfectly straight, clear and well seasoned. Warp or other poor characteristics not allowed.
- 46
- 47 M. Provide solid surfaces at least 1 1/2 inches wide in both directions at all corners for securing
- 48 finishes.
- 49

50 3.03 FLOOR JOIST FRAMING INSTALLATION

- 51
- 52 A. General: Install floor joists with crown edge up and support ends of each member with
- 53 not less than 1-1/2 inches of bearing on wood. Attach floor joists as follows:
- 54
- 55 1. Where supported on wood members, by using metal framing anchors.

- 1                   2.       Where framed into wood supporting members, by using wood ledgers as  
2                                   indicated or, if not indicated, by using metal joist hangers.  
3  
4       B.       Do not notch in middle third of joists; limit notches to one-sixth depth of joist, one-third  
5                   at ends. Do not bore holes larger than 1/3 depth of joist; do not locate closer than 2  
6                   inches (50 mm) from top or bottom.  
7  
8       C.       Provide solid blocking of 2-inch nominal thickness by depth of joist at ends of joists  
9                   unless nailed to header or band.  
10  
11       D.       Lap members framing from opposite sides of beams, girders, or partitions not less than 4  
12                   inches (or securely tie opposing members together. Provide solid blocking of 2-inch  
13                   nominal thickness by depth of joist over supports.  
14

15   3.04    HARDWARE

- 16  
17       A.       Secure permanently and in proper position all materials with the necessary fastenings to  
18                   provide the strength and rigidity required to complete the work. Provide washers under bolt  
19                   heads and nuts in contact with wood.  
20  
21       B.       Bolt nailers and blocking to steel, masonry or concrete members with bolts of proportionate  
22                   strength of members attached, length required, spaced 2 feet 0 inches on center and 4 inches  
23                   from each end, except as otherwise indicated. Unless otherwise indicated, anchor bolts shall  
24                   be 3/8 inch diameter by length required or comparable power actuated fasteners.  
25  
26       C.       Nail plywood in accord with APA recommendations.  
27

28   3.05    WALL SHEATHING

- 29  
30       A.       Place sheathing with all joints over supports. Provide 1 1/2 inch framing at all joints not over  
31                   supports where blocked joints are noted on Drawings.  
32  
33       B.       Stagger end joints so that joint between adjacent panels occurs over different supports. Allow  
34                   1/8 inch spacing between panels on all sides.  
35  
36       C.       Fasten with 8d ring-shank nails at 6 inch on center at all edges and 12 inch on center at all  
37                   intermediate supports, unless noted otherwise. Sheathing may be stapled with 1 1/2 inch long  
38                   15 gauge staples at 4 inch on center at all edges and 12 inch on center at all intermediate  
39                   supports, unless noted otherwise.  
40  
41       D.       Install in accord with recommendations of APA.  
42

43   3.06    CLEANING

- 44  
45       A.       Remove from the site all debris resulting from the Work of this Section.  
46  
47

END OF SECTION 06 10 00

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## SECTION 06 41 16

### PLASTIC LAMINATE CLAD CASEWORK

#### PART 1 - GENERAL

##### 1.01 RELATED DOCUMENTS

- A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

##### 1.02 WORK INCLUDED

- A. Base, Wall and Custom Storage Cabinets and associated Partitions and Shelving.
- B. Hardware.

##### 1.03 RELATED WORK

- A. Rough Carpentry: Section 06 10 00.
- B. Joint Sealers: Section 07 92 00.
- C. Solid Surface: Section 06 61 18.
- D. Plumbing (Sinks, pipe, fittings, final connections, etc.): Division 22.

##### 1.04 REFERENCES

- A. Plastic Laminate: National Electrical Manufacturers Association (NEMA) Publication No. LD3-1991.
- B. Fiberboard Core: ANSI A208.2.

##### 1.05 SUBMITTALS

- A. Submit in accordance with the General Conditions of the Contract.
  - 1. Product Data: Manufacturer's catalog information edited to indicate specific products and related accessories to be provided for this Project.
  - 2. Shop Drawings: Show layout of casework, typical details of construction, and finish selections.
    - a. Locate rough-in for services required and show methods of compensating for minor variations in actual job conditions within specified tolerances.
    - b. Include details of fastening to all other work, countertop layout for each location, details of countertop construction including backsplash, endsplash, and edge details, plastic laminate selections previously made by Architect/Engineer and type of core substrate material.
    - c. Field measure for all countertops.
    - d. Indicate all hardware and keying schedule.
    - e. Indicate opening for all appliances, product specifications to be provided by Owner.

##### 1.06 QUALITY ASSURANCE

- A. Quality Standards: Perform work in accordance with Architectural Woodwork Quality Standards (current edition), Guide Specification and Quality Control Program as set forth by the Architectural Woodwork Institute (AWI).



B. ANSI/BHMA A156.9 – Cabinet Hardware.

1.07 DELIVERY, STORAGE AND HANDLING

A. Deliver casework items only when proper storage conditions will be available. Store casework in protected area until ready for installation.

B. Maintain optimum humidity and temperature conditions after receipt of materials.

C. Store in manner to allow free circulation of air around all items.

D. Maintain temperature of casework storage areas between 50 to 75 degrees Fahrenheit.

PART 2 - PRODUCTS

2.01 CASEWORK

A. AWI Section 400, Custom grade.

2.02 MANUFACTURERS

A. The following casework manufacturers are acceptable as long as they meet or exceed this specification.

1. A.J. Pietsch Company, (414) 342-0531.
2. Carley Wood Associates, Inc. (608) 249-7444.
3. Central Wisconsin Woodworking, (715) 675-4491.
4. Creative Laminates, Inc., (800) 441-5885.
5. Diversified Woodcrafts Inc., (920) 842-2136.
6. Glenn Rieder, Inc., (414) 449-2888.
7. Hillcraft Ltd., (608) 221-3220.
8. Lange Brothers Woodwork Co, Inc., (414) 466-2226.
9. Stück Wood Works Inc., (414) 351-5595.
10. T. J. Hale Company, (262) 255-5555.
11. Techline, (608) 238-6868.
12. Wood Design Inc., (920) 563-4833.
13. Woodmill Products, Inc., (262) 754-4641.
14. Or approved equal.

B. Hardware manufacturers.

1. Doug Mockett & Co. (800) 523-1269.
2. A&M Hardware (888) 647-0200
3. Or approved equal.

2.03 BASE AND CUSTOM STORAGE CABINETS

A. Bottoms, Sides and Sub-top: 3/4-inch 45-47 pound density particle board.

1. Finish where not exposed: 8 to 11 mil melamine resin overlay.

B. Back Panel: 3/8-inch 45-47 pound density particle board.

1. Finish: 8 to 11 mil melamine resin overlay to match cabinet interior.
2. Non-Exposed Side Finish: 8 to 11 mil melamine resin overlay to match.
3. If back exposed, provide 3/4-inch material, finished to match.

- C. Top of Base, Custom Storage Cabinet: Full framed wood. Provide full sub-top and 6 inch spreaders between all drawers and door/drawer.
- D. Back panels rabbeted into sides top and bottom. Secure with hot melt glue or glue and mechanical fasteners.
- E. Provide finished end panels at all exposed end locations. Ends adjacent to appliances shall be considered as exposed ends.

#### 2.04 DOOR/DRAWER CONSTRUCTION AND EDGING

- A. Door/Drawer Fronts: 3/4-inch thick core.
- B. Exposed Edges, Endsplashes:
  - 1. Finished to match exposed face.
- C. Laminate face/balancer to core with PVA rigid adhesives, under pressure, nor natural setting process. Heat process or contact adhesive not allowed.
- D. Door/Drawer/Cabinet Body Edges: 1 mm PVC thru-color, acid resistant hot melt applied.

#### 2.05 PLASTIC LAMINATE SURFACING

- A. Manufacturers: Wilsonart , Pionite, Arpa, Formica, Lamin-Art, Nevamar, or approved equal.
- B. Exposed Exterior Surfaces (except countertops): NEMA GP28, 0.028 inch thick, standard vertical grade.
- C. Interior Surfaces/Backing Sheets: NEMA CL20, 0.020 inch thick, standard cabinet liner grade if applicable.
- D. Colors:
  - 1. Horizontal Surface Plastic Laminate color to be selected from manufacturer's full range.
  - 2. Vertical Surface Plastic Laminate color to be selected from manufacturer's full range.
- E. Contrasting text where indicated on drawings.

#### 2.06 DRAWERS

- A. Backs, Sides, Fronts: 1/2-inch thick, medium density fiberboard with melamine overlay.
- B. Dovetail/dado fronts and backs, secure with glue.
- C. Bottoms: 3/8-inch thick.
- D. Rabbet bottoms into sides, front and back; staple and glue.
- E. Drawer fronts screwed on from drawer inside.
- F. Reinforcement: 1/2 inch thick under-bottom stiffeners, one at 24 inch drawers, two at 36 inch drawers, four at 48 inch drawers.

#### 2.07 SHELVES

- A. Shelves under 27 inches long: 3/4-inch thick 45-47 pound density particle board.
- B. Shelves over 27 inches long: 1 inch thick 45-47 pound density particle board. Provide additional bracket supports at long space shelving.
- C. Finish: Finished to match faces.
- D. Edging: Material to match the shelf.

#### 2.08 BASES

- A. Two, continuous, 4 inch high by 1-1/2 inch thick lumber, or 4 inch high by 3/4 inch exterior grade plywood, 2 foot on center. See drawings for base dimension.
- B. Provide two positioning strips to cabinet bottom for concealed fastening.

#### 2.09 HARDWARE

- A. Pulls:
  - 1. Doug Mockett & Company DP211B – Straight Edge Drawer Pull Medium
- B. Self-Closing Hinges: Blum 110° Heavy Duty soft close for frameless cabinets and associated base plate.
- C. Drawer Slides: Knap & Vogt 8650FM, Heavy Duty Slide or approved equal.
- D. Locks:
  - 1. Cabinet Locks: Keyed to match, five pin. All casework to be lockable. Key casework alike per area.
- E. Steel Brackets
  - 1. For work surfaces: Hafele, Hebgo bracket, approved equal by A&M Hardware or approved equal.
  - 2. Provide painted steel concealed brackets at solid surface shelf A&M Hardware, Inc. 12” float shelf and hidden shelf brackets or approved equal.
    - a. Color: To be selected by Architect from full line of powder coat finishes.
- F. Hardware finish: 626 (US26D) Brushed Chrome or Brushed Satin Aluminum.

#### 2.010 WORKMANSHIP

- A. Cabinet parts shall be accurately machined utilizing hardwood dowels for premium quality grade joinery construction. Glue and mechanically fasten all joints for maximum rigidity.
- B. All cases shall be square, plumb, true and self-supporting.
- C. Provide removable back panels and closure panels for plumbing access where shown on Project Drawings.

### PART 3 - EXECUTION

#### 3.01 DELIVERY

- A. Store and install in a ventilated building not exposed to extreme temperature and/or humidity.

#### 3.02 INSTALLATION

- A. Installation shall be by the manufacturer's authorized representatives using factory trained personnel experienced in the installation of this type of equipment.
- B. Uncrate, set up, place, level, scribe and anchor all cabinets according to manufacturer's recommendations.
- C. Remove and replace tops, backs, panels, shelves and other items necessary to allow other Sections to complete their work of connecting services.
- D. Do all cutting, boring, patching required for the installation of work of other Sections.
- E. Provide all necessary fillers, panels, end panels, scribes required to make complete installation as detailed.
- F. Where casework meets wall surfaces, set with uniform space not to exceed 1/8-inch. Seal all joints with silicone sealant to a slightly concave joint, using backer rod where required. Apply sealant in accord with Section 07 92 00.
- G. Cabinets with surfaces having machine or tool marks will be rejected.
- H. All finishes must be smooth, uniform in color and match approved sample.
- I. Prior to final inspection, examine installation of the work of this Section. Repair or replace all defects found. Leave installation clean, undamaged and ready for use.

### 3.02 FINISH SCHEDULE

To be selected by architect from manufacturer's full range.

END OF SECTION 06 41 16

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SECTION 06 61 18

SOLID SURFACE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

1.02 WORK INCLUDED

- A. Solid surface countertop.

1.03 RELATED WORK

- A. Gypsum Wall Board Section 09 29 00.

1.04 SUBMITTALS

- A. Submit in accord with the General Conditions of the Contract.
  - 1. Product Data: Manufacturer's catalog information edited to indicate products to be provided for this Project.
    - a. Joint adhesives or mastics, color matched.
    - b. Joint sealants.
    - c. Fastening adhesive
  - 2. Samples:
    - a. Product Data.
    - b. Solid surface sheet material.
    - c. Include color chart showing full range of available colors for sheet

1.05 QUALITY ASSURANCE

- A. Fabricator/Installer Qualifications: Minimum three years experience in fabrication and installation of solid surface materials or certification by Distributor.
  - 1. Qualifications: Proof of fabricator qualifications.
  - 2. Certificates: Copies of ISO certifications.
  - 3. Test Reports:
    - a. Flammability test reports.
    - b. Food preparation zone use test reports.
  - 4. Manufacturer's Fabrication and Installation Manual.
  - 5. Manufacturer's Fabrication and Installation Check List.

- B. Shop Drawings: Provide plans, sections, and large-scale details. Include attachment provisions and fabrication methods.

1.06 WARRANTY

- A. Provide manufacturer's standard 10 year warranty against defects in workmanship.

1.07 MAINTENANCE

- A. Extra Materials: Provide for future repair use by Owner.

1 1. Minimum 4 sf per 50 lf of each countertop color.

2  
3 1.08 SPECIAL INSTRUCTIONS

4  
5 A. Do not deliver components to project site until spaces are ready for installation.

6  
7 1.09 ENVIRONMENTAL CONDITIONS

8  
9 A. Installation spaces must be maintained at normal occupancy temperature and humidity levels for  
10 minimum 72 hours prior to and continuously following installation.

11  
12 1.010 ENVIRONMENTAL REQUIREMENTS

13  
14 A. Recycled content: Provide products manufactured from recycled content as specified, to be measured  
15 and documented according to the LEED Green Building Rating System.

16 1. Solid surface: Minimum 50% post-consumer recycled content.

17  
18 B. Low-Emitting Materials, Field applied Paints and Coatings: Interior paints and coatings applied on-  
19 site must meet the limitations and restrictions concerning chemical components set by the following  
20 standards:

21 1. "All Other Architectural Coatings, Primers and Undercoats: South Coast Air Quality  
22 Management District (SCAQMD) Rule #1113, Architectural Coatings", rules in effect on  
23 January 1, 2004.

24  
25 C. Low-Emitting Materials, Adhesives, and Sealants: Materials used on the interior of the building  
26 (defined as inside the weatherproofing system and applied on site) must not exceed the following  
27 requirements.

28 1. Adhesives, Sealants and Sealant Primers: South Coast Air Quality Management (SCAQMD)  
29 Rule # 1168, requirements in effect on July 1, 2005, and rule amendment date January 7,  
30 2005.

31 2. Aerosol Adhesives: Green Seal Standard for Commercial Adhesives GS-36, requirements in  
32 effect on October 19, 2000.

33  
34 PART 2 - PRODUCTS

35  
36 2.01 MATERIALS

37  
38 A. Solid Surface

39 1. Solid Surface

40 a. Formica Solid Surfacing

41 b. Or approved equal by: Dupont, Corian; Wilsonart, Solid Surfacing.

42  
43 B. No cracked, chipped, broken, stained, or defective material will be accepted.

44 1. Materials fabricated to thickness and size shown on drawings.

45 a. All sizes to be field verified.

46  
47 C. Color Match Differences: Minimal.

48  
49 D. Adhesives: Use manufacturer's recommended adhesives, and installation instructions. See product  
50 fabrication manuals for application techniques and surface preparation.

51  
52 2.02 FABRICATION

53  
54 A. Field verify measurements.

- 1 B. Finished Surfaces: Uniform as chosen by A/E from full range with all edge profiles as shown on
- 2 drawings. Square edge.
- 3
- 4 C. Color and finish: Solid Surface to be selected from manufacturer's full line including but not limited
- 5 to Formica Lava Rock or Corian Sagebush.
- 6

7 PART 3 - EXECUTION

8

9 3.01 EXAMINATION

- 10
- 11 A. Examine cabinets upon which countertops will be installed. Coordinate with cabinet specification
- 12 section to assure that cabinets are set to the following tolerance or better.
- 13 1. Verify that cabinets are level to 1/8 in. in 10 ft .
- 14 2. Review manufacturer's Fabrication and Installation Check List.
- 15
- 16 B. Examine walls upon which sill will be installed.
- 17 1. Verify wall is flat and acceptable for base application.
- 18 2. Review manufacturer's Fabrication and Installation Check List.
- 19
- 20 C. Coordinate with responsible entity to correct unsatisfactory conditions.
- 21
- 22 D. Commencement of work by installer is acceptance of conditions.
- 23

24 3.02 INSTALLATION

- 25
- 26 A. Install fabricated items according to material manufacturers printed instructions.
- 27
- 28 B. Set all items square and true with edges of face joints smooth, even, neat and tight against other
- 29 materials.
- 30

31 3.03 PROTECTION, REPAIRING AND CLEANING

- 32
- 33 A. Replace damaged and defective work.
- 34
- 35 B. Clean according to manufacturer's directions. Use no acids or harsh abrasives.
- 36

37

38 END OF SECTION 06 61 18



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## SECTION 07 92 00

### JOINT SEALANTS

#### PART 1 - GENERAL

##### 1.01 RELATED DOCUMENTS

- A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

##### 1.02 WORK INCLUDED

- A. Miscellaneous Joints.

##### 1.03 RELATED WORK

- A. Section 06 61 18, Solid Surface.
- B. Section 09 29 00, Gypsum Board.

##### 1.04 SUBMITTALS

- A. Submit in accord with the General Conditions of the Contract.
  - 1. Samples: Color range of material for selection.
  - 2. Manufacturer's Recommendations including performance requirements, recommendations and application instructions for approval of materials used.

##### 1.05 PROJECT CONDITIONS

- A. Examine the joint surfaces and backing, and their anchorage to the structure, and the conditions under which the joint sealer work is to be performed. Do not proceed with the joint sealer work until unsatisfactory conditions have been corrected.

#### PART 2 - PRODUCTS

##### 2.01 SEALANT

- A. Sealant for Locations Except as Specified in the Subsequent Paragraphs and related Sections:
  - 1. Multi-part, Nonsag, Polyurethane: ASTM C 920, Type M, Grade NS, Class 50, for Use NT.
    - a. PECORA, Dynatrol II.
    - b. BASF, Sonneborn, Sonolastic NP-2.
    - c. TREMCO, Dymeric 240.
    - d. Or equal as approved by A/E.
      - 1) Equal means both quality and color options.
  - 2. Horizontal Joint Sealant, Traffic-Grade, 2-part self-leveling polyurethane: ASTM C 920, Type M, Grade NS, Class 50, for Use T.
    - a. PECORA, NR-200 Urexpan.
    - b. BASF, Sonneborn, Sonolastic SL2.
    - c. TREMCO THC-900.
    - d. Or equal as approved by A/E.

- 1) Equal means both quality and color options.

## 2.02 LATEX JOINT SEALANTS

- A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.
  1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. BASF Building Systems; Sonolac.
    - b. OSI, Green Series, SA-167.
    - c. Pecora Corporation; AC-20+.
    - d. Tremco Incorporated; Tremflex 834.
  2. Paintable.

## 2.03 SEALANT ACCESSORIES

- A. Primer: When required, as recommended by the Sealant Manufacturer.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Non-staining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.
- D. Closed Cell Back-up (Backer Rod): Tremco "Closed Cell Backer Rod", Sonneborne "Sonofoam" or W.R. Meadows "Kool-Rod".
- E. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

## PART 3 - EXECUTION

### 3.01 JOINT PREPARATION

- A. Clean joint surfaces immediately before installation of sealant. Remove dirt, insecure coatings, moisture and other substances which would interfere with bond of sealant. Etch concrete and masonry joint surfaces as recommended by sealant manufacturer. Roughen vitreous or glazed joint surfaces as recommended by sealant manufacturer.
- B. Prime or seal the joint surfaces wherever shown or recommended by the sealant manufacturer. Do not allow primer/sealer to spill or migrate onto adjoining surfaces.

### 3.02 SEALANT APPLICATION, GENERAL

- A. Set joint filler units at proper depth or position in the joint to coordinate with other work, including the installation of bond breakers, backer rods and sealants. Do not leave voids or gaps between the ends of joint filler units.

- B. Install bond breaker tape wherever shown and wherever required by manufacturer's recommendations to ensure that elastomeric sealants will perform properly.
  - C. Apply compound with a gun having proper size nozzle or with a knife, as required. Use sufficient pressure to fill all voids and joints solid. Remove excess sealant and leave surfaces smooth, neat and clean. Upon completion sealant shall have a smooth, even finish and all joints shall be weathertight. All work shall be in accordance with manufacturer's printed instructions.
  - D. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
    - 1. Remove excess sealant from surfaces adjacent to joints.
    - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
    - 3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
    - 4. Provide flush joint profile where indicated per Figure 8B in ASTM C 1193.
    - 5. Provide recessed joint configuration of recess depth and at locations indicated per Figure 8C in ASTM C 1193.
      - a. Use masking tape to protect surfaces adjacent to recessed tooled joints.
  - E. Do not allow sealants or compounds to overflow or spill onto adjoining surfaces, or to migrate into the voids of adjoining surfaces. Clean the adjoining surfaces by whatever means may be necessary to eliminate evidence of spillage.
  - F. Acoustical Sealant Installation: At sound-rated assemblies and elsewhere as indicated, seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written recommendations.
- 3.03 PROTECTION
- A. Cure sealants in compliance with manufacturer's instructions and recommendations. Advise the Contractor of procedures required for the cure and protection of joint sealers during the construction period, so that they will be without deterioration or damage (other than normal wear and weathering) at the time of Substantial Completion.

END OF SECTION 07 92 00

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## SECTION 08 11 13

### HOLLOW METAL DOORS AND FRAMES

#### PART 1 - GENERAL

##### 1.01 RELATED DOCUMENTS

- A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

##### 1.02 WORK INCLUDED

- A. Hollow Metal Frames.

##### 1.03 RELATED WORK

- A. Joint Sealers: Section 07 92 00.
- B. Door Hardware: Section 08 71 00.
- C. Painting: Section 09 90 00.

##### 1.04 REFERENCES

- A. Comply with Steel Door Institute "Recommended Specifications: Standard Steel Doors and Frames" (SDI-100) and as herein specified.
- B. ANSI A250.3 Test Procedure and Acceptance Criteria for Factory Applied Finish Painted Steel Surfaces for Steel Doors and Frames.
- C. ANSI A250.4 Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors and Hardware Reinforcings.
- D. ANSI A250.5 Accelerated Physical Endurance Test Procedure for Steel Doors, Frames, and Frame Anchors.
- E. ANSI A250.8 Nomenclature for Standard Steel Doors and Steel Door Frames.
- F. ANSI A250.10 Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames.
- G. ANSI/DHI A115 Specifications for Hardware Preparations in Standard Steel Doors and Frames.
- H. ANSI/DHI A115.1G Installation Guide for Doors and Hardware.
- I. SDI-105-92 Recommended Erection Instructions for Steel Frames.
- J. SDI-106 Recommended Standard Door Type Nomenclature.
- K. SDI-111 Recommended Standard Details Steel Doors and Frames.
- L. SDI-117-93 Manufacturing Tolerances Standard Steel Doors and Frames.

- M. SDI-122-90 Installation and Troubleshooting Guide for Standard Doors and Frames.
- N. ASTM A240/A240M Standard Specification for Heat-Resisting Chromium and Chromium-Nickel Stainless Steel.
- O. ASTM A366 Standard Specification for Steel, Sheet, Carbon, Cold-Rolled, Commercial Quality.
- P. ASTM A568 Standard Specification for Steel, Sheet, Carbon, and High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, General Requirements.
- Q. ASTM A569 Standard Specification for Steel, Carbon (0.15 Maximum, Percent), Hot-Rolled Sheet and Strip Commercial Quality.
- R. ASTM A620 Standard Specification for Steel, Sheet, Carbon, Cold-Rolled, Drawing Quality, Special Killed.
- S. NFPA-101-94: Life Safety Code.

#### 1.05 SUBMITTALS

- A. Submit in accordance with the General Requirements of the Contract.
  - 1. Manufacturer's technical product data substantiating that products comply with requirements.
  - 2. Shop Drawings for fabrication and installation of steel doors and frames. Include details of each frame type, elevations of door design types, conditions at openings, details of construction, location and installation requirements of finish hardware and reinforcements, and details of joints and connections. Show anchorage and accessory items.
    - a. Provide schedule of doors and frames using same reference numbers for details and openings as those on contract drawings.
    - b. Indicate coordination of glazing frames and stops with glass and glazing requirements.

#### 1.06 QUALITY ASSURANCE

- A. Comply with requirements of Steel Door Institute Standard SDI-100, "Recommended Specifications for Standard Steel Door and Frames", U.S. Department of Commerce Standard PS4-66, relative to manufacture of 1-3/4 inch thick flush steel doors, and applicable requirements of ANSI A115.
- B. Factory machine frames for hardware requiring routing and mortising.

#### 1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver hollow metal work in cartons or crates to provide protection during transit and job storage.
- B. Inspect hollow metal work upon delivery for damage. Minor damages may be repaired provided refinished items are equal in all respects to new work and acceptable to AE; otherwise, remove and replace damaged items as directed.
- C. Store doors and frames at building site under cover. Place units on minimum 4 inch high wood blocking. Avoid use of non-vented plastic or canvas shelters which could create a humidity chamber. If cardboard wrapper on door becomes wet, remove carton immediately. Provide 1/4 inch spaces between stacked doors to promote air circulation.

#### 1.08 PROJECT CONDITIONS

- A. Examine the openings and conditions under which hollow metal work is to be installed. Do not proceed with the work until unsatisfactory conditions have been corrected.

## PART 2 - PRODUCTS

### 2.01 MANUFACTURERS

- A. Amweld Building Products
- B. Benchmark Commercial Doors
- C. Ceco Door Products
- D. Curries Company
- E. Deansteel Manufacturing Co.
- F. Fenestra, Inc.
- G. Kewaunee Corportation
- H. Krieger Steel Products
- I. Mesker Door , Inc.
- J. Pioneer Industries, Inc.
- K. Precision Metals, Inc.
- L. Republic Builder Products
- M. Security Metal Products Corp.
- N. Steelcraft
- O. Trussbuilt, Inc.
- P. Williamsburg Steel Products Co
- Q. Or approved equal.

### 2.02 MATERIALS

- A. Steel: Commercial quality, level, cold-rolled steel conforming to ASTM A366, free of scale and surface defects. Commercial quality hot rolled and pickled steel conforming to ASTM A569 may be used as option for interior frames. Gauges are as follows:
  - 1. Interior Frames: 16-gage.
  - 2. Rough Bucks and Stiffeners: 12-gage.
  - 3. Miscellaneous Trim: 16 gage.

### 2.03 FABRICATION, GENERAL



- A. Make hardware mortises and reinforcements according to templates. Provide hinge, lock, door holder and closer hardware reinforcements. Mortise, drill tap for hardware; fabricate grooves, rabbets as necessary for rated seals.
- B. Clearances
  - 1. Edge clearances shall be provided as follows:
    - a. Between doors and frame, at head and jambs - 1/8 inch.
    - b. At door sills:
      - 1) Where no threshold is used - 3/8 minimum.
      - 2) Where threshold is used - 1/4 inch maximum between door & threshold.

#### 2.04 METAL FRAME FABRICATION

- A. Provide metal frames of the types and styles indicated on the drawings or schedules and complying with SDI 100 for materials and construction requirements.
- B. Provide metal frames for doors, transoms, sidelights, borrowed lights, and other openings, as shown on drawings.
- C. All frames shall have mitered corners, be internally welded and ground smooth and provided with floor anchors.
- D. Provide one removable and one fixed stop at perimeter of openings for glazed frames. Removable stop on secure side.
- E. Provide closed metal covers over all hardware cutouts to protect against mortar.
- F. Provide integral channel frames, sub-frames and stiffeners to structure where indicated or required for fastening and stiffening frames.
- G. Provide steel spreader temporarily attached to feet of both jambs for welded frames.
- H. Provide three factory installed silencers on single door frames at strike jamb.
- I. Completely clean all frames by degreasing process, followed by one coat rust inhibitive primer equal to withstand a salt spray test (5% solution) of 70 hours. Thoroughly prime all surfaces without runs, smears, or bare spots, and under and inside all removable stops.

### PART 3 - EXECUTION

#### 3.01 INSTALLATION

- A. Install hollow metal frames, and accessories in accordance with final shop drawings, manufacturer's data, and as herein specified.
- B. Comply with provisions of SDI-105 "Recommended Erection Instructions for Steel Frames", unless otherwise indicated.
  - 1. Except for frames located at in-place concrete or masonry and at drywall installations, place frames prior to construction of enclosing walls and ceilings. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is completed, remove temporary braces and spreaders leaving surfaces smooth and undamaged.

2. In metal stud partitions, install at least 3 wall anchors per jamb at hinge and strike levels. In open steel stud partitions, place studs in wall anchor notches and wire tie. In closed steel stud partitions, attach wall anchors to studs with self-tapping screws.
3. Fill heads of fasteners with body putty, grind smooth and touch-up prime.

3.02 ADJUSTING

- A. Immediately after erection sand smooth any rusted or damaged areas of prime coat and apply touch-up of compatible air-drying primer.
- B. Check and readjust operating finish hardware items, leaving steel frames undamaged and in complete and proper operating condition.

END OF SECTION 08 11 13

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SECTION 08 14 16  
FLUSH WOOD DOORS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

1.02 WORK INCLUDED

- A. Wood Doors.

1.03 RELATED WORK

- A. Hollow Metal Doors and Frames: Section 08 11 13.
- B. Door Hardware: Section 08 71 00.
- C. Glass and Glazing: Section 08 80 00.
- D. Painting: Section 09 90 00.

1.04 REFERENCES

- A. Reference Standards: Section 1300 of the Architectural Woodwork Institute (AWI). Door types specified in Part 2 below are AWI reference designations.
- B. Doors: Obtained from a single manufacturer.

1.05 SUBMITTALS

- A. Submit in accordance with the General Conditions of the Contract
  1. Manufacturer's product data, specifications and installation instructions for each type of wood door.
    - a. Including information on recycled content.
  2. Color charts of wood finishes for initial selection.
  3. (2) 10" x 10" wood samples with finish for final selection.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Protect wood doors during transit, storage and handling to prevent damage, soiling and deterioration. Comply with the "on-site care" recommendations of National Wood Window and Door Association (WDMA) pamphlet "Care and Finishing Wood Doors" and with manufacturer's instructions.
  1. Provide protective coverings for doors at the factory prior to shipping. Use heavy paper cartons or poly bags and mark with identification required for proper installation.
- B. Deliver and store within enclosed building only after humidity contributing work is completed and relative humidity is less than 50%. Stack doors laid flat, level and off floor, in dry, clean, well ventilated space.
- C. Do not drag doors across one another.

## 1.07 WARRANTY

- A. Submit in duplicate manufacturer's written warranty per NWWDA Standard Door warranty but extending for life of installation for interior solid core doors, including refinishing and re-hanging costs for replacement doors.

## PART 2 - PRODUCTS

### 2.01 MANUFACTURERS

- A. Algoma Hardwoods, Inc.; Algoma, Wisconsin; (920) 487-5221.
- B. Eggers Industries; Two Rivers, Wisconsin: (920) 793-1351.
- C. Graham Division, Assa Abloy Door Group LLC; Mason City, Iowa: (641) 423-2444.
- D. Mohawk Flush Doors, Inc.; South Bend, Indiana: (574) 288-4464.
- E. Marshfield Door Systems; Marshfield, Wisconsin: (800) 869-3667.
- F. Oshkosh Architectural Door Company; Oshkosh, Wisconsin: (920) 233-6161.
- G. VT Industries; Holstein, Iowa; (800) 827-1615.

### 2.02 MANUFACTURED UNITS

- A. Non-labeled Interior Wood Veneer Solid Core Doors: AWI type PC-5/7, Custom Grade.
  - 1. Core: 1-3/4" solid core per AWI PC-5, unless otherwise indicated.
  - 2. Veneer:
    - a. AWI "A" Grade face veneer.
    - b. Book matched, Red Oak, plain-sliced, balance match for transparent finish.
  - 3. Species of stiles to match face veneer.
  - 4. Transparent Finish: Factory finish to AWI section I500, Custom standards.
    - a. Water-based stain with ultra-violet (UV) cured topcoats.
    - b. Sheen: Satin.
  - 5. Color: Finish to match stain finish of existing wood doors, as approved by A/E.
- B. Hardware location per manufacturer's recommendations to meet ADA requirements.
- C. Glazed Openings
  - 1. Provide factory glazed units.
  - 2. Cut openings.
  - 3. At non-labeled doors, provide detailed stops of same species as wood veneer.

## PART 3 - EXECUTION

### 3.01 EXAMINATION

- A. Verify that door frames are of type required for door and are installed as required for proper installation of doors.
- B. Do not install doors in frames which would hinder the operation of the doors.

3.02 INSTALLATION

- A. Do not install in improperly installed frames.
- B. Fit for width by planing. For height, saw, first from bottom, then not over 1/2 inch from top. Bevel lock and hinges edge 1/8 inch in 2 inches.
- C. Provide 3/32 inch clearance between door and frame and 3/8 inch clearance between bottom of door and finish flooring.
- D. Seal all job site cut surfaces with stain to match existing and two coats of varnish.

3.03 ADJUST AND CLEAN

- A. Replace or re-hang doors which are hingebound and do not swing or operate properly.
- B. Refinish or replace job finished doors damaged prior to Substantial Completion.

END OF SECTION 08 14 16

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ROLLING COUNTER SHUTTERS

PART 1: GENERAL

1.01 RELATED DOCUMENTS

- A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

1.02 WORK INCLUDED

- A. Electric operated rolling counter door.

1.03 SUBMITTALS

- A. Submit in accordance with general conditions of this contract.
  - 1. Shop Drawings.
  - 2. Manufacturer's product data, roughing-in diagrams, and installation instructions for each type and size of overhead coiling door.
  - 3. Finish samples for color selection.
  - 4. Operation and Maintenance Manual.

1.04 QUALITY ASSURANCE

- A. Furnish each coiling door as a complete unit produced by one manufacturer, including hardware, accessories, mounting and installation components.
- B. Manufacturer Qualifications: ISO 9001:2015 registered and a minimum of five years experience in producing counter doors of the type specified.

1.05 WARRANTY

- A. Standard Warranty: Two years from date of shipment against defects in material and workmanship.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Package, handle, deliver and store at the job site in a manner that will avoid damage or deformation.

PART 2: PRODUCTS

2.01 ELECTRIC OPERATED ROLLING COUNTER DOOR

- A. Product: Model ESC10 Cookson 1901 South Litchfield Road, Goodyear, AZ 85338. Telephone: (800) 294-4358 or approved equal by Cornell, Clopay Building Products or approved equal.
  - 1. Mounting: Drywall over 16 gauge minimum steel studs.

2.02 MATERIALS

- A. Curtain:
  - 1. Slat Configuration:
    - a. Galvanized Steel with Finish as Described Below: No. 1F, interlocked flat-faced slats, 1-1/2 inches (38 mm) high by 1/2 inch (13 mm) deep, minimum 22 gauge ASTM A 653, Commercial Quality, galvanized steel with primed steel bottom bar with continuous lift handle and vinyl astragal.
  - 2. Finish:
    - a. GalvaNex™ Coating System (Stock Colors):
      - 1) ASTM A 653 galvanized base coating treated with dual process rinsing agents in preparation for chemical bonding baked-on base coat and



1 [gray] [tan] [white] baked-on polyester enamel finish coat to be  
2 selected by Architect.  
3

4 B. Endlocks:

- 5 1. Fabricate interlocking slat sections with high strength molded nylon endlocks riveted to  
6 ends of alternate slats.  
7

8 C. Guides:

9 1. Fabrication:

- 10 a. Steel: 12 gauge formed shapes  
11 Standard (Stock Colors): Zirconium treatment followed by a [gray] [tan] [white]  
12 baked-on polyester powder coat; minimum 2.5 mils (0.065 mm) cured film  
13 thickness.  
14

15 2. Finish:

- 16 a. SpectraShield® Coating System: Zirconium treatment followed by baked-on  
17 polyester powder coat, to match curtain color; minimum 2.5 mils (0.065 mm)  
18 cured film thickness; ASTM D-3363 pencil hardness: H or better.  
19

20 D. Shaft Assembly:

21 1. Counterbalance Shaft Assembly:

- 22 a. Barrel: Steel pipe capable of supporting curtain load with maximum deflection  
23 of 0.03 inches per foot (2.5 mm per meter) of width.  
24 b. Spring Balance: Oil-tempered, heat-treated steel helical torsion spring assembly  
25 designed for proper balance of door to ensure that maximum effort to operate  
26 will not exceed 25 lbs (110 N). Provide wheel for applying and adjusting spring.  
27

28 E. Brackets:

29 Fabricate from reinforced steel plate with bearings at rotating support points to support  
30 counterbalance shaft assembly and form end closures.

31 1. Finish:

- 32 a. Standard (Stock Colors): Zirconium treatment followed by a [gray] [tan] [white]  
33 baked-on polyester powder coat; minimum 2.5 mils (0.065 mm) cured film  
34 thickness.  
35

36 F. Hood:

37 Minimum 24 gauge galvanized steel with reinforced top and bottom edges. Provide minimum 1/4  
38 inch (6.35 mm) steel intermediate support brackets.

39 1. Finish:

- 40 a. GalvaNex™ Coating System (Stock Colors):  
41 1) ASTM A 653 galvanized base coating treated with dual process rinsing  
42 agents in preparation for chemical bonding baked-on base coat and  
43 [gray] [tan] [white] baked-on polyester enamel finish coat.  
44

45 G. Motor Operation:

- 46 1. Motor – Standard Use – Model MG (Industrial Duty Gear Head) Operator: The operator  
47 must not extend above or below the door coil when mounted front-of-coil. Rated for a  
48 maximum of 20 cycles per hour (not to be used for consecutive hours) UL listed (to  
49 comply with UL requirements in The United States and Canada), Totally Enclosed Non  
50 Ventilated gear head operator(s) rated 1/3 hp as recommended by door manufacture for  
51 size and type of door, 120 Volts, 1 Phase. Provide complete with electric motor and  
52 factory pre-wired motor control terminals, maintenance free solenoid actuated brake,  
53 emergency manual chain hoist] and control station(s). Motor shall be high starting torque,  
54 industrial type, protected against overload with an auto-reset thermal sensing device.  
55 Primary speed reduction shall be heavy-duty, lubricated gears with mechanical braking to  
56 hold the door in any position. Operator shall be equipped with an emergency manual  
57 chain hoist assembly that safely cuts operator power when engaged. A disconnect chain  
58 shall not be required to engage or release the manual chain hoist. Operator drive and door  
59 driven sprockets shall be provided with #50 roller chain. Provide an integral Motor  
60 Mounted Interlock system to prevent damage to door and operator when mechanical door

locking devices are provided. Operator shall be capable of driving the door at a speed of 8 to 9 inches per second (20 to 23 cm/sec). Fully adjustable, driven linear screw type cam limit switch mechanism shall synchronize the operator with the door. The electrical contractor shall mount the control station(s) and supply the appropriate disconnect switch, all conduit and wiring per the overhead door wiring instructions.

H. Control Station:

1. Flush mounted: "Open/Close/Stop" push buttons; NEMA 1B

I. Control Operation:

1. Constant pressure to close:
  - a. No sensing device required

J. Locking:

1. Padlockable slide bolt: Padlockable slide bolt on coil side of bottom bar at each jamb extending into slots in guides. Motor interlocking to prevent operation while locks are engaged.

PART 3: EXECUTION

3.01 EXAMINATION

- A. Verify that openings are prepared with headers level, jambs plumb, floor level without projections, and ready to receive rolling door.
- B. Begin installation only when openings conform to specification requirements.

3.02 INSTALLATION

- A. Install per approved shop drawings.

3.03 ADJUSTING

- A. After installation, adjust for proper operation.

3.04 DEMONSTRATION

- A. Demonstrate proper operation to Owner's Representative.

END OF SECTION 08 33 00

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SECTION 08 71 00

DOOR HARDWARE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

1.02 WORK INCLUDED

- A. Door Hardware

1.03 RELATED SECTIONS

- A. Hollow Metal Doors and Frames: Section 08 11 13.
- B. Aluminum Frames: Section 08 12 00.

1.04 REFERENCES

- A. Federal Specifications (FS)
  - 1. FF-H-106a Hardware, Builders'; Locks and Door Trim-Standard Finishes for Builders Hardware.
- B. National Fire Protection Association, Inc. (NFPA), Battery March Park, Quincy, MA 02269.
  - 1. NFPA 80 - Standard for fire doors and windows.
  - 2. NFPA 101 - Code for safety to life from fire in buildings and structures.
- C. Underwriter's Laboratories, Inc. (UL), 333 Pfingsten Road, Northbrook, IL 60062.
  - 1. Building Materials Directory.
- D. Hardware shall be in strict accord with Wisconsin Administrative Code Chapter Comm. 69 - "Barrier Free Design".

1.05 SUBMITTALS

- A. Submit in accordance with the General Conditions of the Contract.
  - 1. Five (5) copies of a detailed, vertical type hardware schedule for approval.
    - a. List and describe each opening separately. Include doors with identical hardware, except hand, in a single heading. Include door number, room designations, degree of swing, and hand.
    - b. List related details. Include dimensions, door and frame material, and other conditions affecting hardware.
    - c. List all hardware items. Include manufacturer's name, quantity, product name, catalog number, size, finish, attachments, and related details.
    - d. Resubmit four (4) copies of the corrected schedule when required.
    - e. Determine keying requirements, as directed by the Owner's Representative and submit five (5) copies of a detailed keying schedule for approval; resubmit four copies (4) of the corrected schedule when required.
    - f. Prior to final payment, provide a record copy of hardware schedules, including all revisions and updates. All openings shall be listed to reflect final installed configuration only.

- 1 2. Samples of hardware items as may be required. Identify each sample and indicate the location of  
2 subsequent installation in the project.  
3 3. A copy of the approved hardware schedule and all pertinent templates or template information to each  
4 fabricator of material factory-prepared for the installation of hardware.  
5

6 1.06 QUALITY ASSURANCE  
7

- 8 A. Manufacturers and product numbers listed herein establish a standard of quality. Similar items by other  
9 manufacturers may be accepted by prior written approval by the architect in accord with the General Conditions  
10 of the Contract. Except where specified in the hardware schedule, furnish products of only one manufacturer  
11 for each type of hardware.  
12  
13 B. Supplier: Hardware Supplier: The hardware supplier shall be a corporate member in good standing of The  
14 Door and Hardware Institute (DHI), employing at least one Architectural Hardware Consultant (AHC) who is  
15 currently participating in DHI's continuing education program (CEP).  
16  
17 C. Items of hardware not definitely specified herein but necessary for completion of the Work shall be provided.  
18 Such items shall be of type and quality suitable to the service required and comparable to the adjacent hardware.  
19 Where size and shape of members is such as to prevent the use of types specified, hardware shall be furnished  
20 of suitable types having as nearly as practicable the same operation and quality as the type specified. Sizes  
21 shall be adequate for the service required. Include such nuances as strike type, strike lip, raised barrel hinges,  
22 mounting brackets, fasteners, shims, and coordination between conflicting products. All doors shall be  
23 provided with a stop.  
24

25 1.07 REGULATORY REQUIREMENTS  
26

- 27 A. Furnish UL listed hardware for all UL labeled openings in conformance with requirements for the class of  
28 opening scheduled.  
29

30 1.08 DELIVERY, STORAGE AND HANDLING  
31

- 32 A. Deliver hardware to the job site in the manufacturer's original containers marked to correspond with the  
33 approved hardware schedule for installation location.  
34  
35 B. Store hardware in dry surroundings and protect against loss and damage.  
36

37 PART 2 - PRODUCTS  
38

39 2.01 MANUFACTURERS  
40

- 41 A. Refer to the Hardware Schedule at the end of this Section.  
42

43 2.02 ACCESSORIES  
44

- 45 A. Furnish all necessary hardware accessories such as wood or machine screws, bolts, nuts, anchors, toggle bolts,  
46 and other fasteners, each of the type, size, material and finish for its intended purpose and each according to the  
47 material to which the hardware is being applied.  
48  
49 B. Keying system will be determined by the Owner's Representative.  
50

51 PART 3 - EXECUTION  
52

53 3.01 INSTALLATION

- 1 A. Install hardware in accordance with manufacturer's recommendations and instructions.
- 2
- 3 B. Install hardware on UL labeled openings in accordance with manufacturer's requirements to maintain the fire
- 4 rating.
- 5
- 6 C. Mortise and cut to close tolerance and conceal evidence of cutting in the finished work.
- 7
- 8 D. Remove, cover or protect hardware after fitting until paint or other finish is applied. Permanently install
- 9 hardware after finishing operations are complete.
- 10
- 11 E. Install closers on the room side of corridor doors, stair side of stairways, and interior side of exterior doors.
- 12
- 13 F. Deliver one complete set of installation and adjustment instructions, and tools with the hardware.
- 14
- 15 G. Coordinate security system electrical requirements at doors indicated to have such system.
- 16
- 17 H. Coordinate all Owner Furnished Contractor Installed hardware.
- 18

19 3.02 ADJUSTING

- 20
- 21 A. At final completion, adjust and test all hardware for function and performance and leave in good operating
- 22 condition.
- 23

24 3.03 CLEANING

- 25
- 26 A. Clean all hardware to restore the original finish.
- 27

28 3.04 PROTECTION

- 29
- 30 A. Protect the finished installation until acceptance of the project.
- 31

32 3.05 HARDWARE SCHEDULE

33

34 A. Manufacturers

35	1. Hinges	Hager Hinge Co.	HAG
36	a. Approved Equals:	Stanley	
37		McKinney	
38			
39	2. Lockset	Best Access Systems	BES
40	a. Approved Equals:	Provide 7-pin cylinders to match existing. Coordinate with Best Access	
41		Systems for keying of project, No Substitutions. Best Access Systems is	
42		indicated in this specification as a basis of design, Marshall Best Security	
43		Corporation to accept Best Access System Core is an acceptable equal.	
44	3. Door Closers	LCN	LCN
45	a. Approved Equals:	No substitutions.	
46	4. Kickplate	Rockwood Mfg. Co	ROC
47	5. Electric Strikes	Von Duprin	VON
48	a. Approved Equals:	HES	
49	7. Clothes Hook	Bobrick	BBK

50

51 B. Hardware Sets:

52

53

1	<b><u>SET 01A</u></b>				
2	EA	HINGES	AS SPECIFIED	652	HAG
3	1 EA	OFFICE LOCKSET	93K AB x 14D	626	BES
4	1 EA	WALL STOP	WS407	630	IVE

5  
6  
7  
8

END OF SECTION 08 71 00

SECTION 08 80 00  
GLASS AND GLAZING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

1.02 WORK INCLUDED

- A. Glass in Wood Doors.

1.03 RELATED WORK

- A. Joint Sealers: Section 07 92 00.
- B. Flush Wood Doors: Section 08 14 00.

1.04 REFERENCES

- A. Reference Specification: "Glazing Manual", by Flat Glass Marketing Association.
- B. Materials: Conform in all respects to the "Safety Standard for Architectural Glazing Materials", 16CFR 1201, issued by the Consumer Product Safety Commission.

1.05 QUALITY ASSURANCE

- A. All materials used for this project shall be from the same batch run and manufacturer.
- B. Sound Transmission Resistance; Sound Transmission Class (STC) for typical application to be minimum of 32; AS tested by ASTM E4134.
- C. All performance testing must be conducted by an independent, impartial, third party, AAMA certified testing laboratory.

1.05 SUBMITTALS

- A. Submit in accordance with the General Conditions of the Contract.
  - 1. Manufacturer's recommended installation instructions.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Package, handle, deliver and store to avoid damage. Scratched glass will be rejected.

1.07 PROJECT CONDITIONS

- A. Do not proceed with installation of liquid sealants under adverse weather conditions, or when temperatures are below or above manufacturer's recommended limitations for installation.

PART 2 - PRODUCTS



## 2.01 MANUFACTURERS

### A. Acceptable Manufacturers/Suppliers:

1. ACH Glass Operations
2. AFG Industries, Inc.
3. Altuglas International
4. Cyro Industries
5. Guardian Industries
6. Interpane
7. Misco
8. Oldcastle
9. Pilkington
10. Plaskolite, Inc.
11. PPG Industries
12. Saint-Gobain Glass
13. Solutia Inc.
14. Viracon

## 2.02 GLASS

### A. Some of the glass products indicated below are based on proprietary products. Products from any of the above listed manufacturers that meet the design criteria of the glass specified below are acceptable.

1. GLT 4: 1/4" tempered, clear, FS DD-G-451, Grade B, Style 1, Type I, class 1, quality q3, free of tong marks, ANSI Z97.1.

## 2.03 GLAZING ACCESSORIES

- A. Glazing Sealant: One-part silicone equal to Pecora 860, Sonneborn Omniplus or Tremco Spectrum 2.
  1. Equal means both quality and color options.
- B. Setting Blocks: 70-90 Shore "A" durometer, sized to accommodate size of glass used, compatible with glazing sealant.
- C. Spacers: Compatible with sealant used.
- D. Primer, Sealers, Glazing Tape, Cleaners: As recommended by glass manufacturer.

## PART 3 - EXECUTION

### 3.01 EXAMINATION

- A. Check that glazing channels are free of burrs, irregularities, and debris.
- B. Check that glass is free of edge damage or face imperfections.
- C. Do not proceed with installation until conditions are satisfactory.

### 3.02 PREPARATION

- A. Field Measurement.
  - 1. Measure size of frame to receive glass.
  - 2. Compute actual glass size, allowing for edge clearances.
- B. Preparation of surfaces.
  - 1. Remove protective coatings from surfaces to be glazed.
  - 2. Clean glass and glazing surfaces to remove dust, oil and contaminants.

### 3.03 INSTALLATION

- A. Install glass in accordance with glass manufacturer's recommended instructions.

### 3.04 CLEANING

- A. Remove excess glazing compound from installed glass.
- B. Remove labels from glass surface as soon as installed.
- C. Wash and polish both faces of glass.
- D. Remove debris from work site.

### 3.05 PROTECTION

- A. Attach crossed streamers away from glass face.
- B. Do not apply markers to glass surface.
- C. Replace damaged glass.

END OF SECTION 08 80 00

## SECTION 09 29 00

### GYPSUM BOARD

#### PART 1 - GENERAL

##### 1.01 RELATED DOCUMENTS

- A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

##### 1.02 WORK INCLUDED

- A. Metal Studs.
- B. Gypsum Board.
- C. Trim and Accessories.
- D. Acoustical Batt Insulation.

##### 1.03 RELATED WORK

- A. Section 09 90 00 Painting.

##### 1.04 REFERENCES

- A. Referenced Specifications: The more stringent requirement of this section or referenced specification applies.
  - 1. "Using Gypsum Board for Walls and Ceilings", The Gypsum Association - GA-201-85.
  - 2. "Recommended Specifications for the Application and Finishing Gypsum Boards", The Gypsum Association - GA-216.

##### 1.05 SUBMITTALS

- A. Submit in accordance with the General Conditions of the Contract.
  - 1. Manufacturer's product data.
  - 2. Texture finish sample.

##### 1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to the project site with manufacturer's labels intact and legible.
- B. Handle materials with care to prevent damage.
- C. Deliver fire-rated material bearing testing agency label and required fire classification numbers.
- D. Storage
  - 1. Store materials inside under cover, stack flat, off floor.
  - 2. Stack wallboard so that long lengths are not over short lengths.
  - 3. Avoid overloading floor system.
  - 4. Store adhesives in dry area, provide protection against freezing at all times.

##### 1.07 PROJECT CONDITIONS

- A. During cold weather, maintain temperature range between 55 degrees F. to 70 degrees F. for 24 hours before, during, and after gypsum board and joint treatment applications.
- B. Ventilation
  - 1. Provide ventilation during and following adhesive and joint treatment applications.
  - 2. Use temporary air circulators in enclosed areas lacking natural ventilation.
  - 3. Protect installed materials from drafts during hot, dry weather.

## PART 2 - PRODUCTS

### 2.01 MANUFACTURERS

- A. Georgia Pacific.
- B. LaFarge.
- C. National Gypsum Company, Gold Bond.
- D. United States Gypsum Company.
- E. BPB America, Inc.
- F. Chicago Metallic.
- G. Dietrich Industries.
- H. Or approved equal.

### 2.02 MATERIALS

- A. Gypsum Board: ASTM C 36, long edges tapered; in lengths as long as practical to keep number of end joints to absolute minimum.
  - 1. Regular Gypsum Board.
  - 2. Water Resistant Wallboard: 5/8-inch thick.
  - 3. Cementitious Backer Board: Aggregated, Portland cement board with woven, glass fiber, mesh facing; complying with ANSI A118.9.
    - a. Manufacturer: USG, Durock Interior Tile Backer Board or approved equal.
    - b. Thickness: 1/2 inch.
  - 4. Veneer Plaster Base: USG Imperial Gypsum Base, 5/8-inch thick.
  - 5. Fire Rated 1 Inch thick gypsum wall board panels, supplied in nominal 24 inch widths type SLX.
  - 6. Fire Rated Face Layer: 5/8 inch Gypsum Board:
    - a. American Gypsum; Types AGX-1, AG-C
    - b. Certaineed Gypsum; ProRoc Type C
    - c. Georgia Pacific Gypsum; Type S
    - d. USG; Type C, FRX-G, IP-X2, IPC-AR, SCX, or WRC.
    - e. Or approved equal.
- B. Accessories
  - 1. Metal Trim: USG No. 200-A.
  - 2. L-shaped Metal Trim for Veneer Plaster: USG No. 801-B.
  - 3. Metal Reveal Molding: Fry Reglet DRM-625-75.
  - 4. Metal 'Z' Reveal Molding, 1/4" wide: Fry Reglet DRMZ-625-25.

5. Metal 'Z' Reveal Molding, 1" wide: Fry Reglet DRMZ-100-100.
  6. Expansion Joints: USG No. 093.
  7. Drywall Screws for Metal Framing: 1" Type S-12 or Type S bugle head.
  8. Outside Corner Reinforcement: USG No. 104, 1-1/8" x 1-1/8" corner bead.
  9. Acoustical Sealant: Equal to Tremco "Tremflex 834" or Pecora "Acoustic and Insulation Sealant", low VOC formulation.
    - a. VOC content less than 50 g/l.
  10. Tie Wire: No. 18 SWG, steel wire.
  11. Steel runner channel brackets: 25 MSG galvanized steel.
  12. Corner angles: 25 MSG galvanized steel.
  13. Sound Attenuation Blanket: U.S. Gypsum Thermafiber, or approved equal, 3" for an STC of 49.
- C. Metal Studs/Resilient Furring Channels.
1. Unless indicated otherwise, use 25-gage for partitions up to 12'-0" high, use 20-gage for partitions over 12'-0" high.
  2. Unless indicated otherwise, use 20-gage studs at door jambs, head.
  3. Track gauge shall be same gauge as nested studs.
  4. 2 ½ inch wide by 1 ½ inches deep C-H studs 24 inch on center. Fabricated from minimum 25 MSG galvanized steel.
  5. Framing supporting Rolling Counter Shutter to be a minimum of 16-gauge.
- D. Drywall Finishing Accessories
1. Joint Compounds: Ready mixed type.
  2. Joint Reinforcement: USG Perf-A-Tape or approved equivalent.
- E. Texture Finish Materials
1. Ceilings: USG Spray Fine Sand Texture Finish or approved equal.
  2. Walls (Painted Only): USG Spray Fine Sand Texture Finish, or approved equal.

### PART 3 - EXECUTION

#### 3.01 GYPSUM BOARD

- A. Follow Gypsum Association's recommendations for installation procedures.
- B. Cut wallboards by scoring and breaking or sawing; scribe neatly at wall projections.
- C. Apply first to ceilings then to walls.
- D. Locate wallboard joints at openings so that no end joint aligns with edge of opening.
- E. Set fasteners with heads slightly below surface of wallboard. Avoid breaking face paper.
- F. Provide water resistant wallboard at rooms/areas with high humidity.

#### 3.02 METAL STUDS

- A. Attach metal runners at floor and at ceiling or structural elements above with suitable fasteners located 2 inches from each end, spaced 16 inches on center.
- B. Position studs vertically, engaging floor and ceiling runners. Splice studs with 8-inch nested lap, one positive attachment per stud flange. Place studs in direct contact with all door frame jambs, abutting partitions, partition corners, existing construction elements.

- C. Provide double studs at jambs and head of each door frame. Securely anchor studs to jamb and head anchor clips at metal door frames by bolt or screw attachment. Over metal frames, place a cut-to-length section of runner horizontally with web-flange bent at each end; secure with one positive attachment per flange. Position a cut-to length stud (extend to ceiling runner) at vertical board joints over door frame header. Place an additional track-to-track stud 6 inches from double jamb studs on both sides of framed openings.
- D. At curved surfaces, space studs and framing members 8 inches on center maximum.

### 3.03 EXPANSION JOINTS

- A. At Ceilings: 50'-0" on center each way maximum.
- B. At Walls: 30'-0" on center maximum.
- C. Provide at intersections with exposed masonry construction.

### 3.04 SINGLE LAYER/ERECTION

- A. Position all ends, edges over framing members, except when edge joints are at right angles to framing members, or when end joints are back-blocked. Apply wallboard horizontally or vertically on walls to minimize the number of joints.
- B. Attach wallboard to metal framing supports by power driven screws. For vertical application space screws 12 inches on center in field of board, 8 inches on center staggered along vertical abutting edges. For horizontal application space screws 12 inches on center in field, along abutting end joints.

### 3.05 MULTI-LAYER WALLBOARD ERECTION

- A. Base Layer: Erected as specified for "Single Layer Erection".
- B. Joints in face layer to fall at least 10 inches from parallel joints in base layer.
- C. Apply face layers with adhesive in accordance with wallboard manufacturer's printed instructions. Provide sufficient number and spacing of fasteners to hold top layer tight with bottom layer until adhesive dries.

### 3.06 JOINT TREATMENT APPLICATION

- A. Mix joint compound in accordance with manufacturer's recommendations.
- B. Apply compound in thin uniform layer to all joints, angles to be reinforced. Apply reinforcing tape centered over joint, seated into compound. Follow immediately with thin skim coat or embed tape. Fold and embed tape in interior angles to provide true angle.
- C. When embedding coat is thoroughly dry, apply second coat of compound, filling board taper flush with surface. Cover tape, feather out slightly beyond tape.
- D. On joints with no taper, cover tape, feather out at least 4 inches on either side of tape.
- E. No second coat is required on interior angles.
- F. When second coat is thoroughly dry, spread finish coat evenly over and extend slightly beyond second coat. Feather to a smooth, uniform finish.

- G. Over taped edges, do not allow finish coat to protrude beyond plane of surface. Apply finish coat to cover tape, taping compound at taped angles to provide true angle. When necessary, sand between coats and follow with final coat to provide smooth surface ready for decoration.
- H. Do not abrade adjacent face-paper surfaces.
- I. Gypsum substrate where located behind dry erase wallcoverings must meet level 4 requirements: All joints and interior angles have tape embedded in joint compound and two separate coats of joint compound applied over all flat joints and one separate coat of joint compound applied over interior angles. Fastener heads and accessories shall be covered with three separate coats of joint compound. All joint compound shall be smooth and free from tool marks and ridges.

### 3.07 FINISHING FASTENERS

- A. Apply compound to fastener depressions. Follow with minimum of two additional coats leaving depressions level with surface.
- B. Do not abrade adjacent face-paper surfaces.

### 3.08 FINISHING BEAD AND TRIM

- A. Apply first coat to beads, trim. Properly feather out from ground to plane of surface. Embed flanges of corner reinforcement with compound.
- B. When embedding coat is thoroughly dry, apply second coat in same manner as first-coat, extending compound slightly beyond onto face of board.
- C. When second coat is thoroughly dry, apply finish coat extending compound slightly beyond second coat, properly feathering from ground to plane of surface. Sand finish coat as necessary to provide a level 4 flat smooth surface, ready for decoration. See specification section 09 72 00, Wall Coverings and provide surface required by manufacturer's recommendation.
- D. Do not abrade adjacent face-paper surfaces.

### 3.09 ACOUSTIC SEALANT

- A. Apply sealant at intersections of wallboard and adjacent materials to form a complete seal to air and noise.

### 3.010 TEXTURE FINISH

- A. Apply texture finish in accord with manufacturer's printed instructions.
- B. Provide uniform texture over entire surface.

### 3.011 ADJUST AND CLEAN

- A. Ridging
  1. Sand ridges to reinforcing tape without cutting through tape.
  2. Fill concave areas on both sides of ridge with topping compound.
  3. After fill is dry, blend in topping compound over repaired area.
- B. Fill cracks with compound and finish smooth and flush.

END OF SECTION 09 29 00

SECTION 09 30 00

TILING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

1.02 WORK INCLUDED

- A. Wall Tile
- B. Transition Strips

1.03 RELATED WORK

- A. Gypsum Board, Section 09 29 00.

1.04 REFERENCES

- A. The following specifications and standards are incorporated by reference:
  - 1. Tile Council of America, Inc. - "Handbook for Ceramic Tile Installation".

1.05 SUBMITTALS

- A. Submit in accordance with the General Conditions of the Contract.
  - 1. Samples for colors on 12 inch by 12 inch panels in duplicate for tile specified.
  - 2. Samples in duplicate for each different trim piece required.
  - 3. Grout samples in duplicate indicating color range anticipated, texture.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Package, handle, deliver and store at the job site in original unbroken containers in a manner that will avoid damage or contamination.
- B. All containers shall bear grade seals, manufacturer's name, size, color and quantities.

1.07 PROJECT CONDITIONS

- A. Set and grout tile when ambient temperature is at least 50 degrees F. and rising.

1.08 EXTRA MATERIALS

- A. Deliver stock of extra materials to Owner. Furnish extra materials from same manufactured lot as materials installed and enclosed in protective packaging with appropriate identifying labels.
  - 1. Furnish one box for each type, color, pattern and size installed.

PART 2 - PRODUCTS

2.01 TILE



- 1 A. Wall tile.  
2  
3 1. WT-1: Porcelain Tile  
4 a. United States Ceramic Tile Color Collection  
5 b. Color: to be selected from manufacture's full range of Color Group 1.  
6 c. 3"x 6"  
7  
8 B. Dal-Tile or United States Ceramic Tile are used as the basis of design. Approved equal by Atlas Concorde,  
9 Ceasar Ceramics USA or approved equal.

10  
11 2.02 SETTING MATERIALS  
12

- 13 A. Latex-Portland Cement Mortar (Thin Set): ANSI A118.4, consisting of the following:  
14 1. Prepackaged dry-mortar mix containing dry, re-dispersible, ethylene vinyl acetate additive to which  
15 only water must be added at Project site.  
16 2. Prepackaged dry-mortar mix combined with acrylic resin liquid-latex additive.  
17 a. For wall applications, provide non-sagging mortar that complies with Paragraph F-4.6.1 in  
18 addition to the other requirements in ANSI A118.4.  
19

20 2.03 ACCESSORIES  
21

- 22 A. Portland Cement: ASTM C 150, type 1.  
23  
24 B. Sand: ASTM C-144.  
25  
26 C. Water: Clean and potable.  
27  
28 D. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces,  
29 specifically approved for materials and installations indicated by tile and grout manufacturers.  
30  
31 E. Grout:  
32  
33 1. Selection to meet per tile manufacturer's recommendation.  
34 a. Bostik "Hydroment Vivid" premium grade, stain resistant cementitious grout or approved  
35 equal.  
36 b. Color: To be selected by AE from manufacturer's full range of colors.  
37  
38 F. Trowelable Underlayments and Patching Compounds: Latex-modified, portland cement-based formulation  
39 provided or approved by manufacturer of tile-setting materials for installations indicated.  
40  
41 G. Provide other materials not specifically described but required for a complete and proper installation. Provide  
42 Schluter Schiene at cut tile edges. Review on site with architect.  
43  
44 H. Transition Strips:  
45  
46 1. Tile to sealed concrete  
47 a. Manufacturer: Schluter  
48 b. Profile: Schluter Schiene and Reno-V  
49 c. Material: Aluminum  
50 d. Size according to materials used with approval of A/E.  
51  
52 2. Or approved equal.  
53

54 PART 3 - EXECUTION

- 1 3.01 EXAMINATION  
2  
3 A. Examine surfaces where tile is to be applied and notify the Contractor of any defects.  
4  
5 3.02 INSTALLATION  
6  
7 A. General  
8 1. Provide all proper installation methods for freezing climate.  
9 2. Installation and workmanship shall be in accordance with ANSI A108.1 and as specified herein. The  
10 printed instructions of the tile manufacturer and the manufacturer of proprietary mortars and grouts  
11 shall be followed where applicable.  
12 3. Before commencing work, establish field pattern and border line locations.  
13 4. Center the work symmetrically so that no tile need be cut to less than half size.  
14 5. Joints in wall tile shall be aligned vertically and horizontally; staggered joints will not be accepted.  
15 6. Align joints when adjoining tiles on floor, base and trim are the same size.  
16 7. Rub exposed edges smooth.  
17  
18 B. Interior Wall Tile Setting Bed: TCA W202/Tile backer board substrates - acrylic modified latex-cement  
19 mortar.  
20  
21 C. Handle, store, mix and apply proprietary setting and grouting materials in compliance with the manufacturer's  
22 instructions.  
23  
24 D. Extend tile work into recesses and under equipment and fixtures to form a complete covering without  
25 interruptions, except as otherwise shown.  
26  
27 E. Terminate work neatly at obstructions, edges, and corners without disruption of pattern or joint alignments.  
28  
29 F. Comply with manufacturer's instructions for mixing and installation of proprietary materials.  
30  
31 G. Neutralize and seal substrates in accordance with setting bed manufacturer's instructions, where required.  
32  
33 H. Jointing Pattern: Grid pattern.  
34  
35 I. Expansion, Control Joints  
36 1. Extend completely through tile mortar bed. Insert preformed back-up material to provide correct  
37 cavity depth for sealant.  
38 2. Width of expansion, control joints: Same as tile joints.  
39 3. Prior to grouting, keep expansion and control joints open and clean.  
40 4. After tile is grouted and completely dry, remove temporary filler material. Brush joints clean, fill  
41 expansion and control joints.  
42  
43 J. Seal as per manufacturers requirements.  
44  
45 3.03 CLEANING  
46  
47 A. After completion, clean all work, point open joints and replace defective work.  
48  
49 3.04 PROTECTION  
50  
51 A. Close off work spaces to traffic during installation and at least 48 hours after completion of work.  
52  
53 B. Tiled vertical outside corners shall be protected with board corner strips in areas used as passageways.  
54

END OF SECTION 09 30 00

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SECTION 09 51 00  
ACOUSTICAL CEILINGS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

1.02 WORK INCLUDED

- A. Acoustical Board.
- B. Suspension Systems.

1.03 RELATED WORK

- A. Fire Suppression: Division 21.
- B. Heating, Ventilating and Air Conditioning: Division 23.
- C. Electrical: Division 26.

1.04 SUBMITTALS

- A. Submit in accord with the General Conditions of the Contract.
  - 1. Manufacturer's product specifications and installation instructions for each acoustical ceiling material and suspension system required, including certified laboratory test reports.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in original, unopened, protective packaging, with manufacturer's labels indicating brand name, pattern, size and thickness as applicable, legible and intact.
- B. Store materials in original protective packaging to prevent soiling, physical damage or wetting.
- C. Store cartons open at each end to stabilize moisture content and temperature.

1.06 PROJECT CONDITIONS

- A. Do not install interior acoustical ceilings until space is enclosed and weatherproof. Complete installation of damp materials before beginning work.
- B. Maintain humidity of 65 - 75 percent in areas where acoustical materials are to be installed 24 hours before, during, and after installation.
- C. Maintain a uniform temperature in the range of 55 to 70 degrees F. prior to and during installation of materials.

1.07 EXTRA MATERIALS

- A. In accord with General Conditions of the Contract, deliver extra materials equal to a minimum of 50 square feet of each type of acoustical material supplied.
- B. All cartons shall be new, unopened, packaged with protective covering for storage, and identified with appropriate labels.

## PART 2 - PRODUCTS

### 2.01 BOARD TYPE 1

- A. Lightly textured nodular lay-in panels, 3/4" thick x 2' x 2', Reveal edge (tegular), White. UL Classified Noise Reduction Coefficient (NRC) .60, Ceiling Attenuation Class (CAC) 35, Light Reflection Coefficient .82, "BioShield", 15 year warranty against sag, 82% recycled content.
- B. Celotex Brand, "Cashmere".
- C. Or approved equal by Armstrong World Industries, Ecophon Certainteed, or USG.

### 2.03 INTERMEDIATE DUTY SUSPENSION SYSTEM TYPE 1

- A. Armstrong, "Prelude ML, 15/16" Exposed Tee".
  - 1. Material: Hot-dipped, galvanized steel.
  - 2. Surface Finish: Baked polyester paint.
- B. Or approved equal by Chicago Metallic, National Rolling Mills, Donn/USG.
- E. Conform to all requirements of ASTM C-635 intermediate structural classification.
- F. Provide flat white finish, 15/16" face.

## PART 3 - EXECUTION

### 3.01 EXAMINATION

- A. Examine surfaces scheduled to receive suspended or directly attached acoustical units for unevenness, irregularities, and dampness that would affect quality and execution of work. Do not proceed with work until unsatisfactory conditions have been corrected.

### 3.02 INSTALLATION

- A. Do not begin installation until sufficient materials to complete a room are received.
- B. Install materials in accordance with manufacturer's printed instructions, governing regulations, fire resistance rating requirements, and industry standards applicable to work.
- C. Measure each ceiling area and establish layout of acoustical units to balance border widths at opposite edges of each ceiling. Avoid use of less-than-half width units at borders, and comply with reflected ceiling plans wherever possible.
- D. Symmetrically locate grid layout in each space. Coordinate work with other trades so that lighting fixtures, grilles, and other ceiling fixtures work with grid layout.

- E. Do not use universal splices or other splices which would obstruct passage of recessed lighting fixtures through grid openings or limit fixture relocation upon flanges of ceiling grids.
- F. Support suspension system from structure above, not from ductwork, metal deck, equipment or piping.
- G. Space hangers not more than 6 inches from ends and not more than 4 feet on center.
- H. Install edge moldings at the perimeter of each acoustical ceiling area and at locations where edge of units would otherwise be exposed.
  - 1. Secure moldings to building construction by fastening with screw anchors into the substrate, through holes drilled in vertical leg. Space holes not more than 3 inches from each end and not more than 16 inches on center along each molding.
  - 2. Level moldings with ceiling suspension system, to a level tolerance of 1/8 inch in 12 feet.
  - 3. Miter corners of moldings accurately to provide hairline joints, securely connected to prevent dislocation. Cope exposed flanges of intersecting suspension system members, so that flange faces will be flush.
  - 4. Furnish additional tees for supporting grilles, diffusers and light fixtures. Refer to the reflected ceiling, HVAC and electrical plans for locations.
  - 5. Provide tegular edge at walls, other abutting vertical surfaces.
  - 6. Field paint cut edges to match surface color and sheen.
- I. Arrange acoustical units and orient directionally-patterned units, if any, in manner shown on reflected ceiling plans.

### 3.03 CLEANING

- A. Clean exposed surfaces of acoustical ceilings, trim, edge moldings, and suspension members to comply with manufacturer's instructions for cleaning and touch-up of minor finish damage.
- B. Remove work which cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

### 3.04 PROTECTION

- A. Provide required protection for the acoustical ceilings, including temperature, humidity limitations and dust control so that the work will be without damage and deterioration at the time of acceptance by the Owner.

END OF SECTION 09 51 00

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## SECTION 09 65 00

### RESILIENT FLOORING

#### PART 1 - GENERAL

##### 1.01 RELATED DOCUMENTS

- A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

##### 1.02 WORK INCLUDED

- A. Resilient Base.
- B. Resilient Flooring.
- C. Accessories.
- D. Subfloor Preparation.

##### 1.03 RELATED WORK

- A. Selective Structure Demolition: Section 02 41 19.

##### 1.04 QUALITY ASSURANCE

- A. Provide each type of resilient flooring and accessories from a single manufacturer, including recommended primers, adhesives, sealants, and leveling compounds.
- B. Installers Qualifications: Installer experienced (minimum of 2 years) to perform work of this section who has specialized in the installation of work similar to that required for this project and who is acceptable to the product manufacturer.
- C. Materials: For each type of material required for the work of this Section, provide primary materials which are the products of one manufacturer. Provide secondary materials which are acceptable to the manufacturer of the primary materials.
  - 1. Comply with applicable regulations regarding VOC (volatile organic compound) content of adhesives.

##### 1.05 SUBMITTALS

- A. Submit in accordance with the General Conditions of the Contract.
  - 1. Manufacturer's technical data for each type of resilient flooring and accessory.
    - a. Data indicating adhesive and accessories meet VOC requirements.
  - 2. Manufacturer's standard color charts in form of actual sections of resilient flooring, including accessories, showing full range of colors and patterns available, for each type of resilient flooring required.
  - 3. Submit samples of metal edge strips.
  - 4. Two copies of manufacturer's recommended maintenance practices for each type of resilient flooring and accessory required.

##### 1.06 DELIVERY, STORAGE AND HANDLING



- A. Deliver materials to project site in manufacturer's original, unopened containers with labels indicating brand names, colors and patterns, and quality designations legible and intact.
- B. Store and protect materials in accordance with manufacturer's recommendations.

#### 1.07 PROJECT CONDITIONS

- A. Maintain minimum temperature of 65 degrees F and maximum temperature of 90 degrees F in spaces to receive resilient flooring for at least 48 hours prior to installation, during installation, and for not less than 48 hours after installation. Subsequently, maintain minimum temperature of 55 degrees F in areas where work is completed.
- B. Store resilient flooring materials in spaces where they will be installed for at least 48 hours before beginning installation.
- C. Install resilient flooring and accessories after other finishing operations, including painting, have been completed.
- D. Do not install resilient flooring over concrete slabs until they have been cured and are sufficiently dry to achieve bond with adhesive as determined by resilient flooring manufacturer's recommended bond and moisture test.
- E. Close areas to traffic and to other work until flooring is firmly set. Tile shall have 72 hours with no traffic.
- F. Where solvent based adhesives are used, provide safety sparkproof fans when natural ventilation is not adequate.

#### 1.08 WARRANTY

- A. Provide current, detailed manufacturer's warranty for each flooring product as applicable including limited wear, defect and conductivity.
- B. Provide manufacturer's standard one-year warranty against defects in manufacturing and workmanship of resilient flooring products. Provide manufacturer's standard limited wear warranty/conductivity warranty as specified under each product as applicable.

#### 1.09 EXTRA MATERIALS

- A. Deliver stock of extra materials to Owner. Furnish extra materials from same manufactured lot as materials installed and enclosed in protective packaging with appropriate identifying labels.
  - 1. Furnish one box for each type, color, pattern and size installed.

#### 1.010 ENVIRONMENTAL REQUIREMENTS

- A. Low-Emitting Materials, Adhesives, and Sealants: Materials used on the interior of the building (defined as inside the weatherproofing system and applied on site) must not exceed the following requirements.
  - 1. Adhesives, Sealants and Sealant Primers: South Coast Air Quality Management (SCAQMD) Rule # 1168, requirements in effect on July 1, 2005, and rule amendment date January 7, 2005.
  - 2. Aerosol Adhesives: Green Seal Standard for Commercial Adhesives GS-36, requirements in effect on October 19, 2000.

### PART 2 - PRODUCTS

#### 2.01 RESILIENT FLOOR

A. Interface is used as the basis of design. Armstrong, Johnsonite, Shaw or approved equal.

B. RF-1 Product:

1. Style Name/Number: Level Set Collection, Textured Stones
2. Color: to be selected from manufacturer's full range.
3. Construction: High Performance Luxury Vinyl Tile.
4. Direct glue down
5. Overall Thickness: 4.5mm.
6. 22 mil wear layer.
7. Nominal Dimensions: 19.69"x19.69"
8. 15 year limited commercial warranty.
9. Class III printed vinyl tile
10. Backing Class: Commercial Grade.
11. Slip Resistance/ASTM D2047: >0.55 (wet/dry).
12. Static Load Limit/(Modified ASTM F970: 1500 psi.
13. Passes ASTM F1914 Residual Indentation
14. Passes ASTM F137 Flexibility
15. Passes ASTM G21 0: Fungi free.
16. Passes ASTM F 1514 Resistance to Heat.
17. Passes ASTM F 1515 Resistance to Light.
18. Passes ASTM F 925 Resistance to Chemicals.
19. Passes ASTM 648, Radiant Flux, > 0.45 watts/cm<sup>2</sup> NFPA Class 1
20. Passes ASTM E662, Smoke Density, < 450.

C. Installation pattern to be provided by Architect.

## 2.02 RESILIENT WALL BASE

A. General: Rubber, cove base, top set, roll stock.

1. Height: 4".
2. Stringer, field verify.
3. Color RB-1: To be selected by architect from manufacturer's full range.

B. Manufacturers: Armstrong (colors to be selected from manufacturers' full range) or approved equal by:

1. Flexco.
2. Freudenberg Building Systems, Nora.
3. Johnsonite.
4. Roppe.

## 2.03 ACCESSORIES

A. Adhesives: As recommended by Flooring Manufacturer to meet site conditions.

B. Adhesive for Wall Base: W.W. Henry "595 Cove Base Adhesive", zero-VOCs; W.F. Taylor "2035 Cove Base Adhesive" or "2040 Premium Cove Base Adhesive", GreenGuard certified; PL Adhesives & Sealants "Cove Base Adhesive"; Bostik Findley, Durabond "D-740 Multipurpose Wall Adhesive".

1. Low-VOC type: VOC content less than 100 g/l.

C. Concrete Slab Primer: Non-staining, low-VOC type, equal to W.F. Taylor Co. "Envirotec Healthguard" #2006, as approved by flooring and underlayment manufacturers.

D. Patching, Leveling, Underlayments: The leveling materials must be portland cement based and provide a minimum 3,500 PSI compressive strength (ASTM C 109) and sufficient bond to existing subfloor surface.

1. Ardex, Laticrete, Duralox, Mapei, or equivalent, approved by flooring manufacturer.

2. Trowelable Leveling and Patching Compounds: Latex-modified, Portland cement based or blended hydraulic-cement-based formulation as recommended by flooring manufacturer.

E. Metal Edge Strip: Similar to Ceramic Tile Company CTC1132CTA.

### PART 3 - EXECUTION

#### 3.01 EXAMINATION

- A. The subfloor must be prepped to meet meets the requirements as described in the manufacturer's installation instructions.
  1. Rough up smooth epoxy surfaces to accommodate resilient flooring manufacturer's installation requirements.
- B. A clean non-burnished concrete surface free from any paint, wax, oil, grease, and film forming curing compounds, silicate penetrating curing compounds, sealing, hardening or parting compounds is required. The surface should not have any alkaline salts, laitance, mold, mildew, residual adhesive, chemical adhesive removers or anything that may prevent appropriate products bonding to it. If not then the general contractor should provide the mechanical means to remove them. This could be dustless diamond grinding (DiamaBrush), bead-blast or similar with a suitable HEPA vacuum attachment. Review and comply with all relevant local, state and federal regulations.
- C. Clean out and fill or repair any dormant saw cuts and cracks with an appropriate product following the manufacturers written usage instructions. For any expansion (moving) joints, use an industry standard expansion joint assembly.
- D. When required, use a leveler following the manufacturers written instructions. The surface should be free of dust, solvents, paint, wax, varnish, oil, grease, asphalt, old adhesives, and other extraneous materials that may interfere with the bond. These should be completely removed by mechanical means only. Dustless diamond grinding or bead blasting are the preferred method to remove contaminates and bond breakers, as it also helps to level the concrete.
- E. Perform mat bond tests in each major area (1 per ~1,000 sq. ft.) This should consist of the proposed subfloor preparation, mitigation and leveling or smoothing products. Do not proceed with installation until all the results of the bond test are acceptable.
- F. Prime the subfloor prior to using a suitable leveler, as approved by the resilient flooring manufacturer.
- G. Vacuum floors immediately prior to installing the flooring to remove all loose particles. If required, only use water based sweeping compounds. Do not use any wax or oil based compounds that leave behind a residue that may interfere with the adhesive bond.
- H. Perform moisture tests on concrete subfloors to determine if surfaces are sufficiently cured and dry as well as to ascertain presence of curing compound. Do not use curing compounds on concrete subfloors.
- I. Do not allow resilient flooring work to proceed until subfloor surfaces are satisfactory. Indicate adverse conditions of any type by letter.

#### 3.02 PREPARATION

- A. Comply with ASTM F 710, Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring, and manufacturer's recommendations for surface preparation. Remove substances incompatible with resilient flooring adhesive by method acceptable to manufacturer.
  - 1. Concrete floors with steel troweled (slick) finish shall be properly roughened (sanded) to ensure suitable adhesion.
  - 2. Concrete floors with curing, hardening and/or breaking compounds shall be abraded with mechanical methods only to remove compounds.
    - a. Do not use chemicals for removal.
    - b. Do not use wax or oil based sweeping compounds.
- B. Sand or grind subfloors to remove mortar, paint, other surface irregularities.
- C. Where filling, patching, leveling is required of thickness exceeding 1/8-inch apply latex type underlayment in two or more applications. Apply compound in accordance with manufacturer's printed instructions.
- D. Remove all debris, sand, and other materials which would result in lack of adhesion and/or star cracking.

### 3.03 INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient tile flooring.
- B. Install resilient flooring, including but not limited to the following, in accordance with the manufacturer's installation instructions.
  - 1. Do not mix manufacturing batches of a color within the same area.
  - 2. Do not install resilient flooring over building expansion joints.
  - 3. Do not install defective or damaged resilient flooring.
  - 4. Layout resilient flooring to provide ~equal size at perimeter. Adjust layout as necessary to reduce the amount of resilient flooring which is cut to less than half full width.
  - 5. Lay resilient flooring with arrows in the same direction (excluding borders).
  - 6. Install resilient flooring without voids at seams. Lay seams together without stress.
  - 7. Cut/scribe resilient flooring neatly at perimeter and obstructions.
  - 8. Extend resilient flooring into reveals, closets, and similar openings.
  - 9. Remove excess adhesive immediately.
- C. Install reducer strips at exposed edges.

### 3.04 WALL BASE INSTALLATION

- A. Apply wall base to walls, columns, pilasters, casework and other permanent fixtures in rooms or areas where base is required.
- B. Install base in lengths as long as practicable, with preformed corner units, or fabricated from base materials with mitered or coped inside corners. Cut no shorter than full wall length.
- C. Tightly bond base to substrate throughout length of each piece, with continuous contact at horizontal and vertical surfaces.
  - 1. On masonry surfaces, or other similar irregular substrates, fill voids along top edge of resilient wall base with manufacturer's recommended adhesive filler material.
  - 2. Adhesive shall cover a minimum of 90 percent of ribbed back of base.
  - 3. Leave 1/4 inch uncovered space at top edge of base to prevent oozing.
  - 4. Roll base firmly, roll back toward starting point.

3.05 CLEANING

- A. Comply with manufacturer's written instructions for cleaning and protection of resilient products.
- B. Perform the following operations immediately after completing resilient product installation:
  - a. Remove adhesive and other blemishes from exposed surfaces.
  - b. Sweep and vacuum surfaces thoroughly.
  - c. Damp-mop surfaces to remove marks and soil.
- C. Protect resilient products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
- D. No traffic for 24 hours after installation.
- E. No heavy traffic, rolling loads, or furniture placement for 72 hours after installation.
- F. Wait 72 hours after installation before performing initial cleaning.

3.06 PROTECTION

- A. Protect flooring against damage during construction period to comply with resilient flooring manufacturer's directions.

END OF SECTION 09 65 00

## SECTION 09 90 00

### PAINTING

#### PART 1 - GENERAL

##### 1.01 RELATED DOCUMENTS

- A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

##### 1.02 WORK INCLUDED

- A. Painting and finishing of interior and exterior exposed items and surfaces throughout Project.
- B. Refinishing as indicated on Drawings, including removal of paint and finishes, preparation, painting and finishing.
- C. Field painting of exposed bare and covered pipes and ducts and hangers, conduits, uni-strut, exposed steel and iron work, all metal fabricated Section 05 50 00 items, and primed metal surfaces including but not limited to, hollow metal work, equipment installed under mechanical and electrical work.
- D. "Paint" as used herein means all coating systems materials including primers, emulsions, enamels, stains, sealers and fillers, and other applied material whether used as prime, intermediate or finish coats.
- E. Except where natural finish of material is specifically noted as a surface not to be painted, paint exposed surfaces. Where items or surfaces are not specifically mentioned, paint the same as similar adjacent materials or areas.
- F. Following categories are not included as part of field-applied finish work.
  - 1. Pre-Finished Items: Unless otherwise indicated, do not include painting when factory-finishing or installer-finishing is specified.
  - 2. Concealed Surfaces: Unless otherwise indicated, painting is not required on surfaces in concealed areas and generally inaccessible areas.
  - 3. Finished Metal Surfaces.
  - 4. Operating Parts.

##### 1.03 RELATED WORK

- A. Shop Priming: Unless otherwise specified, shop priming of ferrous metal items is included under various sections for structural steel, metal fabrications, hollow metal work and similar items.
- B. Examine the Contract Documents and be familiar with all their provisions regarding painting. All surfaces that are left unfinished by the requirements of other Sections shall be painted or finished as part of this Section.

##### 1.04 SUBMITTALS

- A. Submit in accordance with the General Conditions of the Contract:
  - 1. Paint: Submit a list of specified products with corresponding name of manufacturer, identifying name and number of proposed products along with manufacturer's written instructions for use of each product.

2. If manufacturer to be used is different from that of color chips furnished, prepare and submit two approximately 6 inch square, properly labeled samples of each color and sheen required on properly prepared paint-out cards or hardboard.
3. Stain: Two, 6 inch square properly labeled samples of each color and sheen required on actual wood for project.
4. Pre-installation meeting is required before stripping procedures begin, with an area where surfaces are tested to provide the least intrusive and damaging methods. Owner and A/E approval required for the selected method.
5. Prepare and repaint an area of each designated interior surface to requirements specified herein, with specified paint or coating showing selected color, gloss/sheen, texture and workmanship to MPI Repainting Manual standards for review and approval by Owner and A/E. When approved, interior surface shall become acceptable standard of finish quality and workmanship for similar on-site repainting work.

#### 1.05 QUALITY ASSURANCE

- A. AWI, Architectural Woodwork Standards.
- B. Master Painters Institute (MPI) Standards:
  1. Products: Complying with MPI standards indicated and listed in "MPI Approved Products List."
  2. Preparation and Workmanship: Comply with requirements in "MPI Architectural Painting Specification Manual" for products and paint systems indicated.
    - a. For areas to be renovated, comply with requirements in "MPI Maintenance Repainting Manual".

#### 1.06 DELIVERY, STORAGE AND HANDLING

- A. Do not deliver materials to site until having received all written approvals of submitted information and samples.
- B. Deliver materials to job site in original, new and unopened packages and containers bearing manufacturer's name and label.
- C. Store materials not in actual use in tightly covered containers.
- D. Take all precautions to ensure that workers and work areas are adequately protected from fire hazards and health hazards resulting from handling, mixing and application of paints.
- E. Remove rags and waste from storage areas daily.

#### 1.07 PROJECT CONDITIONS

- A. Apply water-base paints only when temperatures of surfaces to be painted and surrounding air temperatures are between 50 and 95 degrees F.
- B. Apply solvent-thinned paints only when temperature of surfaces to be painted and surrounding air temperatures are between 45 degrees F. and 95 degrees F.
- C. Do not apply paint when relative humidity exceeds 85%; at temperatures less than 5 degrees F. above the dew point; or to damp or wet surfaces.

1.08 SEQUENCING AND SCHEDULING

- A. Schedule cleaning and painting so that contaminants from cleaning process will not fall onto newly-painted surfaces.

1.09 EXTRA MATERIALS

- A. Furnish extra materials described below that are from same production run (batch mix) as materials applied and that are packaged for storage and identified with labels describing contents.
  - 1. Quantity: Furnish an additional 5 percent, but not less than 1 gal. of each material and color applied.

1.010 ENVIRONMENTAL REQUIREMENTS

- A. Low-Emitting Materials, Field applied Paints and Coatings: Interior paints and coatings applied on-site must meet the limitations and restrictions concerning chemical components set by the following standards:
  - 1. Topcoat Paints, Green Seal Standard GS-11, Paints: First Edition, May 20, 1993.
  - 2. Anti-Corrosive and Anti-Rust Paints: Green Seal Standard GS-03, Anti-Corrosive Paints", Second Edition, January 7, 1997. For applications on ferrous metal substrates.
  - 3. "All Other Architectural Coatings, Primers and Undercoats: South Coast Air Quality Management District (SCAQMD) Rule #1113, Architectural Coatings", rules in effect on January 1, 2004.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. AFM Safecoat.
- B. Benjamin Moore & Co.
- C. Cabot.
- D. ICI/Dulux.
- E. PPG Architectural Finishes, Inc.
- F. Sherwin Williams Company.
- G. U-C Coatings Corp.
- H. Target Coatings
- I. Diamond Vogel Paint
- J. Or approved equal.

2.02 MATERIALS

- A. Use the materials of the same manufacturer for each system.



- B. Sherwin Williams systems are called out in the system schedules to establish quality and dry mil thickness of finished installation for all systems. A different manufacturer may be used for color selection. Any manufacturer noted above may be used as long as quality and color requirements are met.
1. Proprietary names used to designate colors or materials are not intended to imply that products of named manufacturers are required to exclusion of equivalent products of other manufacturers.
- C. Provide best quality grade of various types of coatings as regularly manufactured by acceptable paint materials manufacturers.
- D. Material Compatibility:
1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
  2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- E. Chemical Components of Field-Applied Interior Paints and Coatings: Provide products that comply with the following limits for VOC content, exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24) and the following chemical restrictions; these requirements do not apply to primers or finishes that are applied in a fabrication or finishing shop:
1. Flat Paints and Coatings: VOC content of not more than 50 g/L.
  2. Non-flat Paints and Coatings: VOC content of not more than 150 g/L.
  3. Aromatic Compounds: Paints and coatings shall not contain more than 1.0 percent by weight of total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).
  4. Restricted Components: Paints and coatings shall not contain any of the following:
    - a. Acrolein.
    - b. Acrylonitrile.
    - c. Antimony.
    - d. Benzene.
    - e. Butyl benzyl phthalate.
    - f. Cadmium.
    - g. Di (2-ethylhexyl) phthalate.
    - h. Di-n-butyl phthalate.
    - i. Di-n-octyl phthalate.
    - j. 1,2-dichlorobenzene.
    - k. Diethyl phthalate.
    - l. Dimethyl phthalate.
    - m. Ethylbenzene.
    - n. Formaldehyde.
    - o. Hexavalent chromium.
    - p. Isophorone.
    - q. Lead.
    - r. Mercury.
    - s. Methyl ethyl ketone.
    - t. Methyl isobutyl ketone.
    - u. Methylene chloride.

- v. Naphthalene.
- w. Toluene (methylbenzene).
- x. 1,1,1-trichloroethane.
- y. Vinyl chloride.

F. Color Pigments: Pure, non-fading, applicable types to suit substrates and service indicated.

#### 2.03 PRIMERS/SEALERS

A. Interior Latex Primer/Sealer: MPI #50.

#### 2.04 METAL PRIMERS

A. Rust-Inhibitive Primer (Water Based): MPI #107.

#### 2.05 LATEX PAINTS

A. Institutional Low-Odor/VOC Latex (Flat): MPI #143 (Gloss Level 1).

B. Institutional Low-Odor/VOC Latex (Low Sheen): MPI #144 (Gloss Level 2).

C. Institutional Low-Odor/VOC Latex (Eggshell): MPI #145 (Gloss Level 3).

D. Institutional Low-Odor/VOC Latex (Semigloss): MPI #147 (Gloss Level 5).

#### 2.06 EQUIPMENT

A. Provide all brushes, rollers, ladders, scaffolding, and other equipment of any kind to properly execute each type of work.

### PART 3 - EXECUTION

#### 3.01 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.

B. Maximum Moisture Content of Substrates:

1. Gypsum Board: 12 percent.
2. Concrete: Must be cured a minimum of 45 days.

C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

D. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.

1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

#### 3.02 PREPARATION

A. Perform preparation and cleaning procedures in accord with paint manufacturer's instructions and as specified for each particular substrate condition.

1. Remove hardware, hardware accessories, machined surfaces, plates, lighting fixtures, and similar items in place and not to be finish-painted, or provide surface-applied protection prior to surface preparation and painting operations.
    - a. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
    - b. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
  2. Follow manufacturer's instructions for use of stripping solutions to avoid raising grain of wood.
  3. Do not dip fabricated units (doors, etc.) in stripping solution to avoid saturating wood or damaging glued connections.
  4. Clean surfaces to be painted before applying paint or surface treatments. Remove oil and grease prior to mechanical cleaning.
  5. Remove dirt, rust, scale, moisture, scuffed surfaces, or conditions otherwise detrimental to formation of a durable paint film.
- B. New wood: Prepare substrate and apply finish according to manufacturer's recommendations. Apply to smooth clean surfaces only.
- C. Gypsum Board: Fill minor irregularities with patching material and sand to smooth level surfaces taking care not to raise nap of paper.
- D. Existing Ferrous Metal
1. Spot remove failed, damaged or rough existing paint to bare metal by means of stripping as indicated above. If existing metal surface is not smooth, sand or wire brush.
    - a. Sand edges of existing paint to a feather edge.
  2. Remove dirt and grease with mineral spirits or solvent recommended by paint manufacturer and clean cloths.
- E. Ferrous Metal
1. Remove dirt and grease with mineral spirits or solvent recommended by paint manufacturer and clean cloths.
  2. Where not galvanized, shop coat of primer will exist on surface. If prime coat is not smooth, sand to bare metal and re-prime.

### 3.03 APPLICATION

- A. Provide adequate forced ventilation of enclosed areas for curing of installed materials, to disperse humidity, and to prevent hazardous accumulations of dust, fumes, vapors or gases.
- B. Do work under adequate illumination and dust-free conditions.
- C. Apply paints according to manufacturer's written instructions.
  1. Use applicators and techniques suited for paint and substrate indicated.
  2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
  3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.

- D. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- E. Materials
  - 1. Do not open containers until required for use.
  - 2. Stir materials thoroughly and keep at uniform consistency during application.
- F. Coats
  - 1. Number specified is minimum.
  - 2. Touch up suction spots between coats.
  - 3. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
  - 4. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
  - 5. Refinish surfaces affected by refitting work.

#### 3.04 COLOR SEPARATION

- A. An average of one or two wall colors will be used per room. Ceilings generally will be a different color than walls. Finished closets will usually be same as adjoining rooms.
- B. Job painted metal items such as diffusers, grilles and registers will generally be same color as adjacent surface.
- C. Hardwood generally will be the same color stain throughout.

#### 3.05 CLEANING

- A. During the progress of this work, remove from the site all discarded paint materials, rubbish, cans and rags at the end of each work day.
- B. Upon completion of painting work, clean window glass and other paint-spattered surfaces. Remove spattered paint by proper methods of washing and scraping, using care not to scratch or otherwise damage finished surfaces.

#### 3.06 PROTECTION

- A. Protect work of other trades, whether to be painted or not, against damage by painting and finishing work. Correct damage by cleaning, repairing or replacing.
- B. Provide "wet paint" signs to protect newly-painted finishes. Remove temporary protective wrappings, after completion of painting operations.
- C. At the completion of work of other trades, touch-up and restore all damaged or defaced painted surfaces.

#### 3.07 SCHEDULE OF INTERIOR WORK

- A. In addition to obvious surfaces, the following do not require painting or finishing.
  - 1. Do not include painting when factory-finishing or installer-finishing is specified for such items as (but not limited to) acoustic materials, finished mechanical and electrical equipment including light fixtures and distribution cabinets.

2. Painting is not required on surfaces such as walls or ceilings in concealed areas and generally inaccessible areas, furred areas, utility tunnels, pipe spaces, duct shafts and elevator shafts.
3. Metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze and similar finished materials will not require finish painting, unless otherwise indicated.
4. Moving parts of operating units, mechanical and electrical parts, such as valve and damper operators, linkages, sinkages, sensing devices, motor and fan shafts will not require finish painting, unless otherwise indicated.
5. Do not paint over any code-required labels, such as Underwriter's Laboratories and Factory Mutual, or any equipment identification, performance rating, name or nomenclature plate.
6. N/A indicates system not applicable to this Project.

B. Walls and Ceilings

1. Paint all rooms. Paint patched walls from 90 degree corner and patched ceilings complete.
2. Do not apply next coat until previous is thoroughly dry.
3. Provide final coat which is solid and even in color, free from runs, laps, sags, brush marks, air bubbles and excessive roller stipple and worked into crevices, joints and similar areas.

C. Wood Trim:

1. Apply finishes to all areas as shown on drawings per manufacturer's instructions.

D. Electrical Panel Box Covers and Doors

1. Remove, paint and reinstall after paint is dry.

E. Other Unfinished and Primed Surfaces

1. Provide specified finish on exposed surfaces. This includes prime coated mechanical units, piping, pipe covering, conduit, and interior duct surfaces visible behind grilles.

F. Material	Type	Number and Type of Coating
1. IPS 7 - Gypsum Board	Latex- Eggshell Zero-VOC	One coat "Harmony Interior Latex Primer", Two coats "Harmony Interior Latex Eggshell".
2. IPS 13 - Ferrous Metal Metal (Unprimed)	Latex -Semi-gloss	One coat "Pro Industrial Pro-Cryl Primer", two coats "Pro Industrial Acrylic".
3. IPS 14 - Ferrous Metal (Primed)	Latex -Semi-gloss	One coat "Pro Industrial Pro-Cryl Primer", two coats "Pro Industrial Acrylic".
4. IPS 16 - Galvanized (Finished Rooms Only)	Latex- Flat	One coat "DTM Acrylic Primer Finish", two coats "ProMar 200 Interior Latex Flat".

G. Color Schedule: all colors to be confirmed prior to drawdown submittal. Accent colors noted below to be selected from manufacturer's full range.

PT-1	Match existing
PT-2	accent color
PT-3	accent color
HM Frames	Match existing

END OF SECTION 09 90 00

SECTION 26 05 00

GENERAL ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.01 SCOPE

- A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

1.02 GENERAL PROVISIONS

- A. In general, the work includes: Electrical work and the kindred materials and operations as indicated on the drawings and as specified in the following articles of:

Section 26 05 00	General Electrical Requirements
Section 26 09 23	Occupancy Sensor
Section 26 20 00	Basic Materials and Methods
Section 26 51 13	Lighting
Section 27 10 00	Telecommunications Distribution System
Section 28 13 00	Access Control System
Section 28 31 00	Fire Alarm System

- B. Job Information: Obtain at building including:
  - 1. Conditions affecting this Section of the Work.
  - 2. Accessibility
  - 3. Storage space.

1.03 GENERAL REQUIREMENTS

- A. This Section of the Specifications applies to all electrical work. The General Conditions, Supplementary Conditions, Summary of the Work, Instructions to Bidders and all Sections of the Conditions of the Contract form a part of these specifications and the Contractor shall consult them in detail. Electrical work indicated in other Sections of the Specifications to be done by the Electrical Contractor shall be included in the Work of this Section.

1.04 DEFINITIONS

- A. Certain terms used herein; on the drawings; and in the contract documents, shall be defined as follows:
- B. Provide: Furnish and install complete and ready for service.
- C. Exposed: Exposed to view in any room, hallway, passageway, or outside.
- D. Approval: The approval of the Architect in writing or by signed rubber stamp applied to drawings, illustrations, etc.

1.05 INTENT OF DRAWINGS AND SPECIFICATIONS

- A. These specifications and attendant drawings are intended to cover a complete installation of systems. The omission of expressed reference to any item of labor or material necessary for the proper execution of the work in accordance with present practice of the trade shall not relieve the Contractor from providing such additional labor and materials.

1.06 DRAWINGS

- A. The Electrical drawings do not attempt to show the complete details of building construction which affect the electrical installation. The Contractor shall refer to the architectural, civil, structural and mechanical drawings for additional details which affect the proper installation of this work. The Contractor is cautioned that diagrams showing electrical connections and/or circuiting are

1 diagrammatic only and must not be used for obtaining lineal runs of wire to conduit. Wiring diagrams  
2 do not necessarily show the exact physical arrangement of the equipment.

3 1.07 MATERIAL AND EQUIPMENT

- 4 A. All material and equipment shall be new and of the quality used for the purpose in good commercial  
5 practice and shall be standard product of reputable manufacturers. Each major component of  
6 equipment shall have the manufacturer's name, catalog number, and capacity or rating on a nameplate,  
7 securely affixed on the equipment in a conspicuous place.

8 1.08 SUBSTITUTION AND APPROVAL OF MATERIAL

- 9 A. See Instructions to Bidders.  
10 B. Such requests shall be accompanied by three copies of all necessary illustrations, cuts, drawings and  
11 descriptions of material proposed for substitution and shall fully describe all points in which it differs  
12 from the articles specified. Two copies will be retained by the Architect and one copy returned to the  
13 Contractor with approval or revisions indicated thereon.

14 1.09 DAMAGE TO OTHER WORK

- 15 A. The Electrical Contractor will be held rigidly responsible for all damages to the work of his own or  
16 any other trade resulting from the execution of his work. It shall be the Contractor's responsibility to  
17 adequately protect his work at all times. All damages resulting from his operations shall be repaired  
18 or the damaged portions replaced by the party originally performing the work, (to the entire  
19 satisfaction of the Architect), and all cost thereof shall be borne by the Contractor responsible for the  
20 damage.

21 1.10 COOPERATION WITH OTHER TRADES

- 22 A. This Contractor shall completely cooperate with all other trades in the matter of planning and  
23 executing of the work. Every reasonable effort shall be made to prevent conflict and interferences as  
24 to space requirements, dimensions, locations, openings, sleeving or other matters which tend to delay  
25 or obstruct the work of any trade.

26 1.11 NEGLIGENCE

- 27 A. Should the Contractor fail to provide materials, templates, etc., or other necessary information causing  
28 delay or expense to another party, he shall pay the actual amount of the damages to the party who  
29 sustained the loss.

30 1.12 FIELD CHANGES

- 31 A. Should any change in drawings or specifications be required to comply with local regulations and/or  
32 field conditions, the Contractor shall refer same to Architect for approval before any work which  
33 deviates from the original requirements of the drawings and specifications is started. In the event of  
34 disagreements as to the necessity of such changes, the decision of the Architect shall be final.

35 1.13 CUTTING AND PATCHING IN NEW CONSTRUCTION

- 36 A. As necessary and with approval to permit the installation of conduit or any part of the work under this  
37 branch. Any cost caused by defective or ill-timed work shall be by the party responsible therefor.  
38 Patching of holes, openings, etc. resulting from the work of this branch shall be furnished by this  
39 contractor.  
40 B. See Division 1 for additional requirements.

41 1.14 COMPLETION DATES

- 42 A. This Contractor shall be in a position to meet all completion dates established by the Architect and  
43 shall furnish all labor of all classes required to meet such schedules and completion dates.

44 1.15 STANDARDS, CODES AND PERMITS

- 1 A. All work shall be installed in accordance with National, State and Local electrical codes, laws,  
2 ordinances and regulations. Comply with all applicable OSHA regulations.
- 3 B. All materials shall have a U.L. label where a U.L. standards and/or test exists.
- 4 C. Prepare and submit to all authorities having jurisdiction, for their approval, all applications and  
5 working drawings required by them.
- 6 D. Secure and pay for all permits and licenses required.

7 1.16 CLEAN-UP

- 8 A. This Contractor shall at all times keep the premises free from excessive accumulation of waste  
9 material or rubbish resulting from his work, including tools, scaffolding and surplus materials, and he  
10 shall leave his work broom clean or its equivalent.
- 11 B. In case of dispute, Architect may order the removal of such rubbish and charge the cost to the  
12 responsible contractor as determined by the Architect. At the time of final clean-up all fixtures and  
13 equipment shall be thoroughly cleaned and left in proper condition for their intended use.

14 1.17 TESTS

- 15 A. The Contractor shall provide all instrumentation, labor and conduct all tests required by the Architect.  
16 All tests shall be made before any circuit or item of equipment is permanently energized. Circuits  
17 shall be phased out and loads shall be distributed as evenly as possible on all phases. All phase  
18 conductors shall be entirely free from grounds and short circuits. All instrumentation and personnel  
19 required for testing shall be provided by the Contractor and all tests shall be conducted in the presence  
20 of the Architect or his authorized representative.
- 21 B. System Tests:
  - 22 1. The following tests are required prior to energization of the electrical system:
    - 23 a. Secondary feeders shall have an insulation resistance test utilizing a megger applying a  
24 test potential of 500 volts DC minimum.
    - 25 b. Establish secondary phase to ground voltages.
    - 26 c. Establish proper phase relationship and motor rotation.
  - 27 2. The following tests are required under normal load condition:
    - 28 a. Record secondary phase to phase and phase to ground voltages and phase currents at all  
29 major equipment, apparatus, and on all secondary feeders. Voltage readings shall be  
30 taken at line side terminals of distribution centers and panelboards.
    - 31 b. Confirm proper phase relationship and motor rotation.
    - 32 c. Confirm load balance at distribution centers and panels. Rebalance load if necessary  
33 such that the minimum unbalance between phases shall not exceed 7-1/2%.
    - 34 d. Confirm operation of all electrically operated apparatus, such as circuit breakers,  
35 transfer switches, etc., by exercising same under load.
    - 36 e. Record all settings and calibrations of circuit breakers, transfer switches, transformers,  
37 meters, timing devices, etc.
- 38 C. Records:
  - 39 1. All test data obtained by the E.C. or manufacturer/supplier shall be recorded and filed with the  
40 maintenance manual as part of permanent job records. Test data shall include identification of  
41 instruments employed (field test only), condition of test (time, date, weather, etc.), parameters  
42 of test, personnel conducting test, and any pertinent information or conditions noted during the  
43 test.

44 1.18 SHOP DRAWINGS

- 45 A. Submit to Engineer for review, copies of manufacturer's shop drawings and/or equipment brochure  
46 depicting:



- 1           1.    Lighting Fixtures
- 2           2.    Panelboards
- 3           3.    Occupancy Sensors
- 4           4.    Telecommunications Equipment and Cabling
- 5           5.    Wiring Devices
- 6           6.    Fire Alarm System
- 7           7.    Access Control System
- 8           8.    Other materials at the request of the Engineer

9           B.    See Section 01300.

10          C.    Shop drawings shall bear the Contractor's stamp indicating approval.

11          D.    Any equipment fabrication prior to shop drawing review shall be at the Contractor's risk.

12    1.19   WORKMANSHIP

13          A.    The installation of all work shall be made so that its several component parts will function as a  
14               workable system complete with all accessories necessary for its operation, and shall be left with all  
15               equipment properly adjusted and in working order. The work shall be executed in conformity with  
16               the best accepted standard practice of the trade so as to contribute to efficiency and appearance. It  
17               shall also be executed so that the installation will conform and adjust itself to the building structure,  
18               its equipment and its usage.

19    1.20   DRAWINGS OF OTHER TRADES

20          A.    The Contractor shall consult the drawings of the work for the various other trades; field layouts of the  
21               parties performing the work of the other trades; their shop drawings, and he shall be governed  
22               accordingly in laying out his work.

23          B.    Specifically examine shop drawings to confirm voltage, current characteristics, and other wiring  
24               requirements for utilization equipment. Bring any discrepancies to the attention of the A/E.

25    1.21   FIELD MEASUREMENTS

26          A.    The Contractor shall take all field measurements necessary for his work and shall assume the full  
27               responsibility for their accuracy.

28    1.22   STRUCTURAL INTERFERENCES

29          A.    Should any structural interferences prevent the installation of the outlets, running of conduits, etc., at  
30               points shown on drawings, the necessary minor deviation therefrom, as determined by the Architect,  
31               may be permitted. Minor changes in the position of the outlets or equipment if decided upon before  
32               any work has been done by the Contractor shall be made without additional charge.

33    1.23   EXAMINATION OF PLANS, SPECIFICATIONS AND SITE

34          A.    Before submitting a bid, the Contractor shall visit the site and familiarize himself with all features of  
35               the building and site which may affect the execution of his work. No extra payment will be allowed  
36               for the failure to obtain this information. If in the opinion of the Contractor there are omissions or  
37               errors in the plans or specifications, the Contractor shall clarify these points with the Architect before  
38               submitting his bid. In lieu of written clarification by addendum, resolve all conflicts in favor of the  
39               greater quantity or better quality.

40    1.24   GUARANTEE

41          A.    The Contractor shall unconditionally guarantee his work and all components thereof, excluding  
42               lamps, for a period of one year from the date of his final payment. He shall remedy any defects in  
43               workmanship and repair or replace any faulty equipment which shall appear within the guarantee  
44               period to the entire satisfaction of the Architect at no additional charge.

1 1.25 TEMPORARY WIRING AND SERVICE

- 2 A. Provide temporary service from existing service. Temporary service shall support construction  
3 activities.
- 4 B. All contractors shall provide and maintain their own extension cords and additional lamps as required  
5 to perform his work properly. Contractors requiring temporary connections to 3 phase power service  
6 and single phase feeders for other than lighting and small fractional horsepower motorized tools shall  
7 make arrangement with the Electrical Contractor. Contractors requiring lighting outside of the  
8 building shall make their own arrangements with the Electrical Contractor and pay all costs for  
9 installation, maintenance and removal. Contractors requiring electrical equipment over one HP,  
10 including welders, hoists, heaters and coolers shall make their own arrangements for such service  
11 beyond the main switch and shall pay all costs thereof.
- 12 C. No permanent electrical equipment or wiring shall be used for temporary connections, unless  
13 authorized by this Section, upon signed order and with approval by the Architect in behalf of the  
14 Owner. Such approvals shall not shorten guarantee period.
- 15 D. Electrical energy to be paid for by owner.

16 1.26 ELECTRICAL SERVICE

- 17 A. The service is existing and provides 480Y/277 volts and 208Y/120 volts, three phase, four wire.

18 1.27 BRANCH CIRCUIT WIRING

- 19 A. See plans for general arrangement of circuits, conduit runs, and ratings of branch circuits and special  
20 circuits.
- 21 B. Provide everything necessary to comply with the general scheme shown, including all types of  
22 control.
- 23 C. Circuit numbers as shown on plans are for contractor to plan his wiring and for estimating purposes.  
24 These numbers are not necessarily consecutive numbers of the panelboard breakers. Balanced load on  
25 bus is to be the determining factor in arrangement of circuits. Balance loading to within 7 1/2%.
- 26 D. Minimum size of lighting system branch circuit conductors to be #12 AWG.
- 27 E. Conductors terminating at wired outlets shall extend at least eight (8) inches beyond outlet box  
28 conduit fitting.
- 29 F. 120-volt circuit home runs greater than 50 feet in length shall have #10 AWG minimum size between  
30 panel and first receptacle or fixture outlet.
- 31 G. The use of single-phase, multi-wire branch circuits with a common neutral is not permitted. All  
32 branch circuits will be furnished and installed with an individual accompanying neutral, sized the  
33 same as the phase conductors

34 1.28 MOTOR WIRING

- 35 A. Unless otherwise indicated on the drawings or elsewhere in these specifications, all motors shall be  
36 furnished by others.
- 37 B. Motors shall be set in place by others and the associated motor starters and controllers shall be turned  
38 over to this Contractor for erection and line voltage power wiring.
- 39 C. Any contractor supplying starters and controllers that are not part of this contract shall index same and  
40 provide this Contractor with instructions as to proper location in sufficient time to permit the  
41 installation of a concealed raceway system.
- 42 D. Where this Contractor is required to provide control wiring, the Contractor supplying the controllers  
43 shall provide all necessary and required wiring diagrams for proper installation.
- 44 E. Low voltage (less than 115 volts) control wiring shall be by others, unless noted elsewhere in the  
45 specifications except that this Contractor shall extend circuit to associated transformers, wire and  
46 connect to same.

1 F. This Contractor shall examine the plans and specifications of other sections and shall include in his  
2 bid all control wiring, as referenced to be performed by Section 16001.

3 G. Required disconnect switches furnished by other sections shall be installed by Section 16001.  
4 Furthermore, this Contractor shall provide all disconnect switches required by code that are not  
5 furnished by other sections.

#### 6 1.29 SPECIAL OUTLETS

7 A. General: Furnish and install outlets, wiring and receptacles accordingly, at locations required by  
8 equipment serviced or otherwise as directed. Extend wiring to outlets on equipment and make final  
9 connection.

#### 10 1.30 IDENTIFICATION

11 A. General:

- 12 1. Materials and equipment installed under this Section shall be clearly identified as listed below.
- 13 2. Locate identification conspicuously.
- 14 3. Terminology to be approved by Architect.
- 15 4. See plans for any additional items to be identified.
- 16 5. Loads such as motors shall be described by function rather than by the system of arbitrary  
17 number as shown on electrical plans.
- 18 6. Use abbreviations sparingly.

19 B. Laminated Bakelite Plates: Engraved plastic nameplate shall be securely screwed or riveted to the  
20 following equipment. Size 1" x 4" with 3/8" high letters; unless space available dictates differently.

- 21 1. Each panelboard, contactor, time switch, starter or disconnect switch. Locate on inside cover  
22 of panels.
- 23 2. Each feeder at all accessible locations.
- 24 3. Each end of empty conduit runs to indicate the intended use of the conduit and the location of  
25 opposite end. Use room numbers that are permanently assigned.

26 C. Typewritten Directory: Each panelboard both new and existing shall be provided with a typewritten  
27 directory attached to the inside of panel door and covered with clear plastic indicating load served and  
28 rooms served by each protective device in the respective panel. Spares and spaces shall be clearly  
29 identified for existing panels, trace existing circuits to confirm use.

30 D. Switch Station:

- 31 1. All key switches shall be engraved indicating controlled item.
- 32 2. All remote switches shall be engraved indicating controlled item.

33 E. Conductor Identification:

- 34 1. Identify each conductor at each wiring device, connector or splice point with permanently  
35 attached wrap-around adhesive markers as manufactured by Brady Co. or 3M.
- 36 2. This identification shall include branch circuit number, control circuit, or any other appropriate  
37 number or lettering that will expedite future tracing and trouble shooting.

#### 38 1.31 LOCATIONS OF OUTLETS AND WIRING DEVICES

39 A. Outlets:

- 40 1. Locations of outlets and electrical equipment on the drawings are approximate only. Unless  
41 otherwise indicated on the drawings or established in the specifications, the exact locations of  
42 electrical outlets shall be established in the field by directive from the Architect. Generally,  
43 outlets shall be located as required for proper installation of equipment served and otherwise  
44 locations shall be established by construction or code requirements and such as to be  
45 coordinated with equipment of other trades.
- 46 2. This Section shall consult with the Architect and refer to all details, sections, elevations and  
47 equipment plans and the plans of other trades for exact location.

1 3. The Architect reserves the right to make reasonable changes in the location of outlets,  
2 apparatus or equipment up to the time of roughing in. Such changes as directed shall be made  
3 by the Contractor without additional compensation.

4 4. Dimensions taken by scale shall not be used to establish rough-in locations.

5 B. Wiring Devices:

6 1. The approximate location of wiring devices are indicated on the drawings; the specific location  
7 shall be determined in accordance with "Location of Outlets" of these specifications and as  
8 follows.

9 2. This Section is referred to equipment plans, equipment shop drawings, elevation drawings and  
10 other detail or dimensional drawings, and he shall consult with the Architect before installation  
11 of proceeding with any work dependent upon this information.

12 3. Generally, wiring devices shall be located as follows:

13 a. Wall receptacles shall generally be centered 15" above the finished floor and 6" above  
14 surface of built-in counters and tables where same abuts wall and 4" above  
15 backsplashes if counters are so equipped.

16 b. Special purpose receptacles shall be located as required by equipment served.

17 c. Switches shall be centered 48" above finished floor on latch side of door opening with  
18 edge of plate not more than 12" from door frame, except as noted on the drawings.

19 d. In hazardous areas, the location of wiring devices shall be established by Code  
20 requirements which shall take precedence over conflicting information on the drawings  
21 or included herein.

22 1.32 TELEPHONE SYSTEM

23 A. Dane County is currently using a VOIP (voice over internet protocol) telephone system so all  
24 telephone cabling will be using same cabling used for data.

25 B. Telephone instruments, switching equipment, wiring, terminal blocks, and other accessories shall be  
26 furnished and installed by the Owner (Dane County)

27 C. This Contractor shall supply all required conduit, sleeves, and service fittings for the telephone  
28 system.

29 D. All conduits shall be complete with fish wire by this Contractor, and all telephone outlets shall be fed  
30 by a minimum 1" conduit.

31 E. All telephone boxes shall be two gang boxes with one gang plaster cover.

32 F. Verify all phone locations with the Architect in the field.

33 1.33 SEALING AND FIREPROOFING

34 A. Sealing and fireproofing of openings between conduit, cable tray, wireway, trough, cablebus, busduct,  
35 etc. and fire rated surfaces shall be the responsibility of the contractor whose work penetrates the  
36 opening.

37 B. Sealing and fireproofing shall use materials and methods complying with ASTM E814 requirements  
38 appropriate to the rating of the material penetrated.

39 C. Materials by Dow-Corning, 3M, Specified Technologies, Inc., and Chase-Foam are acceptable if in  
40 accordance with (B) above.

41 D. Submit manufacturer's penetration details to authority having jurisdiction. Details shall confirm  
42 method's compliance with ASTM E814.

43 E. Include copies of penetration details in Project Operation and Maintenance Manuals.

44 1.34 ALTERNATE BIDS

45 A. See Section 01030 for descriptions of alternates required.



SECTION 26 20 00

BASIC MATERIALS AND METHODS

PART 1 - GENERAL

1.01 SCOPE

- A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

1.02 REFERENCES

- A. National Electrical Manufacturer's Association (NEMA).
- B. Underwriters Laboratories, Inc. (UL).
- C. American Society for Testing and Materials (ASTM).
- D. National Fire Protection Association (NFPA).

1.03 SUBMITTALS

A. Product Data

- 1. Submit for disconnects, motor starters, panelboards, circuit breakers, overcurrent protective devices, transformers, and mini-power centers.
- 2. Product data sheets with printed installation instructions.

B. Shop Drawings:

- 1. Submit for motor starters.
- 2. Show enclosure dimensions, nameplate nomenclature, electrical ratings, and thermal unit schedule.
- 3. Wiring diagrams and schematics.

C. Approval of equipment supplied in this section is contingent upon Contractor verification of available fault current from electric utility.

- 1. Notify ENGINEER if available fault current is higher than specified equipment.

D. Submit in accordance with Section 01340.

E. Operation and Maintenance (O&M) Data:

- 1. Maintenance data for materials and products for inclusion in Operating and Maintenance specified in Section 01730.
- 2. Submit in accordance with Section 01340 and 01730.

F. Test Results:

- 1. Report of field tests and observations certified by Contractor.

1.04 QUALITY ASSURANCE

A. Items provided under this section shall be listed and labeled by UL or other Nationally Recognized Testing Laboratory (NRTL).

- 1. Term "NRTL" shall be as defined in OSHA Regulation 1910.7.
- 2. Terms "listed" and "labeled" shall be as defined in National Electrical Code, Article 100.

B. Regulatory Requirements:

- 1. National Electrical Code: Components and installation shall comply with NFPA 70.
- 2. Local codes and ordinances.

1 PART 2 - PRODUCTS

2 2.01 ELECTRICAL METALLIC TUBING (EMT)  
3 INTERMEDIATE METALLIC CONDUIT (IMC)  
4 GALVANIZED RIGID STEEL CONDUITS (GRS)

5 A. Manufacturers:

- 6 1. Allied Steel
- 7 2. Omega
- 8 3. Wheatland
- 9 4. Columbia

10 B. Manufacturer's standard lengths and size.

11 C. Protected inside and out by hot-dipped galvanized or electrogalvanized coating.

12 D. Minimum size: 1/2 inch.

13 E. Do not use aluminum conduit.

14 2.02 PLASTIC CONDUIT (PVC)

15 A. Manufacturers:

- 16 1. Carlon.
- 17 2. Genova.
- 18 3. Certainteed.

19 B. Standard lengths and sizes.

20 C. Schedule 40 or 80, heavy wall rigid plastic (PVC) conduit manufactured to NEMA TC2 standards,  
21 UL listed, and as required by NEC.

22 D. Rated for 90 degrees C cable.

23 E. Minimum size: 2" inches.

24 2.03 FLEXIBLE CONDUIT

25 A. Manufacturers:

- 26 1. Triangle PWC, Inc.
- 27 2. Anaconda
- 28 3. Flexsteel
- 29 4. American Flexible Conduit

30 B. Galvanized flexible steel.

31 C. Standard conduit sizes.

32 D. Minimum Size: 1/2 inch.

33 2.04 LIQUIDTIGHT FLEXIBLE CONDUIT

34 A. Manufacturers:

- 35 1. O-Z/Gedney Company
- 36 2. American Flexible Conduit
- 37 3. Flex-Guard, Inc.
- 38 4. Liquatite
- 39 5. Anaconda

40 B. Galvanized flexible steel.

- 1 C. Standard conduit sizes.
- 2 D. Minimum Size: 1/2 inch.
- 3 E. Heavy wall PVC jacket.
- 4 2.05 FITTINGS
- 5 A. Manufacturers:
- 6 1. Appleton Electric Company.
- 7 2. Steel City, American Electric.
- 8 3. Oz-Gedney Co.
- 9 B. Steel or malleable iron, zinc galvanized or cadmium plated.
- 10 C. Do not use indentor type fittings. Set screw fittings are acceptable.
- 11 D. Do not use aluminum or die cast fitting.
- 12 E. EMT IMC and GRS Connectors and Couplings:
- 13 1. Threaded.
- 14 2. Insulated throat.
- 15 3. Rain and concrete type.
- 16 F. Flexible Conduit Connectors and Couplings:
- 17 1. Threaded.
- 18 2. Insulated throat.
- 19 3. Grounding type.
- 20 G. Liquidtight Flexible Conduit Fittings:
- 21 1. Liquidtight.
- 22 2. Insulated throat.
- 23 3. Threaded.
- 24 4. Grounding type.
- 25 H. Expansion Joints:
- 26 1. Conduit expansion fittings complete with copper bonding jumper, Crouse-Hinds Type XJ.
- 27 2. Conduit expansion/deflection fittings with copper bonding jumper, Crouse-Hinds Type XD.
- 28 I. Seals:
- 29 1. Wall entrance, Appleton Type FSK or FSC.
- 30 J. Drain Fittings:
- 31 1. Automatic Drain Breather:
- 32 a. Explosionproof.
- 33 i. Safe for Class I, Groups C and D.
- 34 b. Capable of passing minimum 25 cc water/minimum and minimum 0.05 cubic foot
- 35 air/minimum at atmospheric pressure.
- 36 2. Condensate Drain:
- 37 a. Conduit outlet body, Type T.
- 38 b. Threaded, galvanized plug with 3/16 inch drilled holed through plug.
- 39 2.06 WIRES, CABLES, AND CONNECTORS
- 40 A. Manufacturers:
- 41 1. Wire and Cable:
- 42 a. Continental



- 1 b. Southwire.
- 2 c. Rome Cable.
- 3 d. Houston Wire and Cable.
- 4 e. Beldon.
- 5 f. Dekoron.
- 6 g. Royal
- 7 h. South
- 8 i. General
- 9 2. Connectors:
- 10 a. Burndy.
- 11 b. Thomas and Betts.
- 12 c. Blackburn, American Electric.
- 13 3. Electrical Tape:
- 14 a. 3M Scotch Brand.
- 15 b. Plymouth.
- 16 c. or equal.
- 17 B. Copper wire only.
- 18 C. 600 v insulation (ASTM standard compounds) and color code conductors for low voltage (secondary
- 19 feeders and branch circuits) as required by NEC.
- 20 1. Type THWN-2 Stranded: Single conductor No. 12 AWG minimum for branch circuit and
- 21 feeder conductors size No. 8 AWG and smaller.
- 22 2. Type XHHW-2 Stranded: Single conductor for branch circuits, feeders and service conductors
- 23 larger than No. 8 AWG.
- 24 3. Provide grounding conductor with same insulation as circuit conductors when run with circuit
- 25 conductors.
- 26 4. Type THWN-2 Stranded: Single conductor No. 12 AWG minimum for 120 v control wiring
- 27 and No. 14 AWG minimum for graphic indication, nonshielded instrumentation and other
- 28 control wiring operating at less than 120 v unless otherwise noted on Drawings.
- 29 a. Provide high density polyethylene jacketed multi-wire cable assemblies in underground
- 30 conduit or duct.
- 31 D. Joints, Taps, and Splices:
- 32 1. Joints, Taps, and Splices in Conductors No. 10 AWG and Smaller: UL listed compression
- 33 spring-type solderless connectors with plastic cover.
- 34 2. Joints, Taps, and Splices in Conductors No. 8 AWG and Larger: Solderless two or four-bolt
- 35 compression type connectors of type that will not loosen under vibration or normal strains.
- 36 3. Terminations: Compression-type crimp lugs.
- 37 2.07 BOXES
- 38 A. Manufacturer:
- 39 1. Interior Outlet Boxes:
- 40 a. Appleton Electric Company.
- 41 b. Raco.
- 42 c. Steel City, American Electric.
- 43 2. Weatherproof Outlet Boxes:
- 44 a. Appleton Electric Company.
- 45 b. Crouse-Hinds Company.

- 1 c. O-Z/Gedney company.
- 2 d. Perfect-Line, American Electric.
- 3 3. Junction and Pull Boxes:
- 4 a. Hoffman Engineering Company.
- 5 b. Keystone Columbia, Inc.
- 6 c. Electromate.
- 7 B. Outlet Boxes - Flush Mounted:
- 8 1. Wall Outlets: Square corner, galvanized masonry type with internally mounted ears or 4-
- 9 inches square with raised cover having square corners and internally mounted ears.
- 10 2. Ceiling Lighting Fixture Outlet Boxes: 4-inch square galvanized box with raised cover set
- 11 flush with finished surface, complete with 3/8 inch fixture stud.
- 12 C. Outlet Boxes - Surface Mounted:
- 13 1. General Use: 4-inches square with raised device cover.
- 14 2. Weatherproof: Cast galvanized with threaded hub.
- 15 3. Safety outlet enclosure - Tay Mac Co. - Verify outlet configuration.
- 16 4. Hazardous Locations: Cast galvanized approved for classification of area.
- 17 D. Junction and Pull Boxes:
- 18 1. Fabricate from code gauge galvanized steel, with covers held in-place by corrosion resistant
- 19 machine screws.
- 20 2. Size as required by code for number of conduits and conductors entering and leaving box.
- 21 3. Provide with welded seams where applicable, and equipment with corrosion resistant nuts,
- 22 bolts, screws, and washers.
- 23 4. Finish with rust inhibiting primer.
- 24 2.08 FIRE RATED THROUGH FLOOR FITTINGS
- 25 A. None required.
- 26 2.09 WIRING DEVICES
- 27 A. Manufacturers:
- 28 1. Hubbell Wiring Device Division.
- 29 2. Pass and Seymour, Inc.
- 30 3. Leviton
- 31 4. Cooper Wiring Devices
- 32 B. Fabricated Devices:
- 33 1. Factory-fabricated, specification grade wiring devices in type, color, and electrical rating for
- 34 service indicated. White color or as selected by ENGINEER OR OWNER.
- 35 2. Wiring devices of one manufacturer.
- 36 3. See Drawing symbol schedule for identification of device type.
- 37 C. Switches:
- 38 1. General Use Lighting Switches: 20-amp toggle, equal to Hubbell No. 1221-I series.
- 39 2. Switches controlling equipment, operation of which is not evident from switch position, shall
- 40 include flush neon pilot light in conjunction with proper switch. Each switch shall be complete
- 41 with engraved plate to identify equipment being controlled (white letters on black, 1/8 inch
- 42 high minimum).

- 1 D. Receptacles:
- 2 1. General use duplex receptacles: NEMA No. 5-20R, grounding type, 20-amp Hubbell No.
- 3 5362 Specification Grade.
- 4 2. Special purpose receptacles as shown on Drawings and schedules.
- 5 3. GFI receptacles shall be Hubbell GFR5352IA
- 6 E. Wiring Device Plates and Covers:
- 7 1. Wall plates for wiring devices with ganging and cut-outs as indicated, provided with metal
- 8 screws for securing plates to devices, screw heads colored to match finish of plate.
- 9 2. Plates for Flush Mounted Devices: Equal to Sierra P line specifications grade Type No. 430
- 10 brushed stainless steel.
- 11 3. Telephone outlet configuration to match telephone outlet jack or cable.
- 12 4. Device plates for surface mounted Type FS or FD boxes to be Type FSK galvanized steel.
- 13 5. Device plates for surface mounted, 4-inch square bossed to be ½ inch raised galvanized steel
- 14 covers.
- 15 6. Weatherproof outlet enclosure for exterior devices or devices in damp locations to be marked
- 16 galvanized gray cast malleable with gasketed lift cover plate as shown on Drawings. Suitable
- 17 for wet locations while in use. Enclosure must be gasketed. Provide Intermatic WP1010MC,
- 18 WP1010HMC, or WP1030MC with appropriate mounting base(s) and inserts.
- 19 2.10 MOTOR STARTERS
- 20 A. None required.
- 21 2.11 MOTOR AND CIRCUIT DISCONNECTS
- 22 A. Manufacturers:
- 23 1. Eaton/Cutler-Hammer
- 24 2. Square D
- 25 3. General Electric
- 26 B. Enclosed Circuit Breaker Construction:
- 27 1. Dual cover interlock.
- 28 2. External trip indication.
- 29 3. Provisions for control circuit interlock.
- 30 4. Padlock provisions for padlock in Off position.
- 31 5. Handle attached to box, not cover.
- 32 6. Handle position indicates On, Off or Tripped.
- 33 7. Provisions for insulated or groundable neutral.
- 34 C. Safety Switches:
- 35 1. NEMA heavy duty Type HD.
- 36 2. Dual cover interlock.
- 37 3. Visible blades.
- 38 4. Provisions for control circuit interlock.
- 39 5. Pin type hinges.
- 40 6. Tin plated current carrying parts.
- 41 7. Quick make and break operator mechanism.
- 42 8. Handle attached to box, not cover.
- 43 9. Handle position indication, On in up position and Off in down position.
- 44 10. Padlock provisions for up to 3 padlocks in Off position.

- 1 11. UL listed lugs for type and size of wire specified.
- 2 12. Spring reinforced fuse clips for Class R fuses.
- 3 13. Provisions for insulated or groundable neutral.
- 4 14. UL listed short circuit rating 200,000 RMS amp with Class R fuses.
- 5 D. Enclosures:
- 6 1. Indoor: NEMA 1 code gauge steel with rust inhibiting primer and baked enamel finish.
- 7 2. Outdoor: NEMA 3R code gauge zinc coated steel with baked enamel finish.

8 2.12 FUSES

- 9 A. Manufacturers:
- 10 1. Bussmann
- 11 2. Gould Shawmut
- 12 3. Littlefuse
- 13 4. Brush
- 14 B. 250 v. Fuses:
- 15 1. Class RK-1, 1-end rejection or to fit mountings specified, 1/10 to 600 amps, 200,000-amp
- 16 interrupting rating.
- 17 a. Gould Shawmut Tri-Onic TR-R, dual element, time delay with short circuit protection
- 18 for motor, transformer, welder, feeder, and main service protection.
- 19 C. 600v Fuses:
- 20 1. Class RK-1, 1-end rejection or to fit mountings specified, 1/10 to 600 amps, 200,000-amp
- 21 interrupting rating.
- 22 a. Gould Shawmut Tri-Onic TR-R, dual element, time delay with short circuit protection
- 23 for motor, transformer, welder, feeder and main service protection.
- 24 2. Class L, bolt-in 601 to 6,000 amps, 200,000-amp interrupting rating.
- 25 a. Gould Shawmut A48Y, time delay for overload and short circuit protection for motor,
- 26 transformer, feeder, and main service protection.
- 27 3. Class CC, fast acting, single element, 1/10 to 30 amps, 200,000-amp interrupting rating.
- 28 a. Gould Shawmut ATDR, UL listed for motor control circuits, lighting ballasts, control
- 29 transformers, and street lighting fixtures.
- 30 D. Spare Fuses:
- 31 1. 10%, minimum of 3, of each type and rating of installed fuses.
- 32 E. Spare Fuse Cabinet:
- 33 1. Cabinet: Wall-mounted, 18-gauge minimum steel unit with full-length, recessed piano-hinged
- 34 door with key coded cam lock and pull.
- 35 2. Size: Provide for orderly storage of spare fuses of this project plus 15% spare capacity,
- 36 minimum.
- 37 3. Finish: Gray baked enamel.
- 38 4. Cabinet Door: Bear legend in stencilled 1-1/2 inch high letters, "Spare Fuses."

39 2.13 PANELBOARDS

- 40 A. Panelboards are existing.

41 2.14 MOLDED CASE CIRCUIT BREAKERS

- 42 A. Manufacturers:
- 43 1. Square D to match existing panels.

1 2.15 GROUND-FAULT CIRCUIT INTERRUPTER RECEPTACLES (GFCI)

2 A. Ratings:

3 1. 120 vac.

4 2. 20 amp.

5 B. Tripping Requirement:

6 1. UL Class A.

7 C. Construction:

8 1. Shallow depth.

9 2. Line and load terminal screws.

10 3. Noise suppression.

11 4. Feed through.

12 5. Standard duplex wall plates shall fit.

13 6. NEMA 5-20R configuration.

14 D. Meet requirements of UL 943 ground-fault circuit interrupters.

15 2.16 GROUNDING AND BONDING

16 A. Products: Of types indicated and of sizes and ratings to comply with NEC. Where types, sizes,  
17 ratings, and quantities indicated are in excess of NEC requirements, more stringent requirements and  
18 greater size, rating, and quantity indications govern.

19 B. Conductor Materials: Copper.

20 C. Conform to NEC Table 8, except as otherwise indicated, for conductor properties, including  
21 stranding.

22 D. Equipment Grounding Conductor: Green insulated.

23 E. Grounding Electrode Conductor: Stranded cable.

24 F. Bare Copper Conductors:

25 1. Solid Conductors: ASTM B3.

26 2. Assembly of Stranded Conductors: ASTM B8.

27 3. Tinned Conductors: ASTM B33.

28 G. Ground Bus: Bar annealed copper bars of rectangular cross section.

29 H. Braided Bonding Jumpers: Copper tape, braided No. 30 gage bar copper wire, terminated with copper  
30 ferules.

31 I. Bonding Strap Conductor/Connectors: Soft copper, 0.05 inches thick and 2 inches wide, except as  
32 indicated.

33 J. Connector Products

34 1. General: Listed and labeled as grounding connectors for materials used.

35 2. Pressure Connectors: High-conductivity-plated units.

36 3. Bolted Clamps: Heavy-duty units listed for application.

37 4. Exothermic Welded Connections: Provide in kit form and select for specific types, sizes, and  
38 combinations of conductors and other items to be connected.

39 PART 3 - EXECUTION

40 3.01 GENERAL

41 A. Install products in accordance with NEC, manufacturer's instructions, applicable standards, and  
42 recognized industry practices to ensure products serve intended function.

- 1 3.02 CONDUITS AND CONDUIT FITTINGS
- 2 A. Complete conduit installation prior to installing cables.
- 3 B. Unless specifically indicated otherwise on Drawings, use rigid galvanized steel conduit for general  
4 wiring.
- 5 C. Provide watertight conduit system where installed in wet places, underground or where buried in  
6 masonry or concrete.
- 7 D. EMT conduit may be used for conduit sizes up to 4 inches.
- 8 E. Conduit shall be run concealed except exposed surface conduit may be installed where noted on  
9 Drawings or where concealment found to be impractical or impossible, and only with approval of  
10 ENGINEER.
- 11 F. Continuous from outlet to outlet and from outlets to cabinets, junction or pull boxes.
- 12 G. Enter and secure to boxes ensuring electrical continuity from point of service to outlets.
- 13 H. Conduit runs extending through areas of different temperature or atmospheric conditions or partly  
14 indoors and partly outdoors shall be sealed, drained, and installed in manner preventing drainage of  
15 condensed or entrapped moisture into cabinets, motors or equipment enclosures.
- 16 I. Run conduits within concrete structures parallel to each other and spaced on center of at least three  
17 times conduit trade diameter with minimum 2-inch concrete covering. Conduits over 1 inch may not  
18 be installed in slab without approval of ENGINEER.
- 19 J. Run exposed conduits parallel to or at right angles with lines of building.
- 20 K. Route conduit runs above suspended acoustical ceilings not interfering with tile panel removals.
- 21 L. Secure conduit in-place with not less than 1 malleable corrosion-proof alloy strap or hanger per 8 feet  
22 of conduit.
- 23 1. Do not use perforated strapping.
- 24 M. Connections to Motors and Equipment Subject to Vibration:
- 25 1. Flexible steel conduit not over 3 feet long or where exposed in mechanical and utility areas and  
26 not subjected to moisture, dirt, and fumes.
- 27 2. Liquidtight flexible conduit not over 3 feet long where exposed in finished areas or where  
28 subject to moisture, dirt, fumes, oil, corrosive atmosphere, exposed or concealed, with  
29 connectors to ensure liquid tight, permanently grounded connection. Locate where least  
30 subject to physical abuse.
- 31 N. Use double lock nuts and insulated bushings with threads fully engaged.
- 32 O. Connectors at fixture bodies and boxes shall be rigidly secured with galvanized lock nut and bushing.
- 33 P. Cap conduits after installation to prevent entry of debris.
- 34 Q. Install conduit expansion fittings complete with bonding jumper in following locations.
- 35 1. Conduit runs crossing structural expansion joint.
- 36 2. Conduit runs attached to two separate structures.
- 37 3. Conduit runs where movement perpendicular to axis of conduit may be encountered.
- 38 R. Install 4 feet-0 inch to 6 feet-0-inch flexible steel conduit drops from independent junction box  
39 mounted above ceiling and accessible from below ceiling to recessed ceiling mounted equipment.  
40 Allow for positioning of equipment to tile increments.
- 41 S. Negotiate beams and changes in ceiling heights with LB conduit fittings on outside corners and ells  
42 on inside corners. Arrange bends and offsets in parallel conduits to present neat symmetrical  
43 appearance.
- 44 T. In precast areas, run conduits in insulation space or in floor topping without crossing conduits, using  
45 3/4 in. maximum conduit size.

- 1 U. Core drill through reinforced concrete with approval of ENGINEER.
- 2 V. Split, crushed or scarred conduit not acceptable.
- 3 W. Do not route over boiler, incinerator or other high temperature equipment.
- 4 X. Flexible metal conduit can only be used for final connections to motors, transformers, or to light
- 5 fixtures above suspended ceilings.

6 3.03 SURFACE METAL RACEWAY

- 7 A. Mount to surface with No. 8 flathead fasteners or approved support clips.
- 8 B. Do not pinch wires.
- 9 C. Remove metal burrs and sharp edges.
- 10 D. Provide bushing.
- 11 E. Install in accordance with manufacturer's recommendations.
- 12 F. Provide covers where two lengths come together.

13 3.04 WIRE AND CABLE

- 14 A. Run wire and cable in conduit unless otherwise indicated on Drawings.
- 15 B. On branch circuits, use standard colors.
- 16 C. Each tap, joint or splice in conductors No. 8 AWG and larger shall be taped with 2 half-lap layers of
- 17 vinyl plastic electrical tape and finish wrap of color coding tape, where required by code.
- 18 D. Run ground wire with power circuits; conduit shall not be grounding path.
- 19 E. Color Coding: Conductors for lighting and power wiring as indicated below.

20	<u>Phase</u>	<u>208/120v</u>	<u>480/277v</u>
21	A	Black	Brown
22	B	Red	Orange
23	C	Blue	Yellow
24	Neutral	White	Gray
25	Ground	Green	Green

26 3.05 BOXES

- 27 A. Install knockout closures to cap unused knockout holes where blanks have been removed.
- 28 B. Locate boxes to ensure accessibility of electrical wiring.
- 29 C. Secure boxes rigidly to subsurface upon which being mounted or solidly embed boxes in concrete or
- 30 masonry. Do not support from conduit.
- 31 D. Do not burn holes, use knockout punches or saw.
- 32 E. Provide outlet box accessories as required for each installation such as mounting brackets, fixture
- 33 study, cable clamps, and metal straps for supporting outlet boxes compatible with outlet boxes being
- 34 used and meeting requirements of individual wiring situations.
- 35 F. Location of outlets and equipment shown on Drawings is approximate. Verify exact location.
- 36 G. Minor modification in location of outlets and equipment is considered incidental up to distance of 10
- 37 feet with no additional compensation, provided notification of modification is given prior to roughing
- 38 in of outlet.
- 39 H. Flush outlets shall have edges or plaster flush with finished wall or ceiling surfaces so plates can be
- 40 drawn tightly to wall or ceiling surfaces.
- 41 I. Mounting heights:
- 42 1. Shall conform to ADA guidelines.

- 1                   2.    In general, unless otherwise shown on Drawings:
- 2                   a.    Switches: 48 inches above floor to top of box.
- 3                   b.    AC Receptacles and Telephone Outlets: 15 inches above floor to bottom of box or 6
- 4                   inches above counters, counter backsplashes in finished areas; 48 inches to top of box
- 5                   above floor in unfinished areas.
- 6                   c.    Wall Bracket Lighting Fixtures: 8 inches above mirrors or 6 feet-6 inches above floor.
- 7                   d.    Pushbuttons: 48 inches above floor to top of box.
- 8                   e.    Motor Starters and Disconnect Switches: 60 inches above floor.
- 9                   i.    Thermostats: 48 inches above floor.
- 10                  f.    Bells and Horns: 8 feet-0 inches above floor.
- 11                  g.    Clocks: 8 ft.-0 inches above floor.
- 12                  h.    Fire Alarm visual signals 80" above floor.
- 13                  i.    Emergency Battery Units: 8 ft. - 0 inches above floor or 12" below ceiling.
- 14                  J.    Do not install boxes back to back or through wall. Offset outlet boxes on opposite sides of wall,
- 15                  minimum 12 inches.
- 16                  K.    Where emergency switches occur adjacent to normal light switches, install in separate boxes in
- 17                  accordance with NEC and device plate color coding separation.
- 18                  L.    Light Fixture Outlet Boxes:
- 19                   1.    Securely mount with approved type bar hangers spanning structural members to support
- 20                   weight of fixture.
- 21                   2.    Do not support from conduit.
- 22                   3.    Equip with 3/8-inches fixture stud and tapped fixture ears.
- 23    3.06   FIRE RATED THROUGH FLOOR FITTINGS
- 24            A.    None required.
- 25    3.07   WIRING DEVICES
- 26            A.    Do not install devices until wiring is complete.
- 27            B.    Do not use terminals on wiring devices (hot or neutral) for feed-through connections, looped or
- 28            otherwise. Make circuit connections by using wire connectors and pigtails.
- 29            C.    Install gasket plates for devices or system components having light emitting features such as switch
- 30            with pilot light and dome lights. Where installed on rough textured surfaces, seal with black self-
- 31            adhesive polyfoam.
- 32            D.    Ground receptacles with insulated green ground wire from device ground screw to bolted outlet box
- 33            connection or as shown on Drawings.
- 34            E.    Wrap wiring devices with insulating tape.
- 35            F.    Install emergency switches which occur adjacent to normal light switches in separate boxes to
- 36            maintain systems isolation in accordance with NEC.
- 37    3.08   OVERCURRENT PROTECTIVE DEVICES.
- 38            A.    Install fuses just prior to energizing equipment.
- 39            B.    Locate circuit breakers as shown on Drawings.
- 40            C.    Install GFCI receptacles as required by NEC.
- 41    3.09   PANELBOARDS
- 42            A.    Flush or surface mount as specified on Drawings and schedules.



- 1 B. Support panel cabinets independently to structure with no weight bearing on conduits.
- 2 C. Install recessed Panelboards to allow cover to be drawn tight against wall to provide neat appearance.
- 3 D. Install panelboards so top breaker is not higher than 6 feet-0 inches above floor.
- 4 E. Adjacent panel cabinets shall be same size and mounted in horizontal alignment.
- 5 F. Install typewritten directory in each panelboard, accurately indicating rooms or equipment being
- 6 served after final circuit changes have been made to balance circuit loads.
- 7 G. Install four spare 1 inch conduits from top of each flush mounted panelboard to area above ceiling for
- 8 future use. On flush mounted panelboards located on first and higher level floors, provide two spare 1
- 9 inch conduits from bottom of panelboard to ceiling area of floor below for future use.

10 3.10 GROUNDING AND BONDING

11 A. Application

- 12 1. Equipment Grounding Conductor Application: Comply with NEC Article 250 for sizes and
- 13 quantities of equipment grounding conductors, except where larger sizes or more conductors
- 14 are indicated.
- 15 a. Install separate insulated equipment grounding conductors with circuit conductors.
- 16 Raceway may be used as equipment ground conductor where feasible in non-hazardous
- 17 areas and permitted by NEC for lighting circuits. Install insulated equipment ground
- 18 conductor in nonmetallic raceways unless designated for telephone or data cables.

19 B. Installation

- 20 1. General: Ground electrical systems and equipment in accordance with NEC requirements
- 21 except where Drawings or Specifications exceed NEC requirements.

22 3.11 FIELD QUALITY CONTROL

23 A. Control Circuits, Branch Circuits, Feeders, Motor Circuits, and transformers:

- 24 1. Megger check to phase-to-phase and phase-to-ground insulation levels.
- 25 a. Do not megger check solid state equipment.
- 26 2. Continuity.
- 27 3. Short circuit.
- 28 4. Operational check.

29 B. Wiring Devices:

- 30 1. Test receptacles with Hubbell 5200, Woodhead 1750 or equal tester for correct polarity, proper
- 31 ground connection, and wiring faults.

32 3.12 ADJUSTMENT AND CLEANING

33 A. Circuit Breakers:

- 34 1. Adjustable settings shall be set to provide selective coordination, proper operation, and
- 35 compliance with NEC.

36 B. Restore damaged areas on PVC jacketed rigid conduit with spray type touch-up coating compound or

37 as directed by manufacturer.

38 C. Pull cleaning plug through conduits to clear of dirt, oil, and moisture.

39 END OF SECTION 26 20 00

SECTION 26 51 13

LIGHTING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

1.02 SUMMARY

- A. Section Includes:
  - 1. Interior lighting fixtures.
  - 2. Exterior lighting fixtures.
  - 3. Lamps.
  - 4. Ballasts.
  - 5. Emergency lighting units.

1.03 REFERENCES

- A. American National Standards Institute (ANSI):
  - 1. C78 Series - Lamps.
  - 2. C82.2-84 - Fluorescent Lamp Ballasts.
  - 3. C82.4-85 - Ballasts for High-Intensity-Discharge and Low-Pressure Sodium Lamps (Multiple-Supply Type).
  - 4. ANSI C2-90 - National Safety Code.
- B. Institute of Electrical and Electronics Engineers (IEEE):
  - 1. C62.41-91 - IEEE Recommended Practice on Surge Voltages in Low-Voltage AC Power Circuits.
- C. National Fire Protection Association (NFPA):
  - 1. 70-93 - National Electric Code.
- D. Underwriters Laboratory (UL):
  - 1. 844-90 - UL Standard for Safety Electric Lighting Fixtures for Use in Hazardous (Classified) Locations.
  - 2. 924-90 - UL Standard for Safety Emergency Lighting and Power Equipment.
  - 3. 935-84 - UL Standard for Safety Florescent-Lamp Ballast.
  - 4. 1092 (P) - UL Standard for Safety Proposed First Edition of the Standard for Process Control Equipment.
  - 5. 1570-88 - UL Standard for Safety Florescent Lighting Fixtures.
  - 6. 1571-91 - UL Standard for Safety Incandescent Lighting Fixtures.
  - 7. 1572-91 - UL Standard for Safety High Intensity Discharge Lighting Fixtures.
  - 8. 1573-85 - UL Standard for Safety Stage and Studio Lighting Units.
  - 9. 1574-87 - UL Standard for Safety Track Lighting Systems.
  - 10. UL 773-87 - UL Standard for Safety Plug-In, Locking Type Photo controls for Use with Area Lighting.

- 1 E. RoHS - Restriction of Hazardous Substances. Council of the European Union (EC) Directive  
2 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and  
3 electronic equipment.
- 4 F. LM-79-08 (or latest) - IES Approved Method for the Electrical and Photometric  
5 Measurements of Solid-State Lighting Products.
- 6 G. LM-80-08 (or latest) - IES Approved Method for Measuring Lumen Maintenance of LED  
7 Light Sources.
- 8 H. TM-21-11 (or latest) - IES Technical Memorandum on Projecting Long Term Lumen  
9 Maintenance of LED Light Sources.
- 10 I. NEMA SSL 1-2010 (or latest) - Electronic Drivers for LED Devices, Arrays, or Systems.

#### 11 1.04 DEFINITIONS

- 12 A. Emergency Lighting Unit: Fixture with integral emergency battery power supply and means  
13 for controlling and charging battery. Also known as emergency light set. Emergency units are  
14 available with integral lamps only.
- 15 B. Fixture: Complete lighting unit, exit sign, or emergency lighting unit. Fixtures include lamps  
16 and parts required to distribute light, position and protect lamps, and connect lamps to power  
17 supply. Internal battery powered exit signs and emergency lighting units also include battery  
18 and means for controlling and recharging battery. Emergency lighting units are available with  
19 and without integral lamp heads and lamps.
- 20 C. Luminaire: Fixture.
- 21 D. Average Life: Time after which 50% will have failed and 50% will have survived under  
22 normal conditions.

#### 23 1.05 SUBMITTALS

- 24 A. Product Data:
  - 25 1. Describe fixtures, lamps, ballasts, poles, emergency lighting units, and accessories. Arrange  
26 product data for fixtures in order of fixture designation. Include data on features and  
27 accessories and following information:
    - 28 a. Outline drawings of fixtures indicating dimensions and principal features.
    - 29 b. Electrical ratings and photometric data with specified lamps and certified results of  
30 independent laboratory tests.
    - 31 c. Data on batteries and chargers of emergency lighting units.
  - 32 B. Shop Drawings: Detail nonstandard fixtures and indicating dimensions, weights, methods of  
33 field assembly, components, features, and accessories.
  - 34 C. Samples: Submit sample of fixture if different than specified.
  - 35 D. Miscellaneous:
    - 36 1. For substitutes only, product certifications signed by manufacturers of lighting fixtures  
37 certifying that their fixtures comply with specified requirements.
    - 38 2. Warranty for rechargeable battery.
    - 39 3. Coordination drawings for fixtures that require coordination with other equipment installed in  
40 same space.
  - 41 E. Submit in accordance with Division 1.

1 1.06 QUALITY ASSURANCE

- 2 A. Items provided under this section shall be listed and labeled by UL or other Nationally  
3 Recognized Testing Laboratory (NRTL).  
4 1. Term "NRTL" shall be as defined in OSHA Regulation 1910.7.  
5 2. Terms "listed" and "labeled" shall be as defined in National Electric Code, Article 100.  
6 B. Regulatory Requirements:  
7 1. National Electric Code: Components and installation shall comply with NFPA 70.  
8 2. Comply with ANSI C2, "National Electrical Safety Code".  
9 C. Coordinate fixtures mounting hardware and trim with ceiling tile.

10 1.07 WARRANTY

- 11 A. Requirements:  
12 1. Special Project Warranty Period (Where called for herein.): 10 years, beginning on date of  
13 Substantial Completion. Full warranty shall apply for first year of period, and prorata warranty  
14 for last 9 years.  
15 2. Protection of Metal from Corrosion: Warranty against perforation or erosion of finish due to  
16 weathering.  
17 3. Color Retention: Warranty against fading, staining, chalking due to effects of weather and  
18 solar radiation.

19 PART 2 - PRODUCTS

20 2.01 FIXTURES, GENERAL

- 21 A. Comply with requirements specified in Articles below and lighting fixture schedule.

22 2.02 FIXTURE COMPONENTS, GENERAL

- 23 A. Metal Parts: Free from burrs, sharp corners, and edges.  
24 B. Sheet Metal Components: Steel, except as indicated. Form and support components to  
25 prevent warping and sagging.  
26 C. Doors, Frames, and Other Internal Access: Smooth operating and free from light leakage  
27 under operating conditions. Arrange to permit relamping without use of tools. Arrange doors,  
28 frames, lenses, diffusers, and other pieces to prevent accidental falling during relamping and  
29 when secured in operating position.  
30 D. Reflecting Surfaces: Minimum reflectances as follows, except as otherwise indicated:  
31 1. White surfaces: 85%.  
32 2. Specular Surfaces: 83%.  
33 3. Diffusing Specular Surfaces: 75%.  
34 4. Laminated Silver Metallized Film: 90%.  
35 E. Exterior Housings: Rigidly formed, weather- and light-tight enclosures that will not warp, sag,  
36 or deform in use. Provide filter/breather for enclosed fixtures.  
37 F. Exterior Exposed Hardware Material: Stainless steel.

- 1 G. Lenses, Diffusers, Covers, and Globes: 100% virgin acrylic plastic or water white, annealed
- 2 crystal glass except as indicated.
- 3 1. Plastic: Highly resistant to yellowing and other changes due to aging, exposure to heat and
- 4 UV radiation.
- 5 2. Lens Thickness: 0.125 inches, minimum.
- 6 H. Photoelectric Relay: UL 773.
- 7 1. Contact Relays: Single-throw, arranged to fail in the "on" position and factory set to turn light
- 8 unit on at 1.5 to 3 foot-candles and off at 4.5 to 10 foot-candles with 15 seconds minimum time
- 9 delay.
- 10 2. Relay Mounting: In fixture housing.

11 2.03 SUSPENDED FIXTURE SUPPORT COMPONENTS

- 12 A. Single-Stem Hangers: 1/2-inch steel tubing with swivel ball fitting and ceiling canopy. Finish
- 13 same as fixture.
- 14 B. Twin-Stem Hangers: Two, 1/2-inch steel tubes with single canopy arranged to mount single
- 15 fixture. Finish same as fixture.
- 16 C. Rod Hangers: 3/16-inch diameter cadmium plated, threaded steel rod.
- 17 D. Hook Hanger: Integrated assembly matched to fixture and line voltage and equipped with
- 18 threaded attachment, cord, and locking-type plug.

19 2.04 LED Luminaires

- 20 A. LED Luminaires shall meet all DesignLights Consortium® (DesignLights.org) Product
- 21 Qualification Criteria. This does not require that the luminaire be listed on the DesignLights
- 22 Consortium's® Qualified Products List, but they must meet the Product Qualification Criteria.
- 23 The technical requirements that the luminaire shall meet for each Application Category are:
- 24 1. Minimum Light Output.
- 25 2. Zonal Lumen Requirements.
- 26 3. Minimum Luminaire Efficacy.
- 27 4. Minimum CRI.
- 28 5. L70 Lumen Maintenance.
- 29 6. Minimum Luminaire Warranty of 5 years (not pro-rated) to include LED driver and all LED
- 30 components.

31 *Additional requirements:*

- 32
- 33 B. Color Temperature of 3000K-5000K for interior fixtures as listed in the Light Fixture
- 34 Schedule on the plans. The color temperature of exterior LED fixtures should not exceed
- 35 4100K (nominal).
- 36 C. Color Consistency: LED manufacturer shall use a maximum 3-step MacAdam Ellipse binning
- 37 process to achieve consistent fixture-to-fixture color for interior fixtures. Exterior fixtures shall
- 38 use a maximum 5-step MacAdam Ellipse binning process.
- 39 D. Glare Control: Exterior fixtures shall meet DesignLights Consortium's® criteria for Zonal
- 40 Lumen Distribution requirements or Backlight-Uplight-Glare (BUG) standards for exterior
- 41 fixtures.
- 42 E. Luminaire shall be mercury-free, lead-free, and RoHS compliant.
- 43 F. Luminaire shall comply with FCC 47 CFR part 15 non-consumer RFI/EMI standards.
- 44 G. Light output of the LED system shall be measured using the absolute photometry method
- 45 following IES LM-79 and IES LM-80 requirements and guidelines.

- 1 H. Luminaire shall maintain 70% lumen output (L70) for a minimum of 50,000 hours.  
2 I. Driver shall have a rated life of 50,000 hours, minimum.  
3 J. Lumen output shall not depreciate more than 20% after 10,000 hours of use.  
4 K. Driver and LEDs shall be furnished from a single manufacturer to ensure compatibility.  
5 L. Luminaire Color Rendering Index (CRI) shall be a minimum of 80 for interior fixtures, and a  
6 minimum of 70 for exterior fixtures.  
7 M. LED fixture shall be thermally designed as to not exceed the maximum junction temperature  
8 of the LED for the ambient temperature of the location the fixture is to be installed. Rated case  
9 temperature shall be suitable for operation in the ambient temperatures typically found for the  
10 intended installation. Exterior luminaires to operate in ambient temperatures of -20°F to 122°F  
11 (-29°C to 50°C).  
12 N. LED driver shall have a minimum power factor (pf) of 0.9 and a maximum crest factor (cf) of  
13 1.5 at full input power and across specified voltage range.  
14 O. Luminaire shall operate normally for input voltage fluctuations of plus or minus 10 percent.  
15 P. Luminaire shall have a maximum Total Harmonic Distortion (THD) of 20% at full input  
16 power and across specified voltage range.  
17 Q. Wiring connections to LED drivers shall utilize polarized quick-disconnects for field  
18 maintenance.  
19 R. All connections to luminaires shall be reverse polarity protected and provide high voltage  
20 protection in the event connections are reversed or shorted during the installation process.  
21 S. Fuse Protections: All luminaires shall have built-in fuse protection. All power supply outputs  
22 shall be either fuse protected or be Polymeric Positive Temperature Coefficient (PTC)-  
23 protected as per Class 2 UL listing.  
24 T. All luminaires shall be provided with knockouts for conduit connections.  
25 U. The LED lighting fixture shall carry a limited 5-year warranty minimum for LED light  
26 engine(s)/board array, and driver(s).  
27 V. Provide all of the following data on submittals:  
28 1. Delivered lumens  
29 2. Input watts  
30 3. Efficacy  
31 4. Color rendering index.

32  
33 *Emergency LED Fixture Compatibility with Inverters:*

- 34 W. Emergency Inverters shall be sine-wave type or have written confirmation from the luminaire  
35 manufacturer that the fixture will function with a square-wave inverter.  
36

37 *Dimming:*

- 38 X. LED driver shall be compatible with dimming controls where dimming is indicated on the  
39 plans. Dimmable drivers shall use Dimming Constant Current (DCC) or Pulse Width  
40 Modulation (PWM) operation.  
41 Y. LED fixtures shall dim to (20%, 15%, 10%, 5%, or 0.1%) as specified in the Light Fixture  
42 Schedule on the plans without visible flicker or “popcorn effect”. “Popcorn effect” is defined  
43 as the fixture being on a pre-set dimmed level (less than 100%) and going to 100% prior to  
44 returning to the pre-set level when power is returned to the fixture.  
45

- 1 2.05 EXIT SIGNS
- 2 A. Conform to UL 924.
- 3 1. Sign Colors: Conform to local code.

4 2.06 EMERGENCY LIGHTING UNITS

- 5 A. Conform to UL 924. Provide self-contained units with following features and additional
- 6 characteristics as indicated.
- 7 1. Battery: Sealed, maintenance-free, lead-acid type with 10-year nominal life minimum, and
- 8 special project warranty.
- 9 2. Charger: Minimum 2-rate, fully-automatic, solid-state type, with sealed transfer relay.
- 10 3. Operation: Relay automatically turns lamp on when supply circuit voltage drops to 80% of
- 11 nominal or below. Lamp automatically disconnects from battery when voltage approaches
- 12 deep-discharge level. Relay disconnects lamps and battery automatically recharges and floats
- 13 on trickle charge when normal voltage is restored.
- 14 4. Time-Delay Relay: Provide time-delay relay in emergency lighting unit control circuit
- 15 arranged to hold unit "on" for fixed interval after restoration of power from an outage. Provide
- 16 adequate time delay to permit HID lamps to restrike and develop output.
- 17 5. Wire Guard: Where indicated, provide heavy chrome plated wire guard arranged to protect
- 18 lamp heads or fixtures.

19 2.07 LAMPS

- 20 A. Conform to ANSI C78 series applicable to each type of lamp.

21 2.08 FINISH

- 22 A. Steel Parts: Manufacturer's standard finish applied over corrosion-resistant primer, free of
- 23 streaks, runs, holidays, stains, blisters, and defects. Remove fixtures showing evidence of
- 24 corrosion during project warranty period and replace with new fixtures.
- 25 B. Other Parts: Manufacturer's standard finish.
- 26 C. Verify and provide light fixture finishes as selected by ARCHITECT for all light fixture types.
- 27 Include colored finish selection tables with product submittals. Upon request submit actual
- 28 material finish swatches for A/E review.

29 PART 3 - EXECUTION

30 3.01 INSTALLATION

- 31 A. Setting and Securing: Set units plumb, square, and level with ceiling and walls, and secure
- 32 according to manufacturer's printed instructions and approved submittals.
- 33 B. Support For Recessed and Semi recessed Fixtures: Units may be supported from suspended
- 34 ceiling support system. Install ceiling system support rods or wires at minimum of four rods
- 35 or wires per fixture located not more than 6 inches from fixture corners.
- 36 1. Fixtures Smaller Than Ceiling Grid: Install minimum of four rods or wires for each fixture
- 37 and locate at corner of ceiling grid where fixture is located. Do not support fixtures by ceiling
- 38 acoustical panels.
- 39 2. Fixtures of Sizes Less Than Ceiling Grid: Center in acoustical panel. Support fixtures
- 40 independently with at least two 3/4-inch metal channels spanning and secured to ceiling tees.
- 41 3. Install support clips for recessed fixtures, securely fastened to ceiling grid members, at or near
- 42 each fixture corners.
- 43 C. Support for Suspended Fixtures: Brace pendants and rods that are 4 feet long or longer to
- 44 limit swinging. Support stem mounted single-unit suspended fluorescent fixtures with twin-
- 45 stem hangers. For continuous rows, use tubing or stem for wiring at one point and tubing or

1 rod for suspension for each unit length of chassis, including one at each end.

2 D. Lamping: Lamp units according to manufacturer's instructions.

3 3.02 CONCRETE FOUNDATIONS

4 A. Construct concrete foundations with 3,000-pound, 28-day concrete conforming to  
5 requirements of Division 3. Comply with details and manufacturer's recommendations for  
6 reinforcing, anchor bolts, nuts, and washers.

7 3.03 GROUNDING

8 A. Ground fixtures and metal poles according to Section 26 05 11.

9 1. Poles: Install 10-foot driven ground rod at each pole.

10 2. Nonmetallic Poles: Ground metallic components of lighting unit and foundations.  
11 Connect fixtures to grounding system with No. 6 AWG conductor.

12 3.04 FIELD QUALITY CONTROL

13 A. Inspect each installed fixture for damage. Replace damaged fixtures and components.

14 B. Give 7-day notice of dates and times for field tests.

15 C. Verify normal operation of each fixture after fixtures have been installed and circuits have  
16 been energized with normal power source.

17 D. Interrupt electrical energy to demonstrate proper operation of emergency lighting installation.

18 a. Duration of supply.

19 b. Low battery voltage shut-down.

20 c. Normal transfer to battery source and retransfer to normal.

21 d. Low supply voltage transfer.

22 E. Replace or repair malfunctioning fixtures and components, then retest. Repeat procedure until  
23 units operate properly.

24 3.05 ADJUSTING AND CLEANING

25 A. Clean fixtures upon completion of installation. Use methods and materials recommended by  
26 manufacturer.

27 B. Adjust aimable fixtures to provide required light intensities.

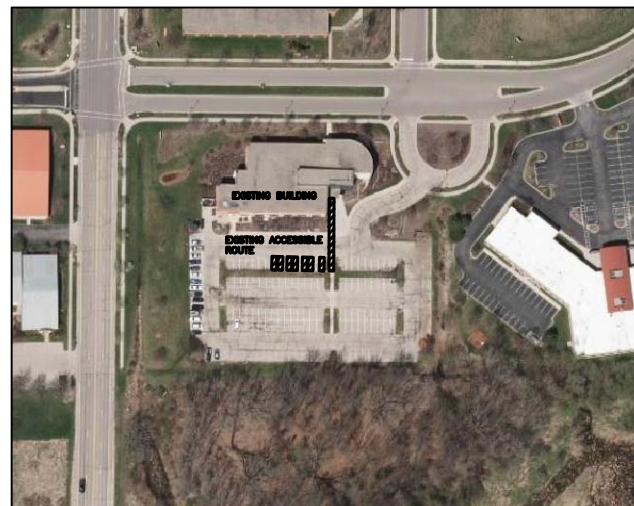
28 END OF SECTION 26 51 13



# LYMAN F. ANDERSON AGRICULTURE AND CONSERVATION CENTER KITCHEN RENOVATION 5201 FEN OAK DRIVE MADISON, WISCONSIN



**MADISON, WISCONSIN**



**KEY PLAN AND ADA ACCESSIBLE ROUTE**

## INDEX OF DRAWINGS

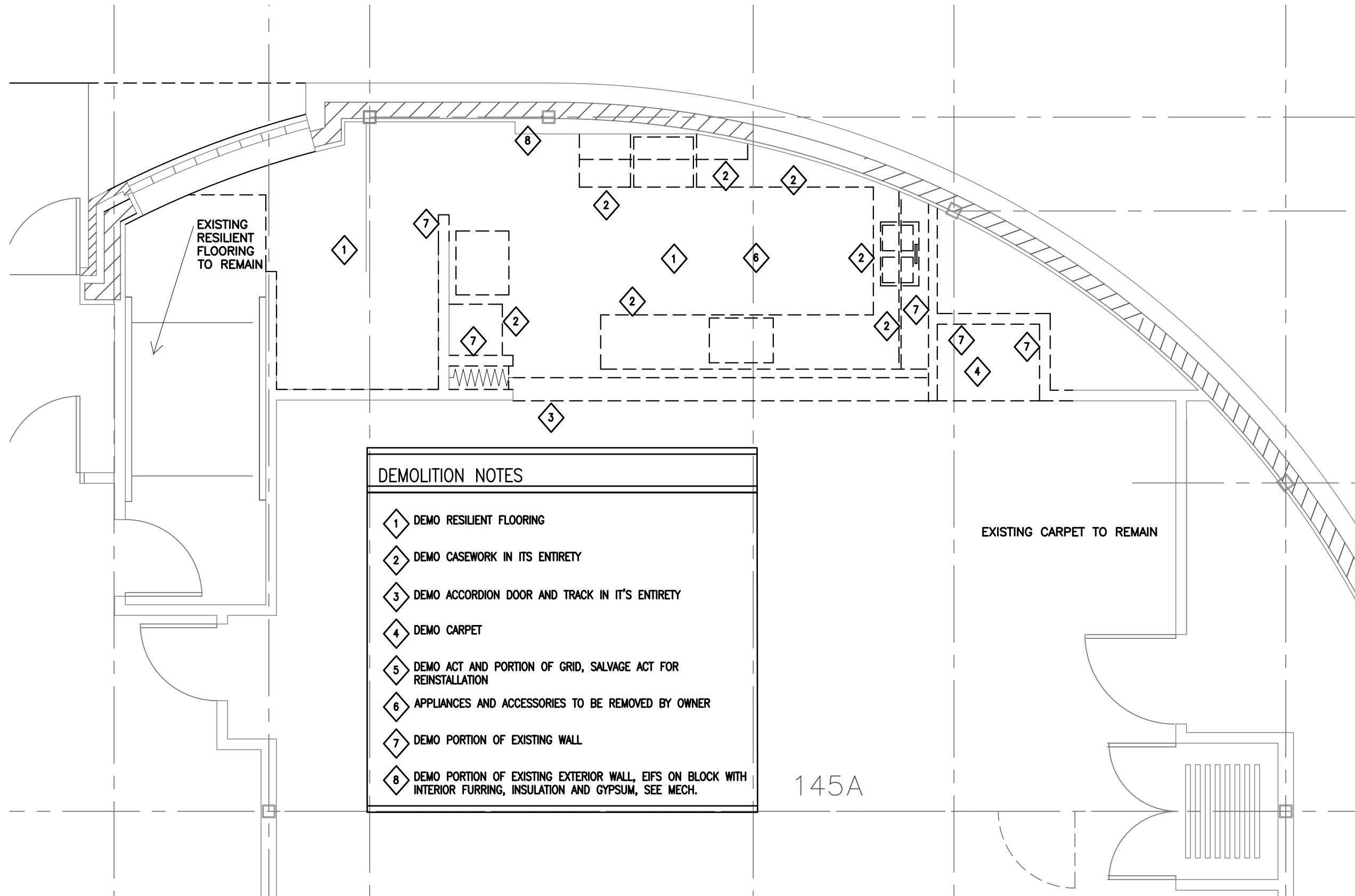
### ARCHITECTURAL

- G1.0 COVER SHEET
- G2.0 EXISTING FLOOR PLAN
- D2.1 FIRST FLOOR DEMOLITION PLAN
- D3.1 DEMOLITION REFLECTED CEILING PLAN
- A2.1 FIRST FLOOR PLAN
- A3.1 REFLECTED CEILING PLAN
- A7.0 INTERIOR ELEVATIONS, SECTIONS AND PARTITION TYPES
- A7.1 DOOR AND FRAME SCHEDULE AND ELEVATIONS, DETAILS
- FP1.0 PARTIAL FIRST FLOOR PLAN FIRE PROTECTION
- PD1.0 PARTIAL FIRST FLOOR PLAN PLUMBING DEMOLITION
- P1.0 PARTIAL FIRST FLOOR PLAN PLUMBING
- P2.0 PLUMBING SPECIFICATIONS, ABBREVIATIONS AND SYMBOLS
- MD1.0 PARTIAL FIRST FLOOR PLAN HVAC DEMOLITION
- M1.0 PARTIAL FIRST FLOOR PLAN HVAC NEW WORK
- M2.0 HVAC SCHEDULES
- M3.0 HVAC SPECIFICATIONS
- M3.1 HVAC SPECIFICATIONS
- E0.0 SHEET INDEX, SYMBOLS AND ABBREVIATIONS
- E1.0 OVERALL FIRST FLOOR PLAN
- E2.0 FIRST FLOOR LIGHTING DEMOLITION PLAN
- E2.1 FIRST FLOOR POWER AND SYSTEMS DEMOLITION PLAN
- E3.0 FIRST FLOOR LIGHTING PLAN
- E3.1 FIRST FLOOR POWER AND SYSTEMS PLAN
- E4.0 SCHEDULES AND DETAILS

## ABBREVIATIONS

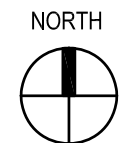
ADA	AMERICANS WITH DISABILITIES ACT	TZO	TERRAZZO
A.F.F.	ABOVE FINISHED FLOOR	U.N.O.	UNLESS NOTED OTHERWISE
AL	ALUMINUM	VCT	VINYL COMPOSITION TILE
AP	ACCESS PANEL	WD	WOOD
BB	BULLETIN BOARD	WP	WORK POINT
CG	CORNER GUARD		
CJ	CONTROL JOINT		
CMU	CONCRETE MASONRY UNIT		
CONC	CONCRETE		
CPT	CARPET		
CT	CERAMIC TILE		
CUH	CABINET UNIT HEATER		
EJ	EXPANSION JOINT		
EWC	ELECTRIC WATER COOLER		
FD	FLOOR DRAIN		
FO	FOUNDATION DRAIN SYSTEM FLUSHOUT		
FRT	FIRE TREATED		
FX-#	FIRE EXTINGUISHER AND TYPE		
GWB	GYPSON WALL BOARD		
HM	HOLLOW METAL		
MB	MARKER BOARD		
TB	TACK BOARD		
M.O.	MASONRY OPENING		
N.I.C.	NOT IN CONTRACT		
OPP	OPPOSITE		
P.LAM.	PLASTIC LAMINATE		
REV	REVERSE		
RCP	REFLECTED CEILING PLAN		
R.O.	ROUGH OPENING		
S.S.	STAINLESS STEEL		
STL	STEEL		





DEMOLITION NOTES	
1	DEMO RESILIENT FLOORING
2	DEMO CASEWORK IN ITS ENTIRETY
3	DEMO ACCORDION DOOR AND TRACK IN IT'S ENTIRETY
4	DEMO CARPET
5	DEMO ACT AND PORTION OF GRID, SALVAGE ACT FOR REINSTALLATION
6	APPLIANCES AND ACCESSORIES TO BE REMOVED BY OWNER
7	DEMO PORTION OF EXISTING WALL
8	DEMO PORTION OF EXISTING EXTERIOR WALL, EIFS ON BLOCK WITH INTERIOR FURRING, INSULATION AND GYPSUM, SEE MECH.

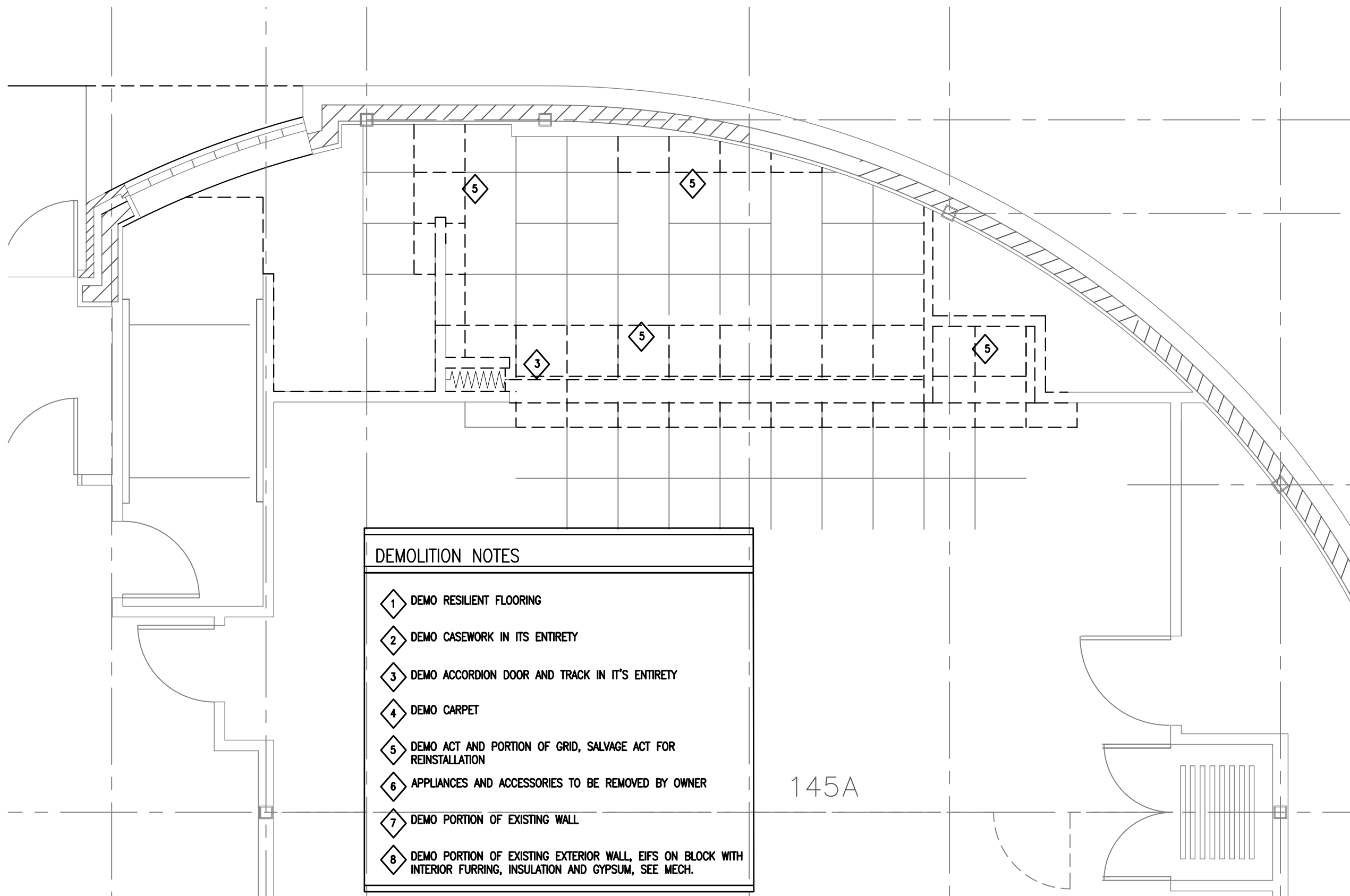
1 FIRST FLOOR DEMOLITION PLAN  
1/4"=1'-0"



**PROJECT**  
FEN DAK FIRST FLOOR  
KITCHEN RENOVATION  
  
LYMAN F. ANDERSON  
AGRICULTURE AND  
CONSERVATION  
CENTER 5201 FEN DAK  
DRIVE MADISON, WI

**DRAWING**  
FIRST FLOOR  
DEMOLITION  
PLAN  
**DATE**  
06.18.19

D2.1



DEMOLITION NOTES	
1	DEMO RESILIENT FLOORING
2	DEMO CASEWORK IN ITS ENTIRETY
3	DEMO ACCORDION DOOR AND TRACK IN IT'S ENTIRETY
4	DEMO CARPET
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7	DEMO PORTION OF EXISTING WALL
8	DEMO PORTION OF EXISTING EXTERIOR WALL, EIFS ON BLOCK WITH INTERIOR FURRING, INSULATION AND GYPSUM, SEE MECH.

145A

1 DEMOLITION REFLECTED CEILING PLAN  
1/4"=1'-0"

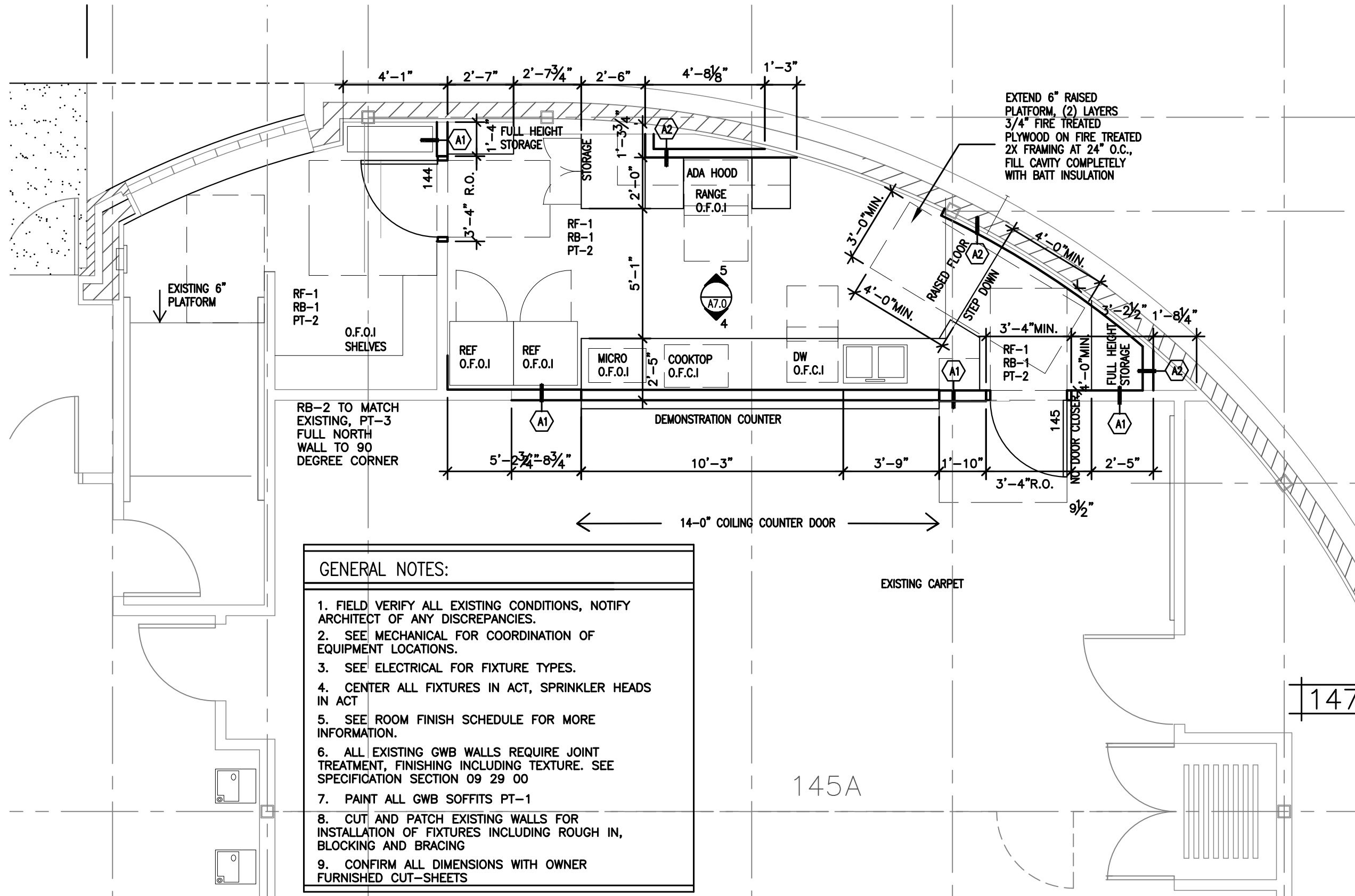
**PROJECT**  
FEN DAK FIRST FLOOR  
KITCHEN RENOVATION

LYMAN F. ANDERSON  
AGRICULTURE AND  
CONSERVATION  
CENTER 5201 FEN DAK  
DRIVE MADISON, WI

**DRAWING**  
DEMOLITION  
REFLECTED  
CEILING PLAN

**DATE**  
06.18.19

**D3.1**



**GENERAL NOTES:**

1. FIELD VERIFY ALL EXISTING CONDITIONS, NOTIFY ARCHITECT OF ANY DISCREPANCIES.
2. SEE MECHANICAL FOR COORDINATION OF EQUIPMENT LOCATIONS.
3. SEE ELECTRICAL FOR FIXTURE TYPES.
4. CENTER ALL FIXTURES IN ACT, SPRINKLER HEADS IN ACT
5. SEE ROOM FINISH SCHEDULE FOR MORE INFORMATION.
6. ALL EXISTING GWB WALLS REQUIRE JOINT TREATMENT, FINISHING INCLUDING TEXTURE. SEE SPECIFICATION SECTION 09 29 00
7. PAINT ALL GWB SOFFITS PT-1
8. CUT AND PATCH EXISTING WALLS FOR INSTALLATION OF FIXTURES INCLUDING ROUGH IN, BLOCKING AND BRACING
9. CONFIRM ALL DIMENSIONS WITH OWNER FURNISHED CUT-SHEETS

**1 FIRST FLOOR PLAN**  
1/4"=1'-0"

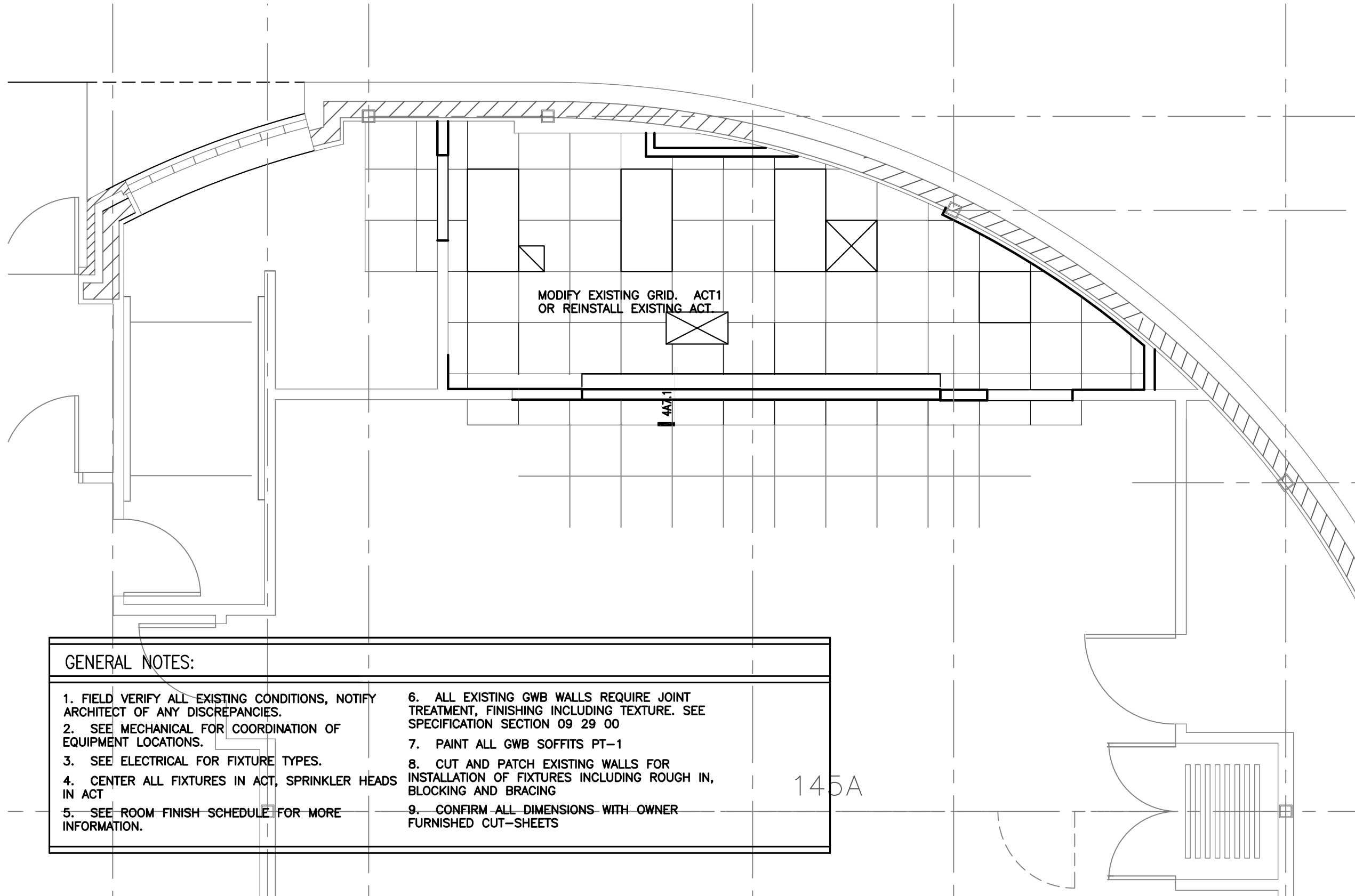


**PROJECT**  
FEN OAK FIRST FLOOR  
KITCHEN RENOVATION  
  
LYMAN F. ANDERSON  
AGRICULTURE AND  
CONSERVATION  
CENTER 5201 FEN OAK  
DRIVE MADISON, WI

**DRAWING**  
FIRST FLOOR  
PLAN

**DATE**  
06.18.19

**A2.1**



GENERAL NOTES:

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1. FIELD VERIFY ALL EXISTING CONDITIONS, NOTIFY ARCHITECT OF ANY DISCREPANCIES.</li> <li>2. SEE MECHANICAL FOR COORDINATION OF EQUIPMENT LOCATIONS.</li> <li>3. SEE ELECTRICAL FOR FIXTURE TYPES.</li> <li>4. CENTER ALL FIXTURES IN ACT, SPRINKLER HEADS IN ACT</li> <li>5. SEE ROOM FINISH SCHEDULE FOR MORE INFORMATION.</li> </ol> | <ol style="list-style-type: none"> <li>6. ALL EXISTING GWB WALLS REQUIRE JOINT TREATMENT, FINISHING INCLUDING TEXTURE. SEE SPECIFICATION SECTION 09 29 00</li> <li>7. PAINT ALL GWB SOFFITS PT-1</li> <li>8. CUT AND PATCH EXISTING WALLS FOR INSTALLATION OF FIXTURES INCLUDING ROUGH IN, BLOCKING AND BRACING</li> <li>9. CONFIRM ALL DIMENSIONS WITH OWNER FURNISHED CUT-SHEETS</li> </ol> |
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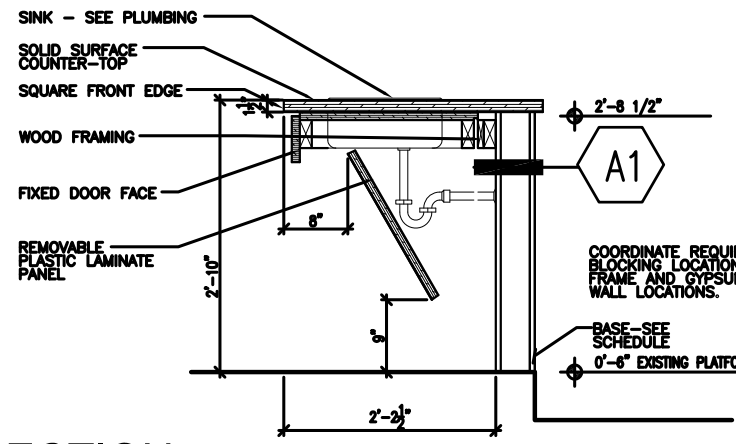
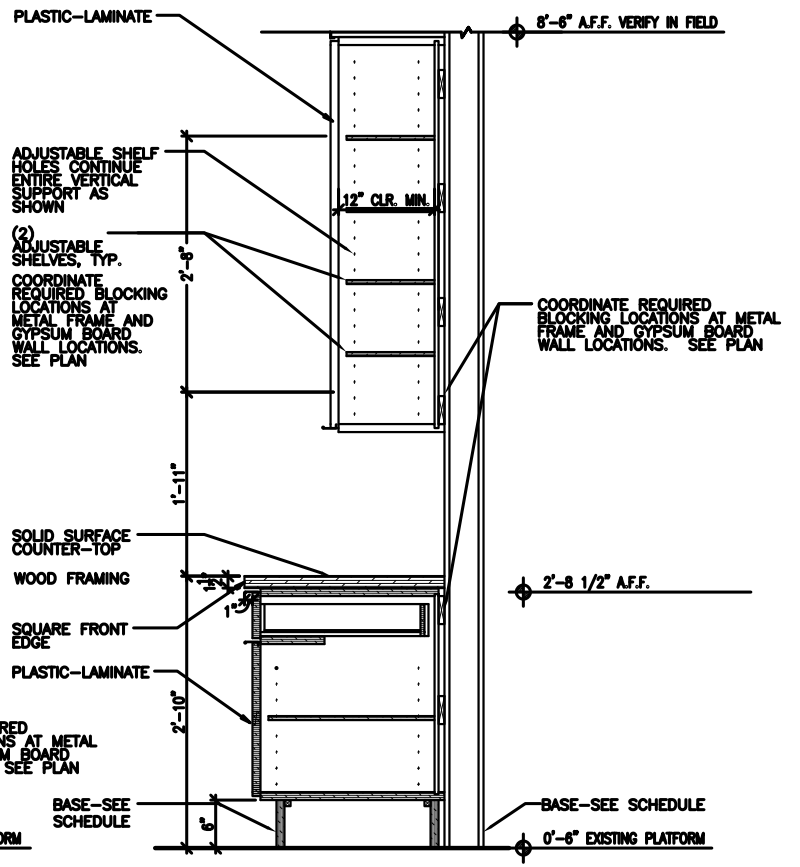
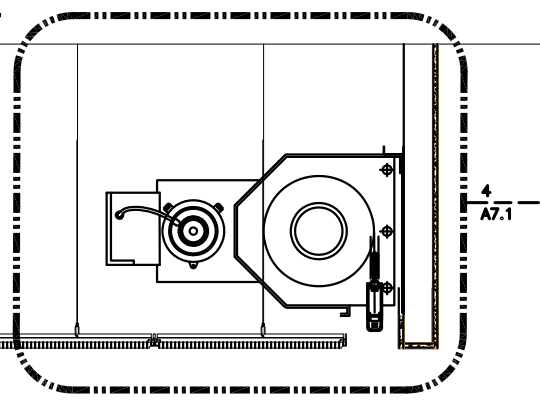
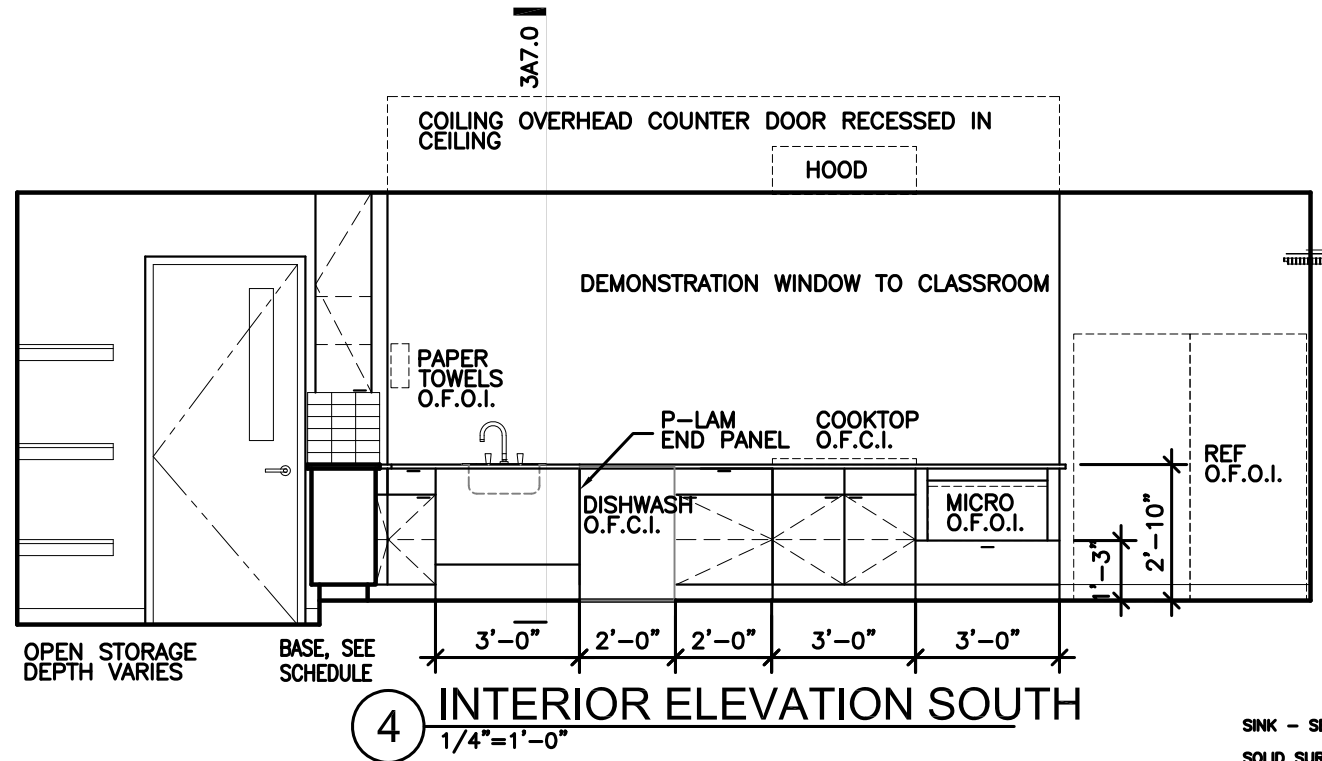
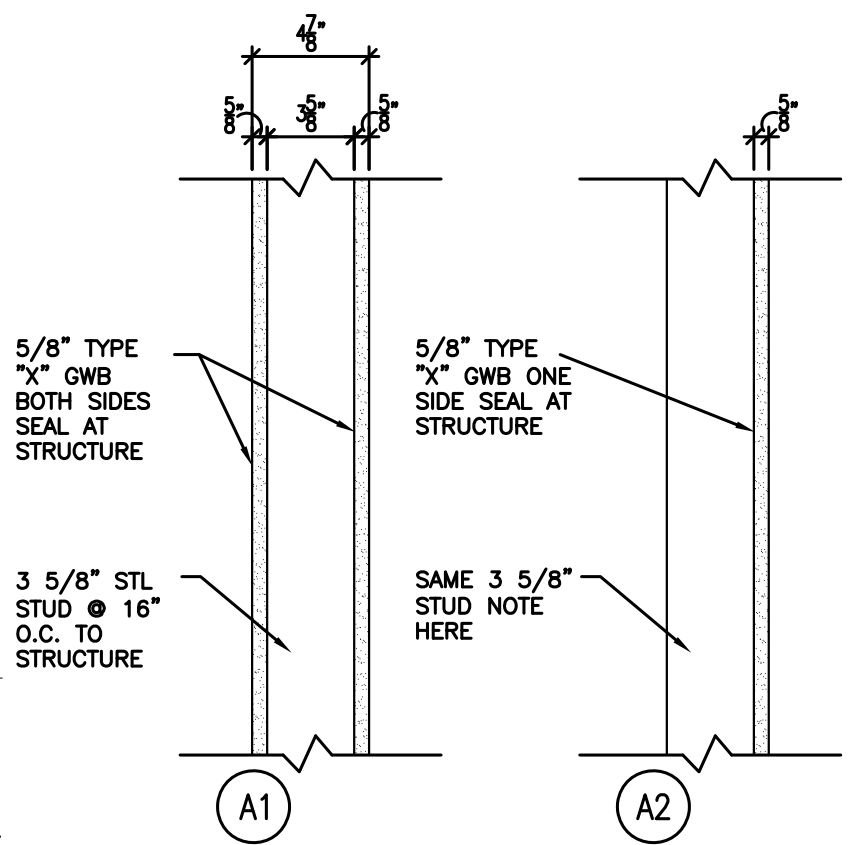
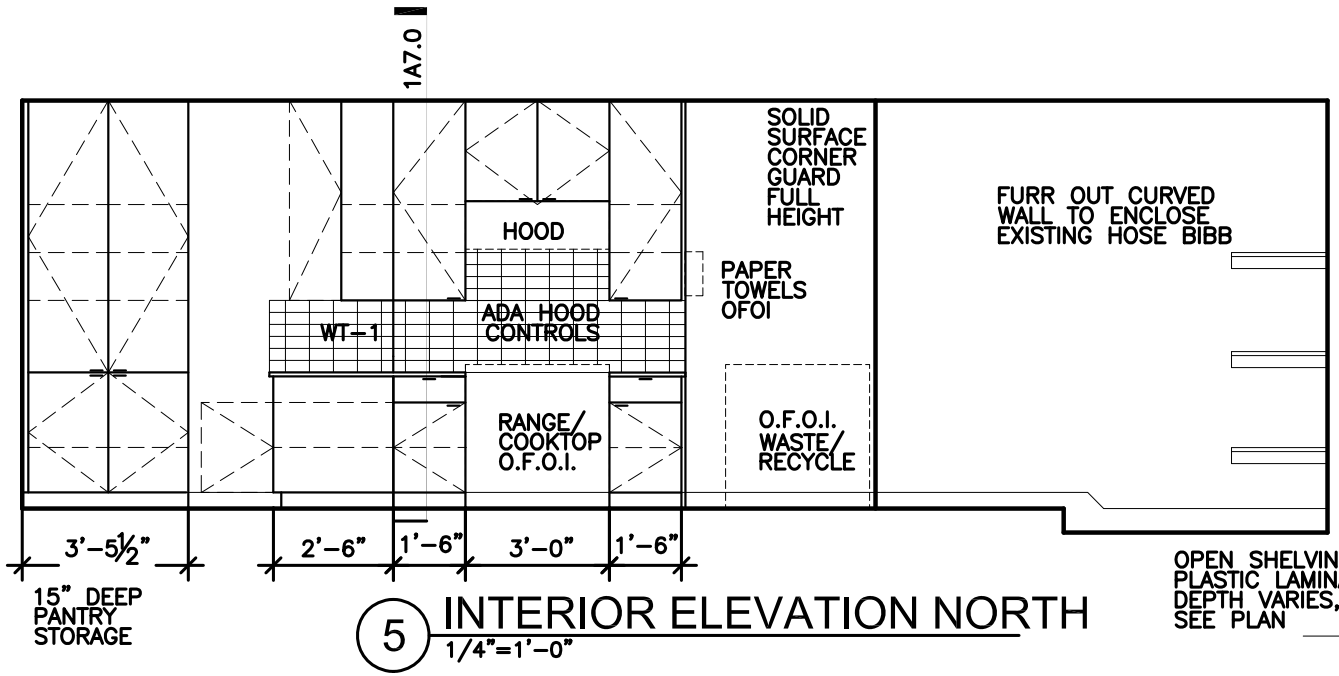
1 REFLECTED CEILING PLAN  
1/4"=1'-0"

**PROJECT**  
FEN DAK FIRST FLOOR  
KITCHEN RENOVATION  
  
LYMAN F. ANDERSON  
AGRICULTURE AND  
CONSERVATION  
CENTER 5201 FEN DAK  
DRIVE MADISON, WI

**DRAWING**  
REFLECTED  
CEILING PLAN

**DATE**  
06.18.19

A3.1



PROJECT  
FEN DAK FIRST FLOOR  
KITCHEN RENOVATION

LYMAN F. ANDERSON  
AGRICULTURE AND  
CONSERVATION  
CENTER 5201 FEN DAK  
DRIVE MADISON, WI

DRAWING  
INTERIOR ELEVATIONS,  
SECTIONS AND PARTITION  
TYPES  
DATE  
06.18.19

A7.0

DOOR AND FRAME SCHEDULE																
DOOR NO.	QNTY	DOOR							FRAME			FIRE LABEL	HDWR GROUP	REMARKS		
		SIZE			MATERIAL	ELEV	GLASS	LOUVER OR UNDERCUT	MATL	ELEV	DETAILS					
		W	H	T							HEAD				JAMB	SILL
144	1	3-0	7-0	-	WD	A	GLT 4	-	HM	1	1/A7.1	1/A7.1	-	-	1A	
145	1	3-0	7-0	-	WD	A	GLT 4	-	HM	1	1/A7.1	1/A7.1	-	-	1A	

GENERAL NOTES:

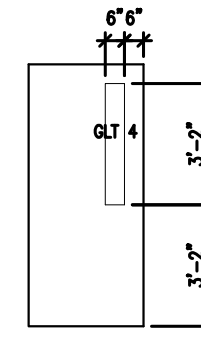
1. PAINT HM FRAMES, EXISTING HM DOORS AND FRAMES SCHEDULED AND EXISTING NOTED ON PLAN TO MATCH OWNER'S SAMPLE.
2. STAIN WOOD DOORS TO MATCH OWNER'S SAMPLE.
3. FIELD VERIFY ALL DIMENSIONS.
4. REFER TO SHEET A7.0 FOR HOLLOW METAL FRAME ELEVATIONS.

LEGEND

- AL ALUMINUM
- HM HOLLOW METAL
- WD WOOD
- UC UNDERCUT

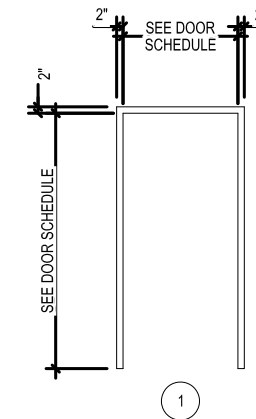
REMARKS:

1. PAINT ALL HM DOOR FRAMES.
2. FIELD VERIFY DOOR DIMENSIONS TO MATCH EXISTING DOOR HEIGHTS.

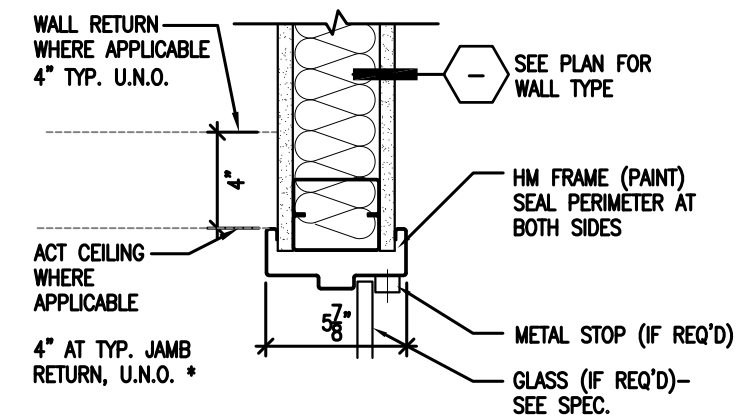


**A**  
NARROW LIGHT

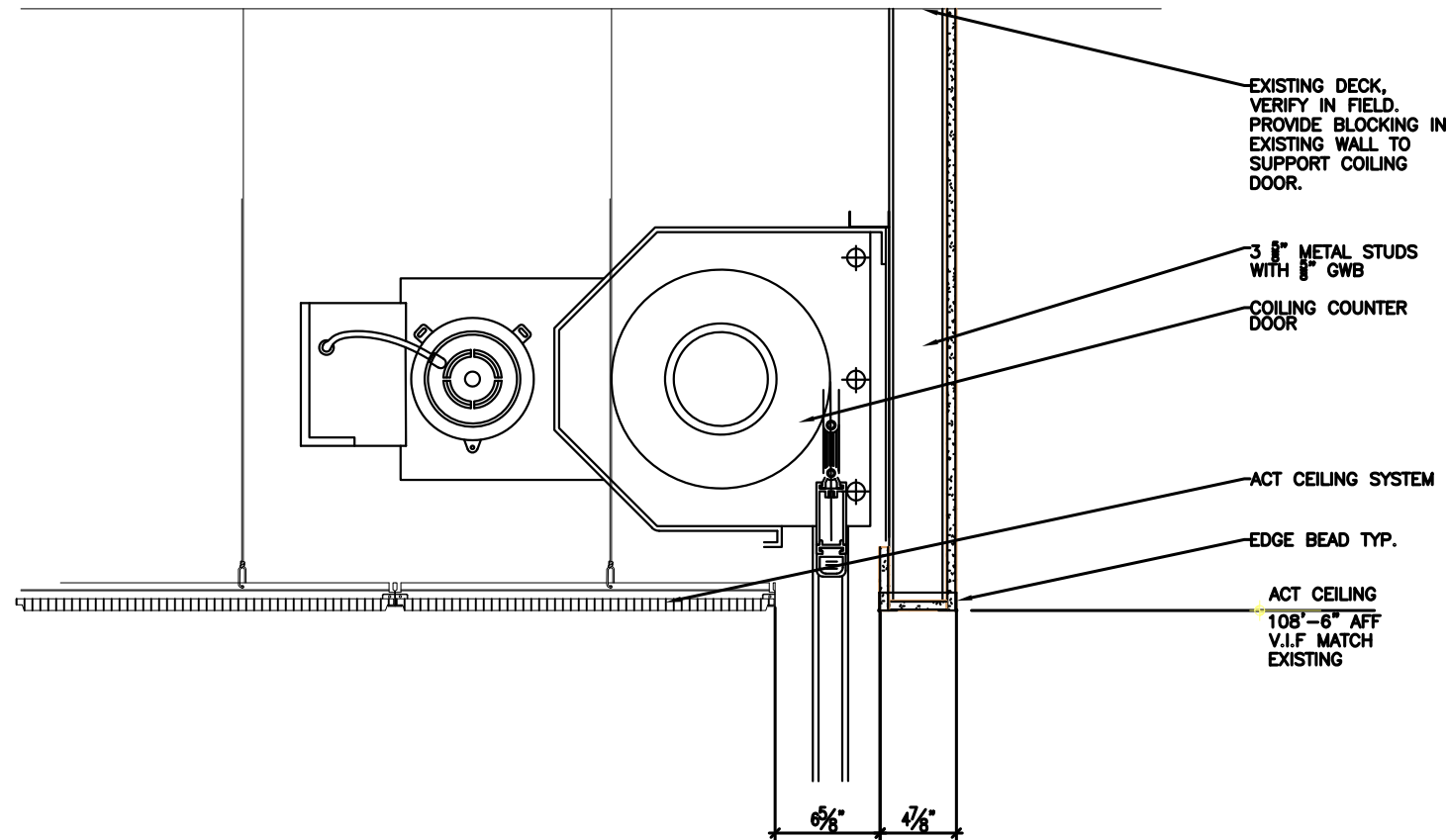
**3** DOOR ELEVATIONS  
1/4"=1'-0"



**2** DOOR FRAME ELEVATIONS  
1/4"=1'-0"



**1** DETAIL  
1/4"=1'-0"



**4** DETAIL  
1/4"=1'-0"

**PROJECT**  
FEN DAK FIRST FLOOR  
KITCHEN RENOVATION  
  
LYMAN F. ANDERSON  
AGRICULTURE AND  
CONSERVATION  
CENTER 5201 FEN DAK  
DRIVE MADISON, WI

**DRAWING**  
DOOR AND FRAME  
SCHEDULE AND  
ELEVATIONS, DETAILS

**DATE**  
06.18.19

**A7.1**



**FIRE PROTECTION SPECIFICATIONS**

GENERAL:  
APPLICABLE PROVISIONS OF DIVISION 1 GOVERN WORK UNDER THESE SPECIFICATIONS.

ALL PRODUCTS AND MATERIALS USED ARE TO BE NEW, UNDAMAGED, CLEAN AND IN GOOD CONDITION. EXISTING PRODUCTS AND MATERIALS ARE NOT TO BE USED UNLESS SPECIFICALLY INDICATED.

DO NOT INTERRUPT OR CHANGE EXISTING SPRINKLER PIPING WITHOUT WRITTEN APPROVAL FROM THE OWNER'S PROJECT REPRESENTATIVE. COORDINATE SCHEDULING OF DOWN-TIME WITH THE OWNER TO MINIMIZE DISRUPTION OF SERVICES.

COMPLY WITH REQUIREMENTS OF WISCONSIN ADMINISTRATIVE CODE, DEPT. OF SAFETY AND PROFESSIONAL SERVICES, NFPA STANDARDS AND LOCAL FIRE CHIEF OR FIRE MARSHAL (AHJ, AUTHORITY HAVING JURISDICTION) REGARDING DESIGN, MATERIALS AND INSTALLATION.

DESIGN CRITERIA  
THE AUTOMATIC SPRINKLER SYSTEM SHALL BE DESIGNED TO PROVIDE A MINIMUM DENSITY OF 0.10 GPM/SQ.FT. OVER THE HYDRAULICALLY MOST REMOTE 1,500 SQ. FT. USING 1/2", 165 DEGREE F. RATED QUICK RESPONSE SPRINKLERS, WHILE ALLOWING A 250 GPM HOSE STREAM ALLOWANCE.

OBTAIN AND PAY FOR ALL REQUIRED STATE OR LOCAL INSTALLATION INSPECTIONS EXCEPT THOSE PROVIDED BY THE ARCHITECT/ENGINEER. DELIVER ORIGINALS OF NFPA TEST CERTIFICATES AND TEST REPORTS TO THE DANE COUNTY CONSTRUCTION REPRESENTATIVE. INCLUDE COPIES OF THE CERTIFICATES AND REPORTS IN THE OPERATING AND MAINTENANCE INSTRUCTIONS.

SUBMIT PRODUCT DATA ON SPRINKLER PIPING/FITTINGS, AND SPRINKLER HEADS.  
SUBMIT ONE (1) COPY OF O & M MANUALS TO THE DANE COUNTY PUBLIC WORKS, AND DANE COUNTY FACILITIES MANAGEMENT.

**PRODUCTS**

FIRE SUPPRESSION PIPING  
BLACK STEEL PIPE WELDED AND SEAMLESS, TYPE F, GRADE A, ASTM A53; BLACK WELDED AND SEAMLESS SEL PIPE FOR PROTECTION USE, TYPE F, ASTM A795; ELECTRIC RESISTANCE WELDED STEEL PIPE, GRADE A, ASTM A135.

PIPE WALL THICKNESS--  
THREADED PIPE SHALL HAVE A MINIMUM WALL THICKNESS OF SCHEDULE 40.  
ALL OTHER PIPE SHALL HAVE A MINIMUM WALL THICKNESS OF SCHEDULE 10.

**SPRINKLER HEADS**

MANUFACTURER: SPRINKLER HEAD MODEL NUMBERS ESTABLISH TYPE AND STYLE OF HEAD. PRODUCTS OF THE FOLLOWING MANUFACTURERS DETERMINED TO BE EQUAL THE ARCHITECT/ENGINEER WILL BE ACCEPTED: TYCO, RELIABLE, VICTAULIC, VIKING, AND STAR.

STANDARD COVERAGE SPRINKLER HEADS ARE TO BE THE BASIS FOR DESIGN UNLESS OTHERWISE ON THE PLANS OR WITHIN THESE SPECIFICATIONS.

FLEXIBLE SPRINKLER DROP FITTINGS  
CORRUGATED TYPE 304 STAINLESS STEEL HOSE WITH BRAIDED TYPE 304 STAINLESS STEEL EXTERIOR COVER, WELDED STAINLESS STEEL OR ZINC PLATED STEEL INLET AND OUTLET THREADED FITTINGS WITH EPDM SEALS. 175 PSI PRESSURE RATING, 225 DEGREE F. TEMPERATURE RATING, 1" MINIMUM INTERNAL HOSE DIAMETER, 40' MAXIMUM HOSE LENGTH, STRAIGHT OR ANGLE OUTLET CONFIGURATION. GALVANIZED STEEL CEILING SUPPORT BAR AND BRACKETS SELECTED TO MATCH PROJECT CEILING SUPPORT SYSTEM REQUIREMENTS. UL LISTED AND FM APPROVED.  
FLEXIBLE DROPS ARE ONLY ALLOWED FOR USE ABOVE FULLY ACCESSIBLE ACT CEILINGS.

EXECUTION  
INSTALL PIPE/FITTINGS AND OTHER FIRE SUPPRESSION COMPONENTS IN ACCORDANCE WITH REFERENCE STANDARDS, MANUFACTURERS RECOMMENDATIONS AND RECOGNIZED INDUSTRY PRATICES.

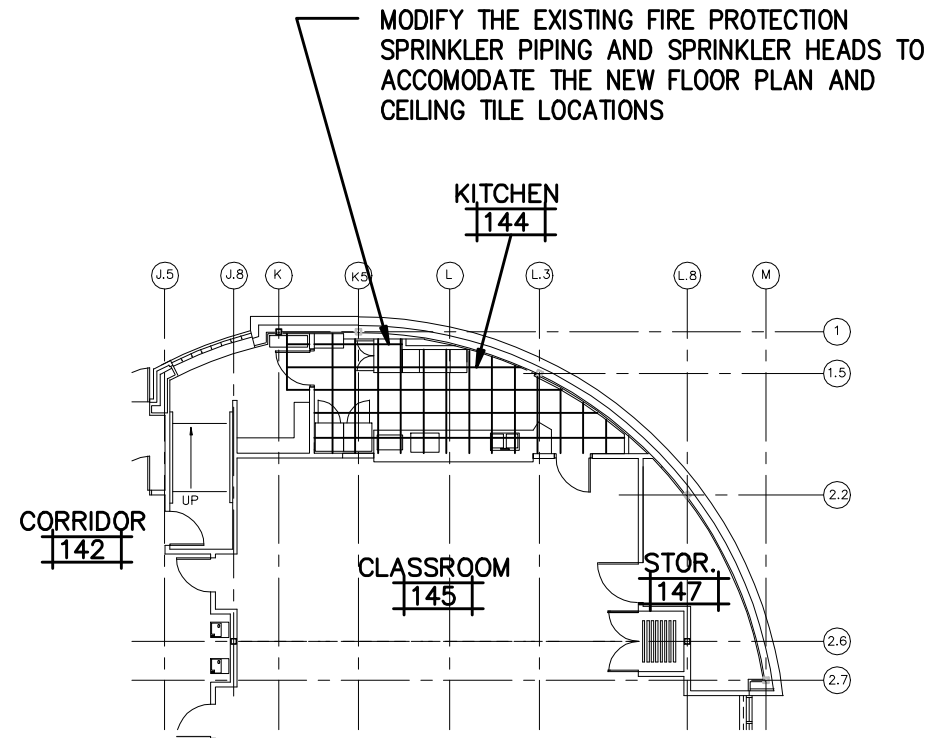
INSTALL PIPING SO THAT SYSTEM CAN BE DRAINED. MAINTAIN PIPING IN CLEAN CONDITION INTERNALLY DURING CONSTRUCTION. PROVIDE CLEARANCE FOR ACCESS TO VALVES AND PIPING SPECIALTIES.

LOCATE SPRINKLER HEADS AS INDICATED ON FIRE PROTECTION PLAN AND REFLECTED CEILING PLAN MAINTAINING MINIMUM CLEARANCES FROM OBSTRUCTIONS, CEILINGS AND WALLS. INSTALL SPRINKLER HEADS LEVEL IN LOCATIONS NOT SUBJECT TO SPRAY PATTERN INTERFERENCE. PROVIDE FIRE SPRINKLER HEAD INSTALLATIONS BELOW DUCTWORK, SOFFITS, ETC. SPRINKLER HEADS SHALL BE LOCATED IN THE CENTER OF CEILING TILES, A ONE INCH TOLERANCE WILL BE ACCEPTABLE.

INSTALL FLEXIBLE SPRINKLER DROP FITTINGS IN ACCORDANCE WITH MANUFACTURES INSTALLATION INSTRUCTIONS FOLLOWING MINIMUM BEND RADI, MAXIMUM NUMBER OF BENDS AND BEND DISTANCE FROM END REQUIREMENTS.

PIPING SYSTEM TESTS  
CONDUCT PRESSURE TEST WITH TEST MEDIUM OF WATER. IF LEAKS ARE FOUND, REPAIR THE AREA WITH NEW MATERIALS AND REPEAT THE TEST.  
TEST SYSTEM AT 200 PSI FOR 2 HOURS SHOWING NOT LEAKAGE. ALL PRESSURE TESTS ARE TO BE DOCUMENTED ON NFPA CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FORMS. ENTIRE TEST MUST BE WITNESSED BY THE DIVISION'S REPRESENTATIVE.

END



**A** PARTIAL FLOOR PLAN – FIRE PROTECTION NEW WORK  
SCALE: 1/16" = 1'-0"

Architecture  
Planning

Dorschner/Associates, Inc.  
948 E Washington Ave Ste 112  
Madison, Wisconsin 53708

**SPD**  
SELECT PLUMBING DESIGN, LLC

4564 EVERGREEN ROAD  
MIDDLETON, WI 53562

(608) 836-9674

180928

**PROJECT**

FEN OAK FIRST FLOOR  
KITCHEN RENOVATION

LYMAN F. ANDERSON  
AGRICULTURE AND  
CONSERVATION CENTER  
5201 FEN OAK DRIVE  
MADISON, WI

**DRAWING**

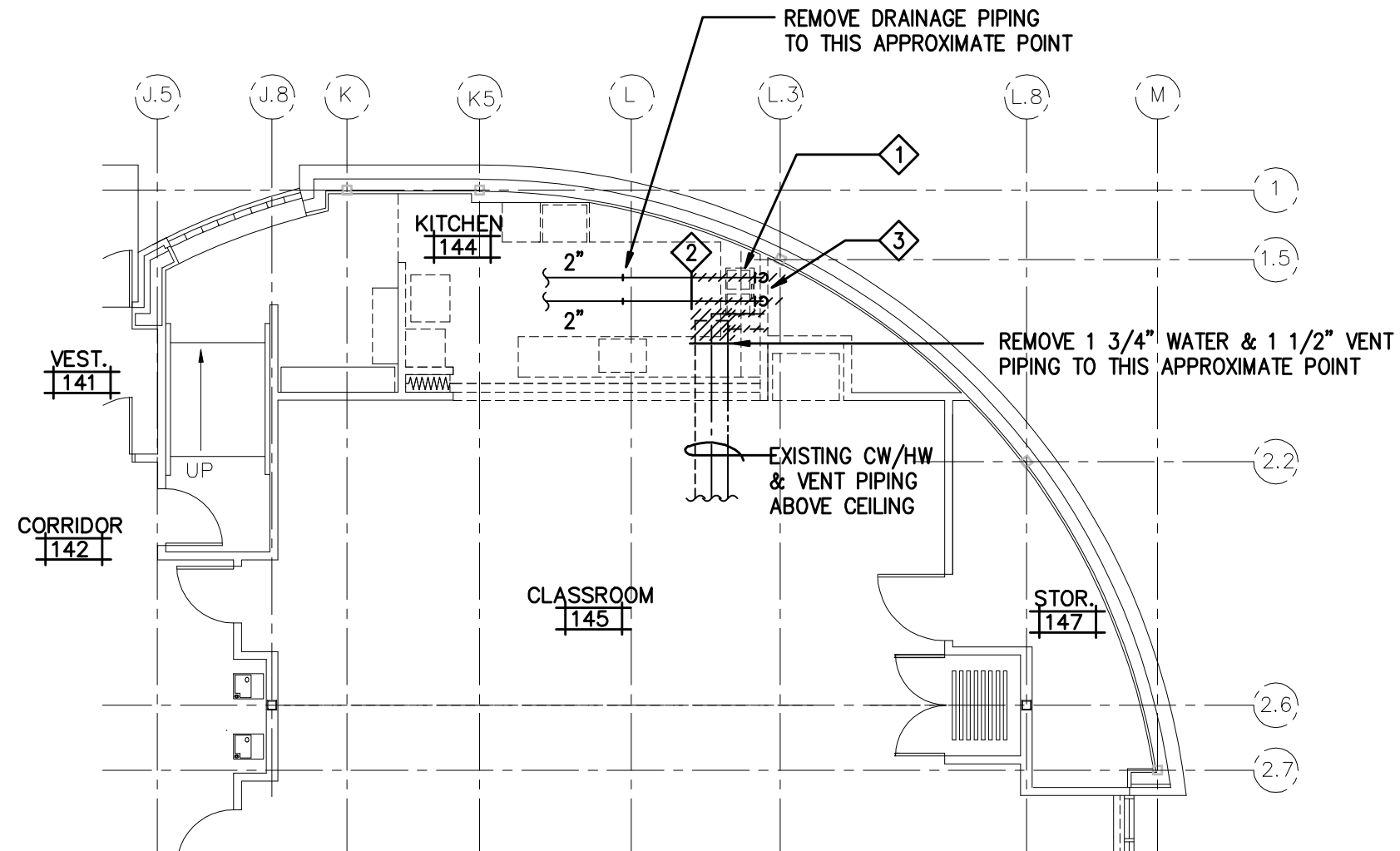
PARTIAL FIRST FLOOR  
PLAN FIRE  
PROTECTION  
FP100

**DATE**

JUNE 13, 2019

**PLUMBING DEMOLITION KEY NOTES**

- 1 REMOVE TWO COMPARTMENT STAINLESS STEEL SINK, INCLUDING FAUCET, GARBAGE DISPOSER, P-TRAP, SUPPLIDS/STOPS AND RELATED WATER VENT AND DRAINAGE PIPING.
- 2 SAW CUT FLOOR AND EXCAVATE TO EXPOSE AND REMOVE TWO (2) INCH WASTE PIPING.
- 3 REMOVE COLD / HOT AND VENT PIPING TO ABOVE CEILING AS NOTED.



**A** PARTIAL FLOOR PLAN – PLUMBING DEMOLITION WORK  
PD100 SCALE: 1/8" = 1'-0"

**PROJECT**  
FEN OAK FIRST FLOOR  
KITCHEN RENOVATION  
  
LYMAN F. ANDERSON  
AGRICULTURE AND  
CONSERVATION CENTER  
5201 FEN OAK DRIVE  
MADISON, WI

**DRAWING**  
PARTIAL FIRST FLOOR  
PLAN PLUMBING  
DEMOLITION  
PD100  
**DATE**  
JUNE 13, 2019

Architecture  
Planning

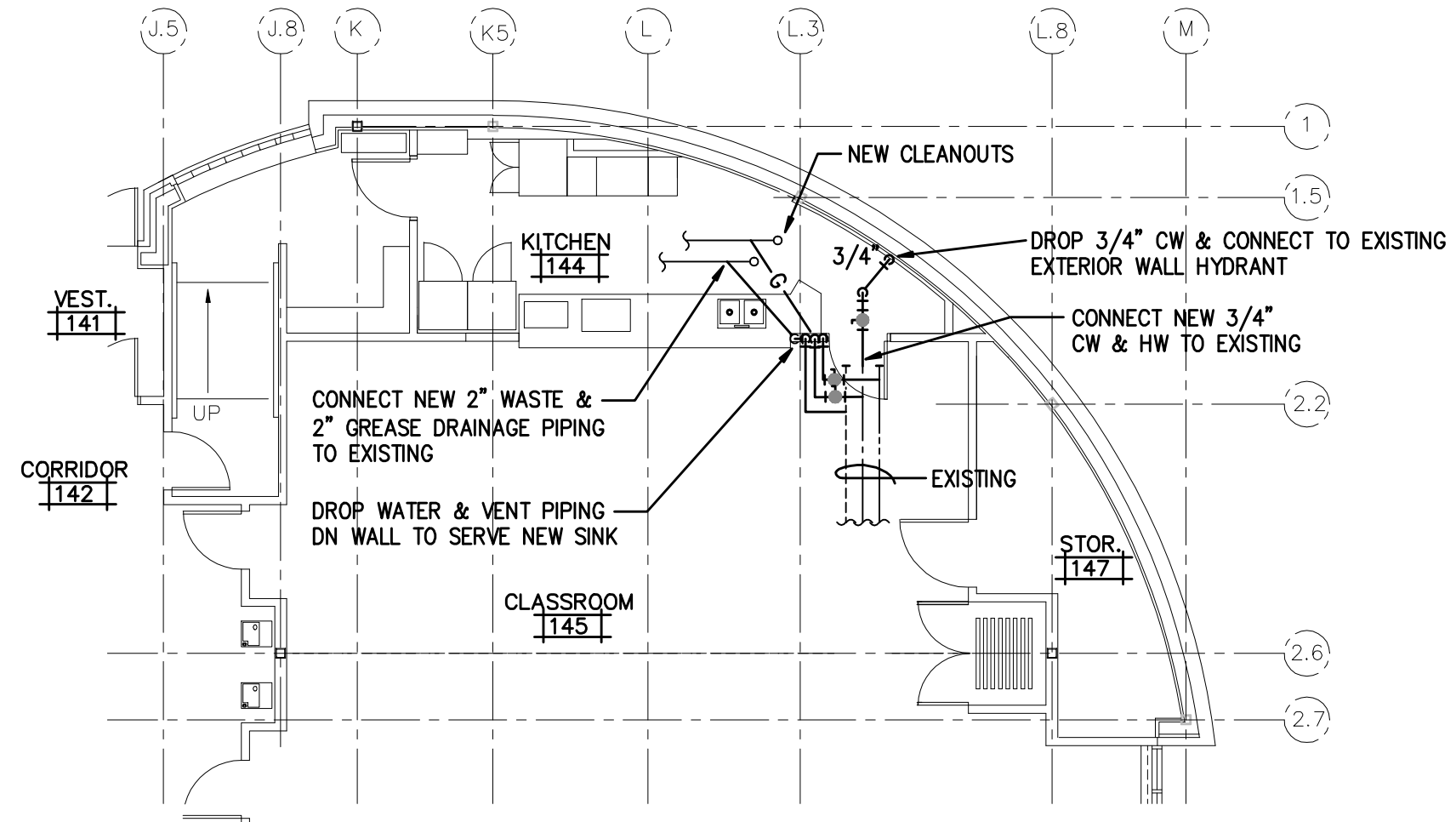
Dorschner Associates, Inc.  
849 E Washington Ave Ste 112  
Madison, Wisconsin 53703

**SPD**  
SELECT PLUMBING DESIGN, LLC  
4564 EVERGREEN ROAD  
MIDDLETON, WI 53562  
(608) 836-9674

**ISSUED**

GENERAL PLUMBING NOTES:

1. VERIFY UTILITY INFORMATION WITH LOCAL UTILITY COMPANIES. VISIT BUILDING SITE AND BECOME THOROUGHLY FAMILIAR WITH ALL EXISTING CONDITIONS AFFECTING THE WORK.
2. VERIFY ALL MEASUREMENTS, PIPE SIZES, PIPE LOCATIONS, ELEVATIONS, ETC, AT ALL SITES.
3. DRAWINGS OF ALL OTHER TRADES SHALL BE REVIEWED. COORDINATE THE INSTALLATION AND SCHEDULING OF THE WORK WITH OTHER TRADES TO PREVENT INTERFERENCE WITH THEIR RESPECTIVE INSTALLATION.
4. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF THE PLUMBING FIXTURE S-1 AND LAYOUT.
5. IT IS THE INTENT OF THESE DRAWINGS THAT A COMPLETE WORKING SYSTEM PROPERLY TESTED WILL BE OPERATIONAL UPON COMPLETION OF INSTALLATION.
6. THE DRAWINGS ARE SCHEMATIC IN NATURE. ALL REQUIRED OFFSETS, FITTINGS AND SUPPORTS SHALL BE INCLUDED IN THE BASE BID TO ACCOMMODATE ACTUAL FIELD CONDITIONS. FINAL LOCATIONS OF ALL WORK SHALL BE COORDINATED IN THE FIELD AND INSTALLED WHERE DIRECTED BY THE OWNERS REPRESENTATIVE.



**A**  
**P100** PARTIAL FLOOR PLAN – PLUMBING NEW WORK  
SCALE: 1/8" = 1'-0"

**PROJECT**  
FEN OAK FIRST FLOOR  
KITCHEN RENOVATION  
  
LYMAN F. ANDERSON  
AGRICULTURE AND  
CONSERVATION CENTER  
5201 FEN OAK DRIVE  
MADISON, WI

**DRAWING**  
PARTIAL FIRST FLOOR  
PLAN PLUMBING

P100  
**DATE**  
JUNE 13, 2019

**PLUMBING SPECIFICATIONS**

GENERAL:  
 APPLICABLE PROVISIONS OF DIVISION 1 GOVERN WORK UNDER THESE SPECIFICATIONS.

ALL PRODUCTS AND MATERIALS USED ARE TO BE NEW, UNDAMAGED, CLEAN AND IN GOOD CONDITION. EXISTING PRODUCTS AND MATERIALS ARE NOT BE REUSED UNLESS SPECIFICALLY INDICATED.

DO NOT INTERRUPT OR CHANGE EXISTING SERVICES WITHOUT WRITTEN APPROVAL FROM THE OWNER'S PROJECT REPRESENTATIVE. COORDINATE SCHEDULING OF DOWN-TIME WITH THE OWNER TO MINIMIZE DISRUPTION OF SERVICES.

OBTAIN AND PAY FOR ALL REQUIRED CITY OF MADISON OR STATE OF WISCONSIN INSTALLATION INSPECTIONS IN ACCORDANCE WITH WIS. ADMIN. CODE SECTION ILHR 50.12.

SUBMIT PRODUCT DATA ON PLUMBING FIXTURES, DWV AND WATER PIPING.

SUBMIT ONE (1) COPY OF O & M MANUALS TO THE DANE COUNTY PUBLIC WORKS, AND DANE COUNTY FACILITIES MANAGEMENT.

PROVIDE REQUIRED CUTTING AND PATCHING TO COMPLETE WORK. REFER TO DIVISION 1 - BASIC REQUIREMENTS.

PRODUCTS:  
 SANITARY WASTE AND VENT PIPING  
 BELOW GROUND-  
 PVC PLASTIC PIPE, SCHEDULE 40, CLASS 12454-B (PVC 1120), ASTM D1785; PVC PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM D2665; SOCKET FITTINGS PATTERNS, ASTM D3311, PRIMER ASTM F656; SOLVENT CEMENT, ASTM D2564.

CAST IRON SOIL PIPING AND FITTINGS, HUB AND SPIGOT, SERVICE WEIGHT ASTM A74, WITH NEOPRENE RUBBER COMPRESSION GASKETS, ASTM C564, CISPI 301 AND CISPI HSN 85. PIPE AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON PIPE INSTITUTE.

ABOVE GROUND-  
 PVC PLASTIC PIPE, SCHEDULE 40, CLASS 12454-B (PVC 1120), ASTM D1785; PVC PLASTIC DRAIN AND VENT PIPE FITTINGS, ASTM D2665; SOCKET FITTING PATTERNS, ASTM D3311; PRIMER, ASTM F656; SOLVENT CEMENT, ASTM D2564.

HUBLESS CAST IRON SOIL PIPE AND FITTINGS, ASTM A888; WITH NO HUB COUPLINGS, CISPI 310, ASTM A74.

DOMESTIC WATER  
 TYPE L COPPER WATER TUBE, H (DRAWN) TEMPER, ASTM B88; WROUGHT COPPER PRESSURE FITTINGS, ASTM B16.22; LEAD FREE SOLDER, ASTM B32; FLUX, ASTM B813; COPPER PHOSPOROUS BRAZING ALLOY, AWS A5.8. BCUP.

GALVANIZED STEEL, SCHEDULE 40, GRADE A, ASTM A53; WITH CAST IRON THREADED FITTINGS, CLASS 125, ANSI B16.4; FORGED STEEL THREADED FITTINGS, ANSI 16.11.

PIPE INSULATION  
 RIGID FIBERGLASS INSULATION: MINIMUM NOMINAL DENSITY OF 3 LBS. PER CU. FT., AND THERMAL CONDUCTIVITY OF NOT MORE THAN 0.23 AT 75 DEGREES F, MINIMUM COMPRESSIVE STRENGTH OF 25 PSF AT 10% DEFORMATION, RATED FOR SERVICE TO 450 DEGREES F.  
 WHITE KRAFT REINFORCED FOIL ALL SERVICE JACKET, FACTORY APPLIED TO INSULATION WITH A SELF-SEALING PRESSURE SENSITIVE ADHESIVE LAP, MAXIMUM PERMEANCE OF .02 PERMS AND MINIMUM BEACH PUNCTURE RESISTANCE OF 50 UNITS.

PLUMBING FIXTURES  
 SINK S-1:  
 ELKAY LRAD250, 18 GAUGE, TYPE 304, STAINLESS STEEL DOUBLE COMPARTMENT SINK, 33 X 22 X 5 1/2 INCH DEEP, WITH CHICAGO FAUCET MODEL 201-AGN8AE3-317XKCP, SWING SPOUT AND 4 INCH WRIST BLADE HANDLES. INCLUDE ELKAY LKAD35 OFFSET DRAIN FITTING. PROVIDE GARBAGE DISPOSER, INSINKERATOR "BADGER" 5XP, 1/2 HP. INCLUDE PRE-SAN FITTING FOR DISHWASHER.

EXECUTION:  
 SAW CUT CONCRETE FLOOR AS REQUIRED, EXCAVATE AND PROVIDE BEDDING FOR THE INSTALLATION OF SANITARY WASTE PIPING. BACKFILL WITH COMPACTED SAND (95% COMPACTION). FINISH CONCRETE WORK BY THE GENERAL CONTRACTOR.

PROVIDE ALL NECESSARY PIPE HANGERS, AND HARDWARE FOR THE INSTALLATION OF THE DOMESTIC WATER PIPING. PRIOR TO USE, PROVIDE STERILIZATION OF THE DOMESTIC WATER PIPING, AND SUBMIT TEST REPORT INDICATING DATE AND TIME OF TESTS ALONG WITH TEST RESULTS.

PRESSURE TEST EACH SYSTEM AS FOLLOWS:  
 DOMESTIC WATER- 100 PSIG (WATER) FOR A 8 HOUR DURATION.  
 SANITARY WASTE AND VENT- TEN (10) FEET OF WATER FOR A DURATION OF TWO (2) HOURS.

END

**PLUMBING ABBREVIATIONS**

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
CV	CIRCUIT VENT	HC	HEATING CONTRACTOR
CO	CLEANOUT	HW	HOT WATER
CP	CIRCULATION PUMP	HWR	HOT WATER RECIRCULATION
CS	COLD SOFT WATER	IE	INVERT ELEVATION
CW	COLD WATER	PC	PLUMBING CONTRACTOR
DFU	DRAINAGE FIXTURE UNIT	S	SINK
E	EXISTING	SAN	SANITARY
EC	ELECTRICAL CONTRACTOR	SH	SHOWER
ETR	EXISTING TO REMAIN	V	VENT
FCO	FLOOR CLEAN OUT	VTR	VENT THROUGH ROOF
FD	FLOOR DRAIN	WCO	WALL CLEAN OUT
G	GREASE	WHA	WATER HAMMER ARRESTOR
GC	GENERAL CONTRACTOR	WSFU	WATER SUPPLY FIXTURE UNIT

SYMBOL	DESCRIPTION
— — —	SANITARY WASTE
— — —	SANITARY VENT
— CW —	COLD WATER (CW)
— CS —	COLD SOFT WATER
— HW —	HOT WATER (HW)
— HWR —	HOT WATER RETURN (HWR)
— W —	DOMESTIC WATER SERVICE
⊙	FLOOR DRAIN
⊕	BALL VALVE
⊥	TEE (BRANCH TO SIDE)
⊥	TEE (BRANCH DOWN)
CI	RISER DOWN
OI	RISER UP
⊖	CLEANOUT (WALL-WCO OR FLOOR-FCO)
⊖	CLEANOUT
⊖	THERMOMETER
⊖	CHECK VALVE
⊖	UNION
⊖	POINT OF CONNECTION
⊖	WATER HAMMER ARRESTOR
⊖	FIXTURE OR EQUIPMENT STOPS
⊖	PRESSURE GAUGE
⊖	FIXTURE UNITS - DRAIN OR SUPPLY (DFU/WD)
⊖	FIXTURE STOPS

Architecture  
 Planning

Dorschner Associates, Inc.  
 948 E Washington Ave Ste 112  
 Madison, Wisconsin 53708

**SPD**  
 SELECT PLUMBING DESIGN, LLC

4564 EVERGREEN ROAD  
 MIDDLETON, WI 53562

(608) 836-9674

ISSUED

**PROJECT**  
 FEN OAK FIRST FLOOR  
 KITCHEN RENOVATION

LYMAN F. ANDERSON  
 AGRICULTURE AND  
 CONSERVATION CENTER  
 5201 FEN OAK DRIVE  
 MADISON, WI

**DRAWING**  
 PLUMBING  
 SPECIFICATIONS,  
 ABBREVIATIONS  
 AND SYMBOLS

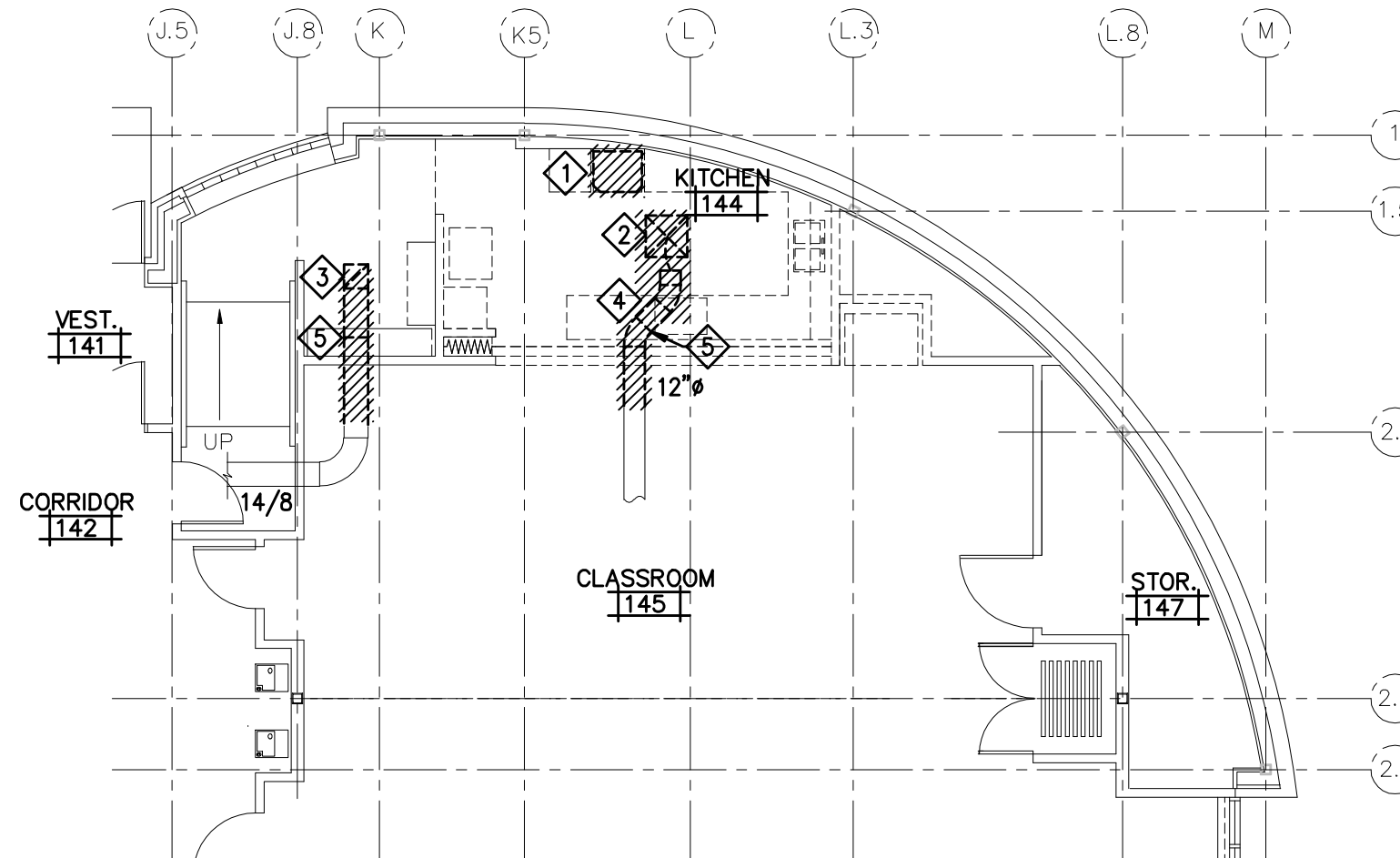
P200

**DATE**

JUNE 13, 2019

**ISSUED**

- HVAC DEMOLITION KEY NOTES**
- ① REMOVE DUCTLESS RANGE HOOD
  - ② REMOVE CEILING DIFFUSER, RETAIN FOR REINSTALLATION
  - ③ REMOVE EXHAUST GRILLE, RETAIN FOR REINSTALLATION
  - ④ REMOVE PORTION OF DUCTWORK INDICATED.
  - ⑤ NEW CONNECTION TO BE MADE TO REMAINING DUCT



**A** PARTIAL FLOOR PLAN – HVAC DEMOLITION WORK  
MD100 SCALE: 1/8" = 1'-0"

**PROJECT**  
FEN OAK FIRST FLOOR  
KITCHEN RENOVATION  
  
LYMAN F. ANDERSON  
AGRICULTURE AND  
CONSERVATION CENTER  
5201 FEN OAK DRIVE  
MADISON, WI

**DRAWING**  
PARTIAL FIRST FLOOR  
PLAN HVAC DEMOLITION

MD100  
**DATE**  
JUNE 13, 2019

ISSUED

**PROJECT**

FEN OAK FIRST FLOOR  
KITCHEN RENOVATION

LYMAN F. ANDERSON  
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CONSERVATION CENTER  
5201 FEN OAK DRIVE  
MADISON, WI

**DRAWING**

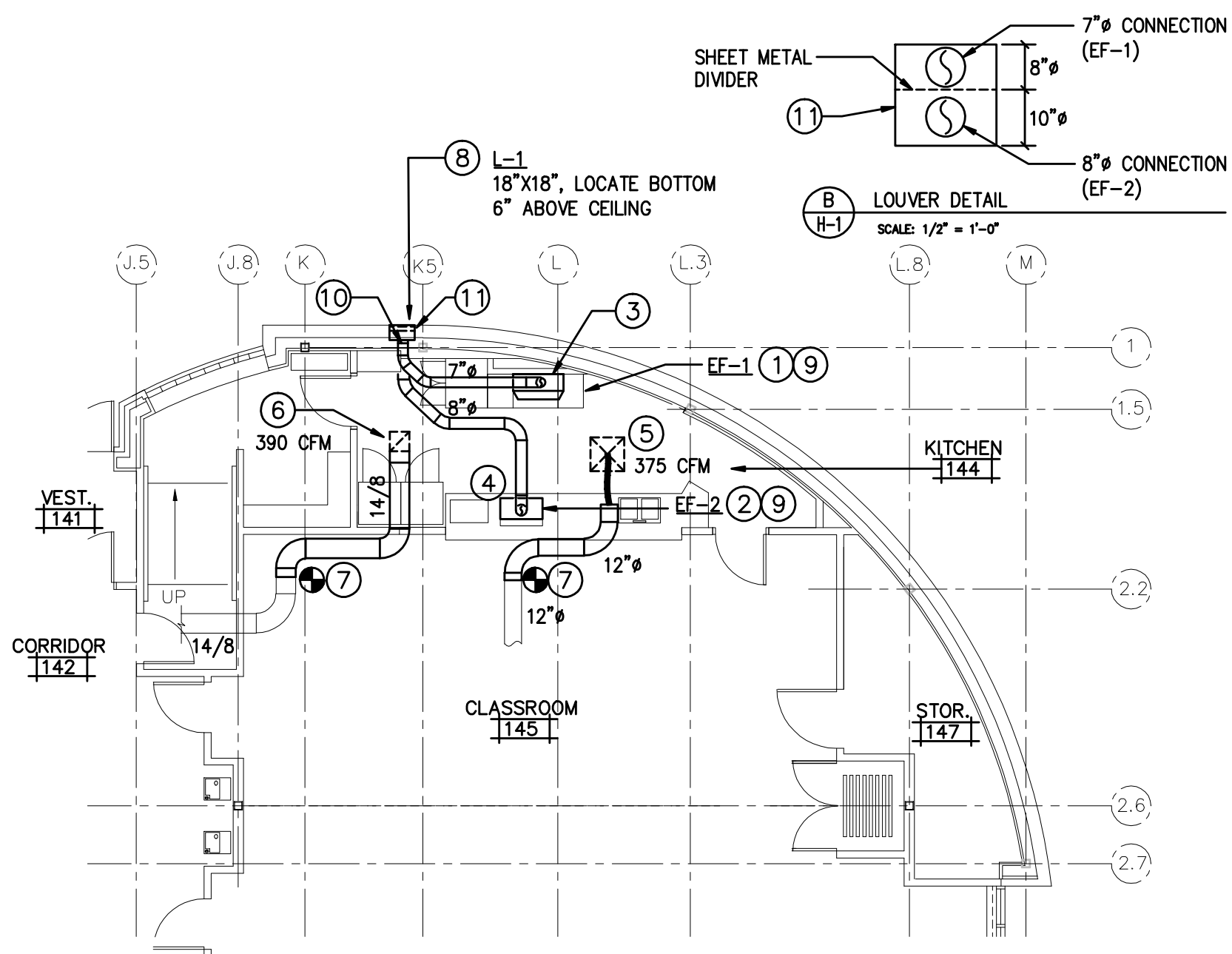
PARTIAL FIRST FLOOR  
PLAN HVAC NEW WORK

M100

DATE

JUNE 13, 2019

- HVAC NEW WORK KEY NOTES**
- ① INSTALL EF-1 UNDER KITCHEN UPPER CABINET.
  - ② INSTALL EF-2 CENTERED OVER COOKTOP. COORDINATE WITH CEILING INSTALLATION.
  - ③ CONNECT 7 INCH ROUND DUCT TO EF-1 HOOD OUTLET, RISE THROUGH UPPER CABINET AND RUN DUCT TO LOUVER L-1. CONNECT TO UPPER PART OF LOUVER
  - ④ CONNECT 6 INCH ROUND DUCT TO EF-2 HOOD OUTLET, INCREASE TO 8 INCH ROUND AND RUN DUCT TO LOUVER L-1. CONNECT TO LOWER PART OF LOUVER.
  - ⑤ REINSTALL CEILING DIFFUSER. COORDINATE LOCATION IN CEILING WITH LAY-IN GRID AND LIGHTING FIXTURES. ADJUST ACTUAL LOCATION OF DIFFUSER.
  - ⑥ REINSTALL EXHAUST GRILLE. COORDINATE LOCATION IN CEILING WITH LAY-IN GRID AND LIGHTING FIXTURES. ADJUST ACTUAL LOCATION OF GRILLE.
  - ⑦ CONNECT TO SUPPLY AND EXHAUST DUCTS. VERIFY LOCATION OF EXISTING DUCTS AND ADJUST DUCT RUNS AS REQUIRED.
  - ⑧ INSTALL NEW LOUVER IN EXISTING WALL. COORDINATE WITH GENERAL CONTRACTOR.
  - ⑨ REMOTE POWER SWITCHES FOR HOOD. REFER TO ELECTRICAL AND/OR ARCHITECTURAL PLANS FOR SWITCH LOCATIONS.
  - ⑩ INSTALL GRAVITY BACKDRAFT DAMPER IN EACH EXHAUST DUCT AS CLOSE TO PLENUM AS POSSIBLE
  - ⑪ PROVIDE 10 INCH DEEP INSULATED PLENUM AT REAR OF LOUVER WITH DIVIDER CREATING 8 INCH UPPER AND 10 INCH LOWER SECTIONS. PROVIDE 2 INCH THICK INTERIOR INSULATION LINER.



**A** PARTIAL FLOOR PLAN - HVAC NEW WORK  
SCALE: 1/8" = 1'-0"

**GENERAL HVAC NOTES**

1. VERIFY LOCATION OF ALL EXISTING DUCTWORK, ADJUST LOCATIONS OF NEW DUCT RUNS TO CONNECT TO EXISTING.
2. THE GENERAL CONTRACTOR WILL REMOVE THE LAY-IN CEILING PANES AT THE PROJECT WORK AREA, WITH THE EXISTING CEILING GRID REMAINING IN PLACE. IF ANY PORTIONS OF THE GRID ARE REQUIRED TO BE REMOVED FOR INSTALLATION OF HVAC WORK THE HVAC CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR FOR REMOVAL AND REPLACEMENT OF THE GRID.

Architecture  
Planning

Dorschner Associates, Inc.  
849 E Washington Ave Ste 112  
Madison, Wisconsin 53703

**Engineering 370, LLC**  
MECHANICAL CONSULTING

Oregon, WI 53575  
T: 608-225-9273  
Email: info@eng370.com

Project No. 19-0304

**ISSUED**

**PROJECT**

FEN OAK FIRST FLOOR  
KITCHEN RENOVATION

LYMAN F. ANDERSON  
AGRICULTURE AND  
CONSERVATION CENTER  
5201 FEN OAK DRIVE  
MADISON, WI

**DRAWING**

HVAC  
SCHEDULES

M200

**DATE**

JUNE 13, 2019

FAN SCHEDULE													
MARK	MANUFACTURER	MODEL NO.	FINISH	HOOD SIZE	FAN DATA								REMARKS
					AIR FLOW (CFM)	SOUND (MAX)	FAN TYPE	FAN SPEEDS	DRIVE TYPE	AMPS	WATTS	VOLTS / PHASE	
EF-1	BROAN	433604	STAINLESS STEEL	36 INCHES	220	8 SONES	RANGE HOOD	TWO	DIRECT	1.80		120/60/1	1, 2, 3, 4, 5
EF-2	BOSCH	DHL 755 B	STAINLESS STEEL	28.75 X 15	400		RANGE HOOD	FOUR	DIRECT		270	120/60/1	6, 7, 8, 9, 10, 11
Notes													
1 7 INCH ROUND, VERTICAL DUCT DISCHARGE													
2 MODEL BP87 DAMPER													
3 WIRED FOR REMOTE SWITCHING PER BROAN ADA COMPLIANCE INFORMATION FOR 2 SPEED FAN AND LIGHT. WIRING BY ELECTRICAL CONTRACTOR													
4 INCLUDE WASHABLE ALUMINUM FILTER, AND 75 WATT EQUIVALENT LIGHT, LIGHT LENS,													
5 U.L. LISTED, HVI CERTIFIED													
6 SIZE IS OVERALL DIMENSION													
7 TWO HALOGEN 20 WATT LIGHTS													
8 6 INCH DUCTED DISCHARGE													
9 INCLUDE WASHABLE ALUMINUM FILTERS													
10 U.L. LISTED													
11 CORD AND PLUG POWER CONNECTION. ELECTRICAL CONTRACTOR WILL PROVIDE REMOTE SWITCHED RECEPTACLE FOR ADA COMPLIANCE													

LOUVER SCHEDULE																	
MARK	MFGR	MODEL NO.	SERVICE	AIR FLOW CFM	SIZE		FREE AREA MIN SF	AIR PRESSURE		CONSTRUCTION					REMARKS		
					WXH X D INCHES			DROP	MAX. " W.C.	BLADE STYLE	MATERIAL	THICKNESS (IN)		FRAME		BLADE	BLADE
L-1	GREENHECK	ESD-403	EXHAUST	620	18 X 18		0.46	0.2		DRAINABLE	ALUM	0.081	0.081	FLANGE	37	HORIZ	1, 2, 3
NOTES																	
1 FREE AREA IS FOR SCHEDULED SIZE																	
2 BIRDSCREEN 3/4 IN. X 0.051 IN. FLATTENED EXPANDED ALUMINUM																	
3 MILL FINISH																	
4 EQUIVALENT BY AIROLITE, INDUSTRIAL LOUVERS, AMERICAN WARMING, RUSKIN, CONSTRUCTION SPECIALTIES																	

**COMMON HVAC WORK RESULTS**

**REFERENCE STANDARDS**

**ABBREVIATIONS OF STANDARDS ORGANIZATIONS:**

- AABC ASSOCIATED AIR BALANCE COUNCIL
- ANSI AMERICAN NATIONAL STANDARDS INSTITUTE
- ASHRAE AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR CONDITIONING ENGINEERS
- MICA MIDWEST INSULATION CONTRACTORS ASSOCIATION
- NBS NATIONAL BUREAU OF STANDARDS
- NEBB NATIONAL ENVIRONMENTAL BALANCING BUREAU
- NEC NATIONAL ELECTRIC CODE
- NFPA NATIONAL FIRE PROTECTION ASSOCIATION
- SMACNA SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION. INC.
- UL UNDERWRITERS LABORATORIES INC.
- UL723 SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS

**SUBMITTALS**

REFER TO GENERAL CONDITIONS OF THE CONTRACT FOR SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.

SUBMIT PRODUCT DATA ON ALL MATERIAL AND EQUIPMENT PROPOSED TO BE PROVIDED FOR THIS PROJECT.

INCLUDE WIRING DIAGRAMS OF ELECTRICALLY POWERED EQUIPMENT.

SUBMIT SUFFICIENT QUANTITIES OF SHOP DRAWINGS TO ALLOW THE FOLLOWING DISTRIBUTION:

- OPERATING AND MAINTENANCE MANUALS 2 COPIES
- TESTING, ADJUSTING AND BALANCING CONTRACTOR 1 COPY
- DANE COUNTY PUBLIC WORKS 1 COPY
- ENGINEER 1 COPY

ELECTRONIC SUBMITTALS ARE ACCEPTABLE IN PDF FORMAT. SUBMITTALS SHALL CLEARLY IDENTIFY THE SPECIFIC ITEM BEING SUBMITTED FOR REVIEW. ELECTRONIC SUBMITTALS MAY NOT BE RETURNED OR PARTIALLY RETURNED AS REQUIRED TO IDENTIFY CONDITIONS OF THE REVIEW. A SUBMITTAL REVIEW FORM WILL BE RETURNED WITH CONDITIONS OF THE APPROVAL OR REJECTION TO THE SUBMITTAL

**CERTIFICATES AND INSPECTIONS**

REFER TO GENERAL CONDITIONS OF THE CONTRACT FOR INSPECTIONS AND TESTING.

OBTAIN AND PAY FOR ALL REQUIRED STATE INSTALLATION INSPECTIONS EXCEPT THOSE PROVIDED BY THE ARCHITECT/ENGINEER IN ACCORDANCE WITH LOCAL AUTHORITY HAVING JURISDICTION REQUIREMENTS OR WIS ADM CODE.

**OPERATING AND MAINTENANCE INSTRUCTIONS**

REFER TO DIVISION 1, BASIC REQUIREMENTS, OPERATING AND MAINTENANCE INSTRUCTIONS.

ASSEMBLE MATERIAL IN THREE RING OR POST BINDERS, USING AN INDEX AT THE FRONT OF EACH VOLUME AND TABS FOR EACH SYSTEM OR TYPE OF EQUIPMENT. IN ADDITION TO THE DATA INDICATED IN THE GENERAL REQUIREMENTS, INCLUDE THE FOLLOWING INFORMATION:

- COPIES OF ALL APPROVED SHOP DRAWINGS.
- MANUFACTURER'S WIRING DIAGRAMS
- CERTIFICATES OF INSPECTION BY REGULATORY AGENCIES
- PARTS LISTS FOR MANUFACTURED EQUIPMENT
- LUBRICATION INSTRUCTIONS, INCLUDING LIST/FREQUENCY OF LUBRICATION DONE DURING CONSTRUCTION
- WARRANTIES
- ADDITIONAL INFORMATION AS INDICATED IN THE TECHNICAL SPECIFICATION SECTIONS

**RECORD DRAWINGS**

REFER TO DIVISION 1, BASIC REQUIREMENTS, RECORD DRAWINGS.

**DEMOLITION**

PERFORM ALL DEMOLITION AS INDICATED ON THE DRAWINGS TO ACCOMPLISH NEW WORK. RETAIN MATERIALS IDENTIFIED TO BE REINSTALLED AND MAINTAIN IN CONDITION BEFORE REMOVAL. MATERIAL DAMAGED DURING DEMOLITION OR STORAGE SHALL BE REPLACED WITH SIMILAR MATERIAL.

**CUTTING AND PATCHING**

REFER TO GENERAL CONDITIONS OF THE CONTRACT FOR CUTTING AND PATCHING.

**COORDINATION**

COOPERATE WITH THE TEST AND BALANCE AGENCY IN ENSURING SECTION 23 05 93 SPECIFICATION COMPLIANCE.

**TESTING, ADJUSTING, AND BALANCING FOR HVAC**

**SCOPE**

AN INDEPENDENT TEST AND BALANCE AGENCY SHALL PERFORM ALL TESTING, ADJUSTING, AND BALANCING OF AIR SYSTEMS FOR THIS PROJECT.

THIS PROJECT IS BALANCING OF THE EXISTING MAKE UP AIR UNIT, EXISTING EXHAUST SYSTEMS AND NEW EXHAUST SYSTEMS AS INDICATED ON THE DRAWINGS AND SPECIFIED IN THIS SPECIFICATION SECTION.

THE SCOPE OF THIS PROJECT IS MEASURE AND RECORD THE FOLLOWING SYSTEMS:

1. SUPPLY TO KITCHEN RELOCATED CEILING DIFFUSER
2. EXHAUST AIR AT EXISTING KITCHEN CEILING GRILLE FANS
3. AIR VOLUME EXHAUSTED AT NEW EXHAUST HOODS EF-1 AND EF-2

A CERTIFIED MEMBER OF AABC OR CERTIFIED BY NEBB IN THE SPECIFIC AREA OF WORK PERFORMED. MAINTAIN CERTIFICATION FOR THE ENTIRE DURATION OF THE PROJECT.

SUBMIT TESTING, AND BALANCING REPORT.

**HVAC DUCTS**

**SCOPE**

THIS SECTION INCLUDES SPECIFICATIONS FOR ALL DUCT SYSTEMS USED ON THIS PROJECT

**REFERENCE STANDARDS**

- ASTM A90 TEST METHOD FOR WEIGHT OF COATING ON ZINC-COATED (GALVANIZED) IRON OR STEEL ARTICLES
- ASTM A623 STANDARD SPECIFICATION FOR STEEL SHEET, ZINC-COATED (GALVANIZED) BY THE HOT-DIP PROCESS
- ASTM A527 SPECIFICATION FOR GENERAL REQUIREMENTS FOR STEEL SHEET, ZINC-COATED (GALVANIZED) BY THE HOT-DIP PROCESS, LOCK-FORMING QUALITY
- NFPA 90A STANDARD FOR THE INSTALLATION OF AIR CONDITIONING AND VENTILATING SYSTEMS
- UL 181 STANDARD FOR SAFETY FOR FACTORY MADE AIR DUCTS AND AIR CONNECTORS.

USE MATERIAL WEIGHT, THICKNESS, GAUGE, CONSTRUCTION AND INSTALLATION METHODS AS OUTLINED IN THE FOLLOWING SMACNA PUBLICATIONS, UNLESS NOTED OTHERWISE:

- HVAC DUCT CONSTRUCTION STANDARDS, METAL AND FLEXIBLE, 3RD EDITION, 2005
- HVAC AIR DUCT LEAKAGE TEST MANUAL, 2ND EDITION, 2012
- HVAC SYSTEMS - DUCT DESIGN, 4TH EDITION, 2006

USE PRODUCTS WHICH CONFORM TO NFPA 90A, POSSESSING A FLAME SPREAD RATING OF NOT OVER 25 AND A SMOKE DEVELOPED RATING NO HIGHER THAN 50.

**GENERAL**

ALL SHEET METAL USED FOR CONSTRUCTION OF DUCT SHALL BE 24 GAUGE OR HEAVIER EXCEPT FOR ROUND 12" AND BELOW MAY BE 26 GAUGE WHERE ALLOWED IN SMACNA HVAC DUCT CONSTRUCTION STANDARDS.

**MATERIALS**

GALVANIZED STEEL SHEET:  
USE ASTM A 653 GALVANIZED STEEL SHEET OF LOCK FORMING QUALITY. GALVANIZED COATING TO BE 1.25 OUNCES PER SQUARE FOOT, BOTH SIDES OF SHEET, G90 IN ACCORDANCE WITH ASTM A90.

**LOW PRESSURE DUCTWORK (MAXIMUM 2 INCH PRESSURE CLASS)**

FABRICATE AND INSTALL DUCTWORK IN SIZES INDICATED ON THE DRAWINGS AND IN ACCORDANCE WITH SMACNA RECOMMENDATIONS, EXCEPT AS MODIFIED BELOW.

PROVIDE EXPANDED TAKE-OFFS OR 45 DEGREE ENTRY FITTINGS FOR BRANCH DUCT CONNECTIONS WITH BRANCH DUCTWORK AIRFLOW VELOCITIES GREATER THAN 700 FPM. SQUARE EDGE 90-DEGREE TAKE-OFF FITTINGS OR STRAIGHT TAPS WILL NOT BE ACCEPTED.

**DUCT SEALANT**

MANUFACTURER: 3M 800, 3M 900, H.B. FULLER/FOSTER, HARDCAST, HARDCAST PEAL & SEAL, LOCKFORMER COLD SEALANT, MON-ECO INDUSTRIES, UNITED SHEET METAL, OR APPROVED EQUAL. SILICONE SEALANTS ARE NOT ALLOWED IN ANY TYPE OF DUCTWORK INSTALLATION.

**INSTALLATION**

VERIFY DIMENSIONS AT THE SITE, MAKING FIELD MEASUREMENTS AND DRAWINGS NECESSARY FOR FABRICATION AND ERECTION. CHECK PLANS SHOWING WORK OF OTHER TRADES AND CONSULT WITH ARCHITECT IN THE EVENT OF ANY INTERFERENCE.

Architecture  
Planning

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Project No. 19-0304

ISSUED

**PROJECT**

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KITCHEN RENOVATION

LYMAN F. ANDERSON  
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**DRAWING**

HVAC  
SPECIFICATIONS

M300

DATE

JUNE 13, 2019



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PROTECT DIFFUSERS, REGISTERS AND GRILLES WITH PLASTIC WRAP OR SOME OTHER APPROVED FORM OF PROTECTION TO MAINTAIN DIRT AND DUST FREE AND TO PREVENT ENTRY OF DIRT, DUST AND FOREIGN MATERIAL INTO THE DUCTWORK.

DUCTWORK SUPPORT  
SUPPORT DUCTWORK IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS.

SEAL ALL DUCT, IN ACCORDANCE WITH SMACNA SEAL CLASS "A"; ALL SEAMS, JOINTS, AND PENETRATIONS SHALL BE SEALED.

AIR DUCT ACCESSORIES

BACKDRAFT DAMPERS  
MANUFACTURERS: AMERICAN WARMING, RRUSKIN, VENT PRODUCTS, AIR BALANCE, OR APPROVED EQUAL.  
EQUIVALENT TO AMERICAN WARMING VC-22-BD, COUNTERBALANCED BACKDRAFT DAMPER. INSTALL WHERE INDICATED ON DRAWINGS.

LOUVERS  
REFER TO LOUVER SCHEDULE FOR ACCEPTABLE MANUFACTURES AND CONSTRUCTION REQUIREMENTS.

LOUVER TO BEAR THE AMCA CERTIFIED RATINGS SEAL FOR BOTH AIR PERFORMANCE AND WATER PENETRATION.  
LOUVERS MOUNTED IN EXTERIOR WALLS AT LOCATIONS INDICATED ON THE DRAWINGS. CONNECT DUCT TO THE LOUVER, SEALING ALL CONNECTIONS AIR AND WATER TIGHT.

DUCT LINING  
MANUFACTURER: MANVILLE, OWENS-CORNING, KNAUF, OR APPROVED EQUAL.  
THICKNESS AND LOCATIONS AS NOTED ON DRAWINGS, FLEXIBLE, MAT FACED INSULATION MADE FROM INORGANIC GLASS FIBERS BONDED WITH A THERMOSETTING RESIN WITH THERMAL CONDUCTIVITY OF .25 BTU INCH / HOUR SQ.FT. DEG F.  
MEET EROSION TESTING PER UL 181 OR ASTM C 1071 FOR 5000 FPM MAXIMUM AIR VELOCITY.  
ASTM C 411 MAXIMUM OPERATING TEMPERATURE RATING OF 250 DEG F. ASTM E84 FLAME SPREAD LESS THAN 25 AND SMOKE DEVELOPED LESS THAN 50. MEET REQUIREMENTS OF ASTM C 1338 AND ASTM G21 FOR FUNGI RESISTANCE.  
INSTALL LINER USING ADHESIVE CONFORMING TO ASTM C 916.

HVAC FANS

RELATED WORK  
TESTING, ADJUSTING AND BALANCING FOR HVAC  
HVAC DUCTS  
AIR DUCT ACCESSORIES

SHOP DRAWINGS  
PROVIDE PRODUCT DATA FOR ALL EQUIPMENT PROVIDED.

INCLUDE DIMENSIONS, CAPACITIES, MATERIALS OF CONSTRUCTION, RATINGS, WEIGHTS, ELECTRICAL DATA, SOUND LEVELS.

OPERATION AND MAINTENANCE DATA  
ALL OPERATIONS AND MAINTENANCE DATA SHALL COMPLY WITH THE SUBMISSION AND CONTENT REQUIREMENTS SPECIFIED UNDER SECTION GENERAL REQUIREMENTS.

RANGE HOODS  
EF-1 IS BASED ON PRODUCT BY BROAN  
EF-2 IS BASED ON PRODUCT BY BOSCH  
OWNER AND/OR ENGINEER APPROVED PRODUCTS BY OTHER MANUFACTURERS MAY BE INSTALLED, IF PRODUCT PROVIDES EQUIVALENT FEATURES, CONSTRUCTION AND PERFORMANCE.

REFER THE SCHEDULED EQUIPMENT FOR REQUIRED PERFORMANCE, FEATURES AND CONSTRUCTION.

INSTALLATION  
INSTALL AS SHOWN ON THE DRAWINGS, AS DETAILED, AND ACCORDING TO MANUFACTURER'S INSTALLATION INSTRUCTIONS.

END

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**DRAWING**  
HVAC  
SPECIFICATIONS

M301

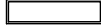















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




JUNE 13, 2019

# ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
BFG	BELOW FINAL GRADE
BOL	BUILT-IN OVERLOAD
C	CONDUIT
CKT	CIRCUIT
CB	COMBINATION STARTER
D	DEDICATED
DD	DOUBLE DUPLEX
EC	ELECTRICAL CONTRACTOR
EWC	ELECTRIC WATER COOLER
ER	EXISTING TO BE REMOVED
ERL	EXISTING RELOCATED (NEW LOCATION)
ETL	EXISTING TO BE RELOCATED (OLD LOCATION)
EX	EXISTING TO REMAIN
FACP	FIRE ALARM CONTROL PANEL
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT INTERRUPTER
HV	HEATING AND VENTILATION CONTRACTOR
IG	ISOLATED GROUND
IR	IN ROOM
IU	IN UNIT
MAN	MANUAL STARTER
MAG	MAGNETIC STARTER
MCA	MINIMUM CIRCUIT AMPACITY
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NU	NEAR UNIT
PB	PUSHBUTTON
PC	PLUMBING CONTRACTOR
PW	PRE-WIRED
RV	REDUCED VOLTAGE STARTER
RAI	REMAIN AS IS
SC	SEPARATE CIRCUIT
SS	SPEED SWITCH
SW	SWITCH
TC	TIMECLOCK
TS	THERMOSTAT
UM	UNIT MANUFACTURER
WP	WEATHERPROOF

# ELECTRICAL SYMBOLS

	RECESSED, SURFACE OR PENDANT FIXTURE
	RECESSED FIXTURE
	EMERGENCY BATTERY UNIT - CEILING MOUNTED
	EMERGENCY BATTERY UNIT - WALL MOUNTED
	MOUNTED EXIT SIGN - CEILING MOUNTED
	MOUNTED EXIT SIGN - WALL MOUNTED
	SINGLE POLE TOGGLE SWITCH - MOUNT 48" ABOVE FLOOR TO TOP OF BOX - (3) THREE WAY - (4) FOUR WAY - (K) KEY - (P) PILOT LIGHT - (OS) OCCUPANCY SENSOR (AUTO OFF / AUTO FULL ON) - (VS) VACANCY SENSOR (AUTO OFF / MANUAL ON)
	SWITCH AND DUPLEX RECEPTACLE - DOUBLE GANG BOX - MOUNT 48" ABOVE FLOOR TO TOP OF BOX - (3) THREE WAY - (4) FOUR WAY - (OS) OCCUPANCY SENSOR (AUTO OFF / AUTO FULL ON) - (VS) VACANCY SENSOR (AUTO OFF / MANUAL ON) - (GFI) GROUND FAULT CIRCUIT INTERRUPTER
	DUPLEX RECEPTACLE - MOUNT 15" ABOVE FLOOR TO BOTTOM OF BOX OR HEIGHT AS INDICATED - (GFI) GROUND FAULT CIRCUIT INTERRUPTER - (WP) WEATHER PROOF
	DOUBLE DUPLEX RECEPTACLE - MOUNT 15" ABOVE FLOOR TO BOTTOM OF BOX OR HEIGHT AS INDICATED
	DUPLEX RECEPTACLE - MOUNT HORIZONTAL ABOVE COUNTER - (GFI) GROUND FAULT CIRCUIT INTERRUPTER
	DOUBLE DUPLEX RECEPTACLE - MOUNT ABOVE COUNTER
	VOICE/DATA OUTLET - MOUNT 15" ABOVE FLOOR TO BOTTOM OF BOX (C) ABOVE COUNTER OR HEIGHT AS INDICATED
	TELEVISION OUTLET - MOUNT 15" ABOVE FLOOR TO BOTTOM OF BOX OR HEIGHT AS INDICATED
	CARD READER - PROVIDE OUTLET BOX ROUGH-IN AT 48" AFF/AFG, HEIGHT MEASURED FROM FLOOR/GRADE TO TOP OF BOX, WITH SINGLE GANG PLASTER RING. PROVIDE CONCEALED 3/4" C. RACEWAY UP TO A SINGLE GANG BOX ABOVE THE DOOR. PROVIDE WIRING BACK TO CARD ACCESS SYSTEM CONTROL PANEL LOCATION. SEE SECTION 28 13 00 FOR EQUIPMENT REQUIREMENTS.
	ELECTRIC STRIKE BY SECTION 08 71 00, WIRED BY ELECTRICAL CONTRACTOR. CONNECT TO 12 VDC OR 24 VDC POWER.

	ELECTRICAL PANEL
	REQUEST TO EXIT
	JUNCTION BOX
	SPECIAL OUTLET
	MOTOR

ELECTRICAL SHEET INDEX	
SHEET NUMBER	SHEET NAME
E0.0	SHEET INDEX, SYMBOLS AND ABBREVIATIONS
E1.0	OVERALL FIRST FLOOR PLAN
E2.0	FIRST FLOOR LIGHTING DEMOLITION PLAN
E2.1	FIRST FLOOR POWER AND SYSTEMS DEMOLITION PLAN
E3.0	FIRST FLOOR LIGHTING PLAN
E3.1	FIRST FLOOR POWER AND SYSTEMS PLAN
E4.0	SCHEDULES AND DETAILS

2019-0202.00

**GRAEF**

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Planning

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ISSUED

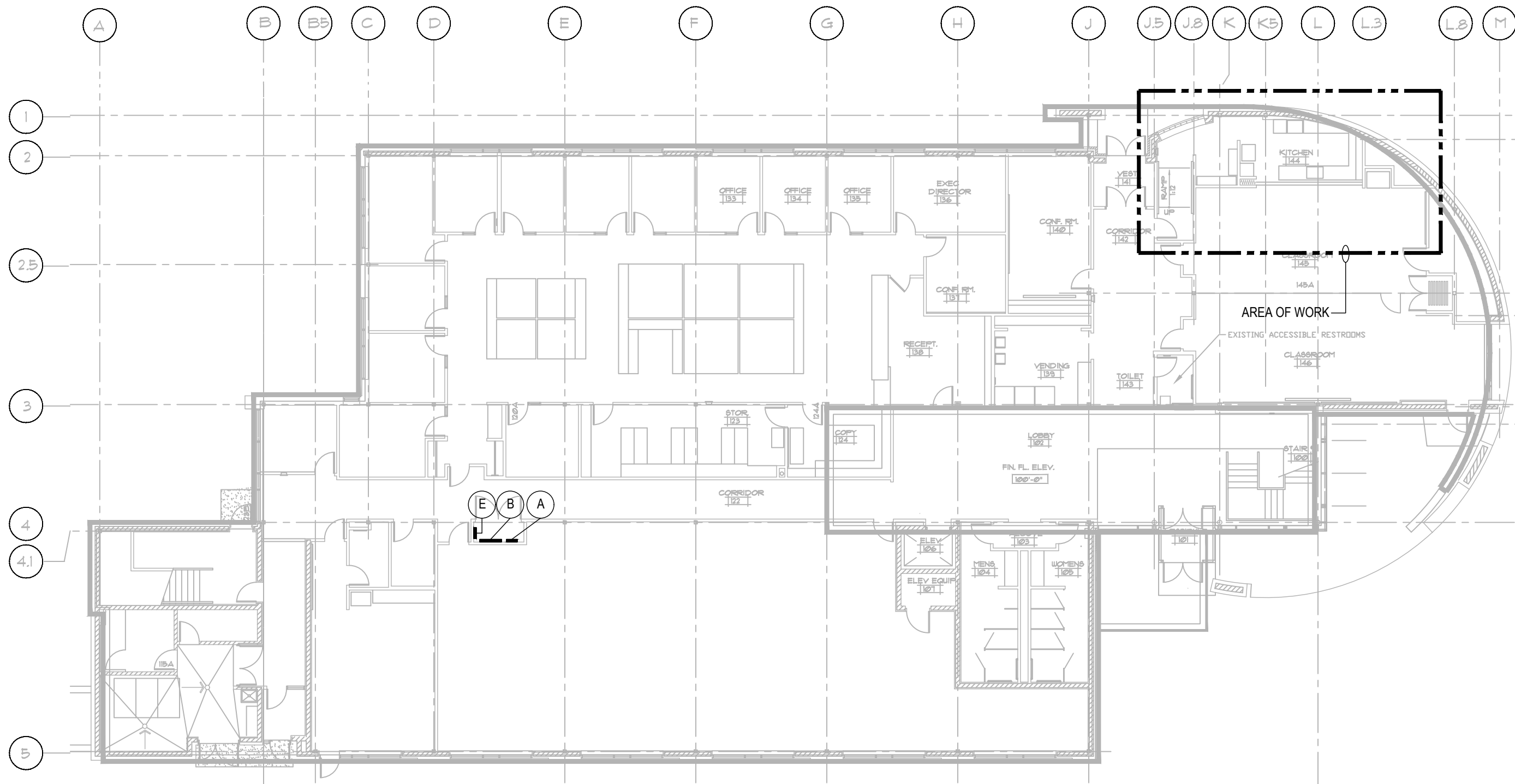
**PROJECT**  
FEN OAK FIRST FLOOR  
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CENTER 5201 FEN OAK  
DRIVE MADISON, WI

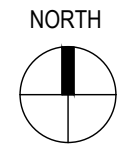
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**DATE**  
06.13.19

**E0.0**



1 OVERALL FIRST FLOOR PLAN  
1/16"=1'-0"



2019-0202.00



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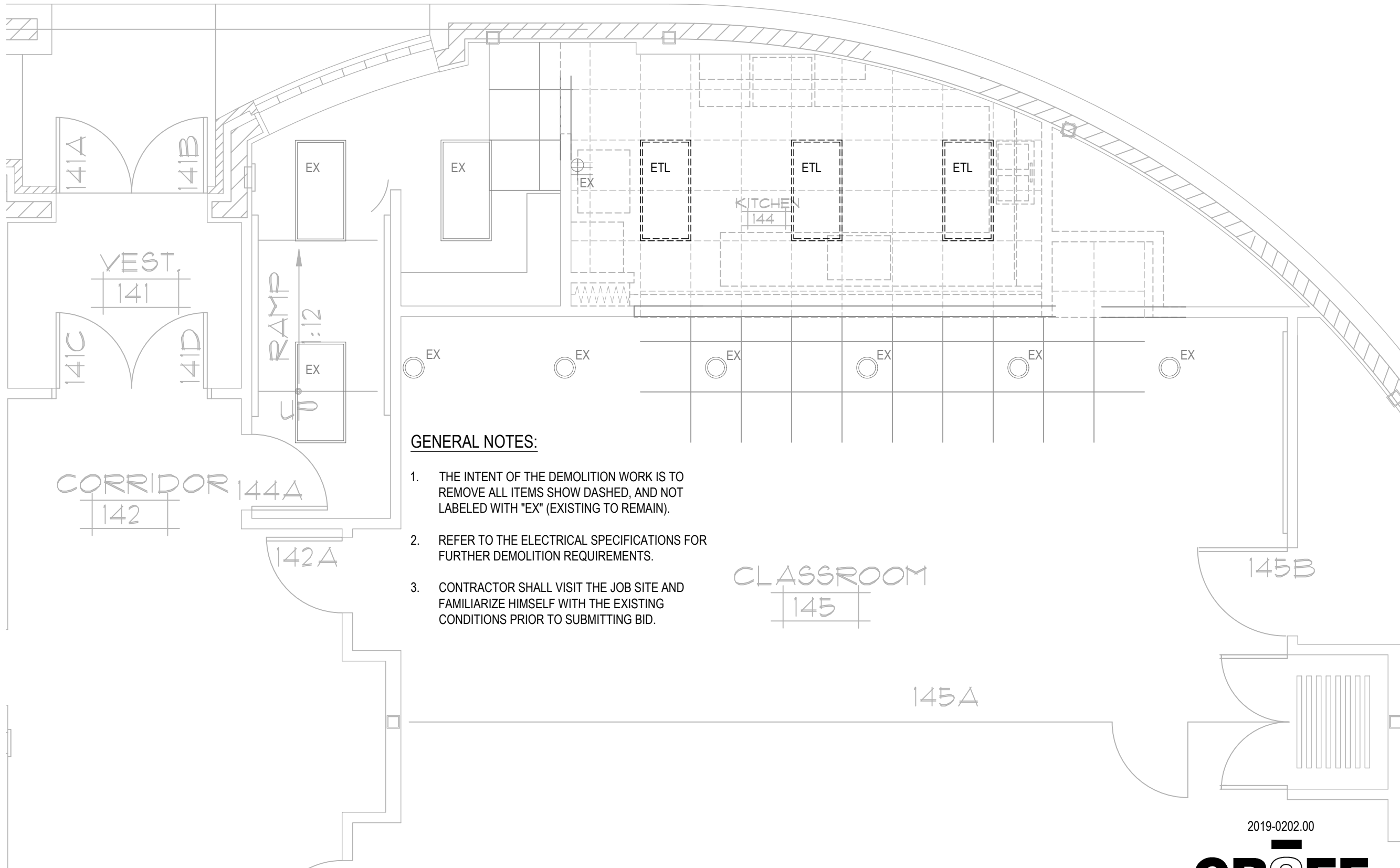
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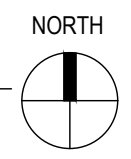
E1.0



**GENERAL NOTES:**

1. THE INTENT OF THE DEMOLITION WORK IS TO REMOVE ALL ITEMS SHOW DASHED, AND NOT LABELED WITH "EX" (EXISTING TO REMAIN).
2. REFER TO THE ELECTRICAL SPECIFICATIONS FOR FURTHER DEMOLITION REQUIREMENTS.
3. CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS PRIOR TO SUBMITTING BID.

**1 FIRST FLOOR LIGHTING DEMOLITION PLAN**  
 1/4"=1'-0"

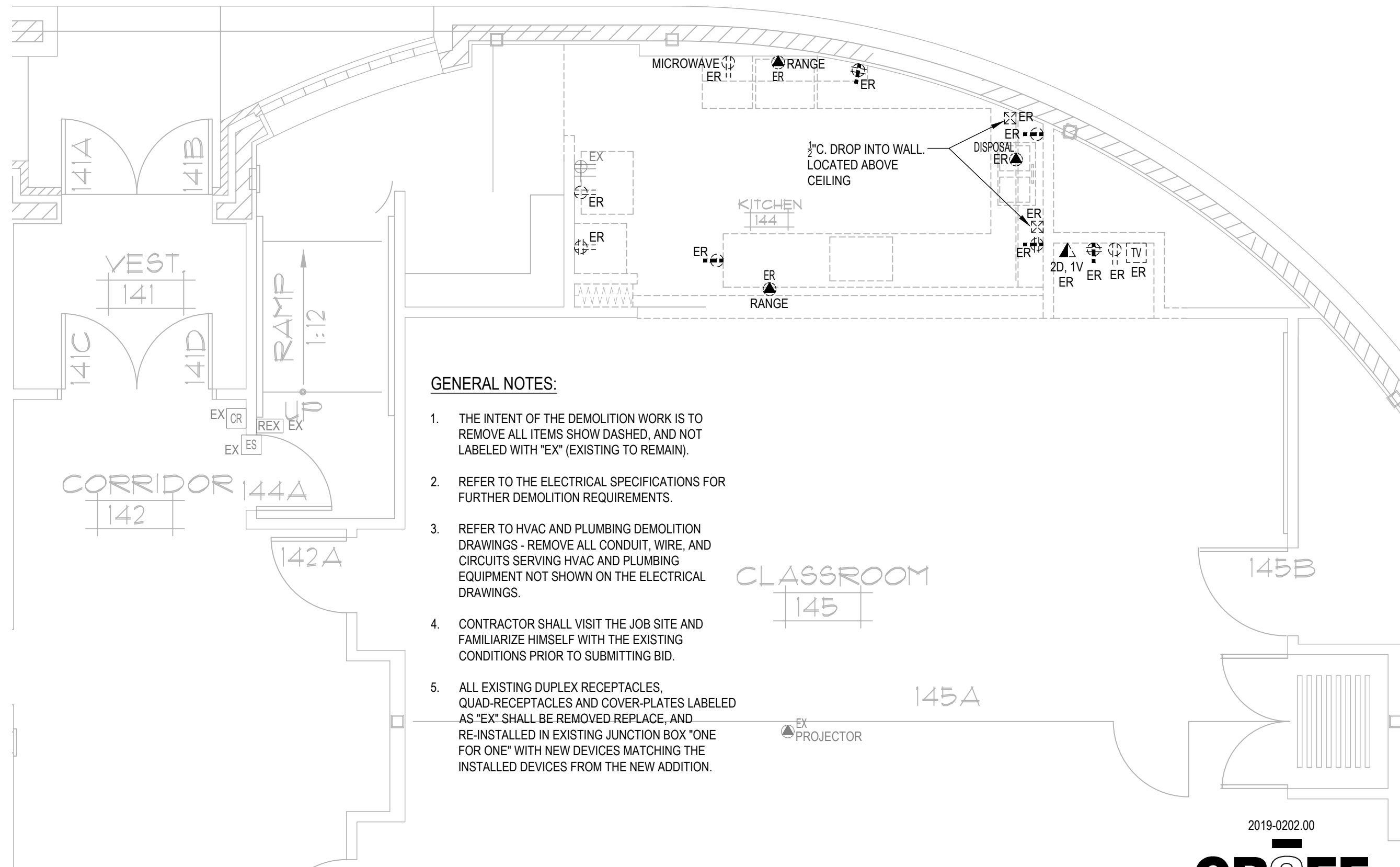


2019-0202.00  
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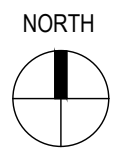
**DATE**  
 06.13.19  
**E2.0**



**GENERAL NOTES:**

1. THE INTENT OF THE DEMOLITION WORK IS TO REMOVE ALL ITEMS SHOW DASHED, AND NOT LABELED WITH "EX" (EXISTING TO REMAIN).
2. REFER TO THE ELECTRICAL SPECIFICATIONS FOR FURTHER DEMOLITION REQUIREMENTS.
3. REFER TO HVAC AND PLUMBING DEMOLITION DRAWINGS - REMOVE ALL CONDUIT, WIRE, AND CIRCUITS SERVING HVAC AND PLUMBING EQUIPMENT NOT SHOWN ON THE ELECTRICAL DRAWINGS.
4. CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS PRIOR TO SUBMITTING BID.
5. ALL EXISTING DUPLEX RECEPTACLES, QUAD-RECEPTACLES AND COVER-PLATES LABELED AS "EX" SHALL BE REMOVED REPLACE, AND RE-INSTALLED IN EXISTING JUNCTION BOX "ONE FOR ONE" WITH NEW DEVICES MATCHING THE INSTALLED DEVICES FROM THE NEW ADDITION.

**1** FIRST FLOOR POWER AND SYSTEMS DEMOLITION PLAN  
1/4"=1'-0"



2019-0202.00

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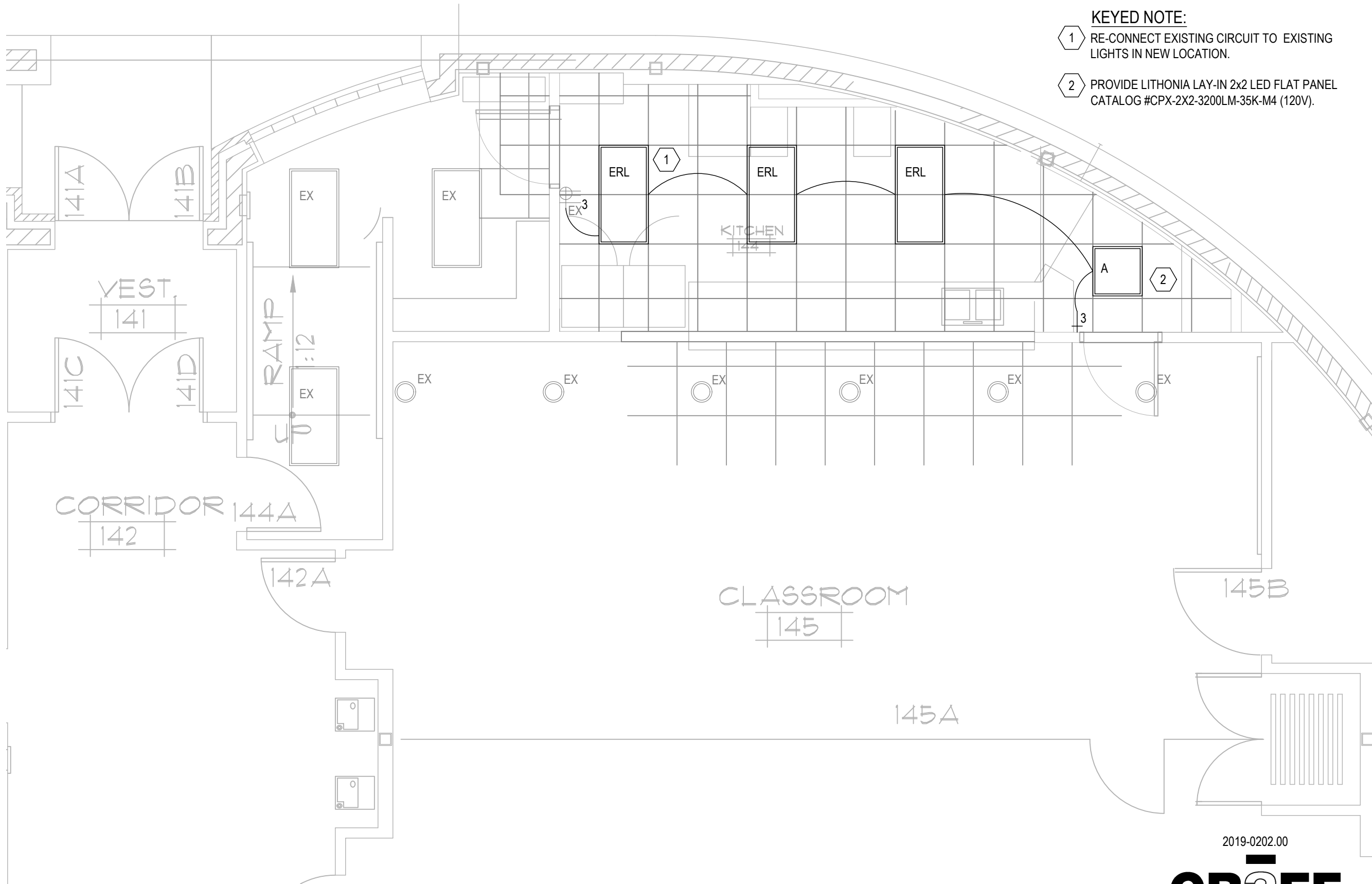
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**E2.1**

**KEYED NOTE:**

- 1 RE-CONNECT EXISTING CIRCUIT TO EXISTING LIGHTS IN NEW LOCATION.
- 2 PROVIDE LITHONIA LAY-IN 2x2 LED FLAT PANEL CATALOG #CPX-2X2-3200LM-35K-M4 (120V).



**1** FIRST FLOOR LIGHTING PLAN  
1/4"=1'-0"



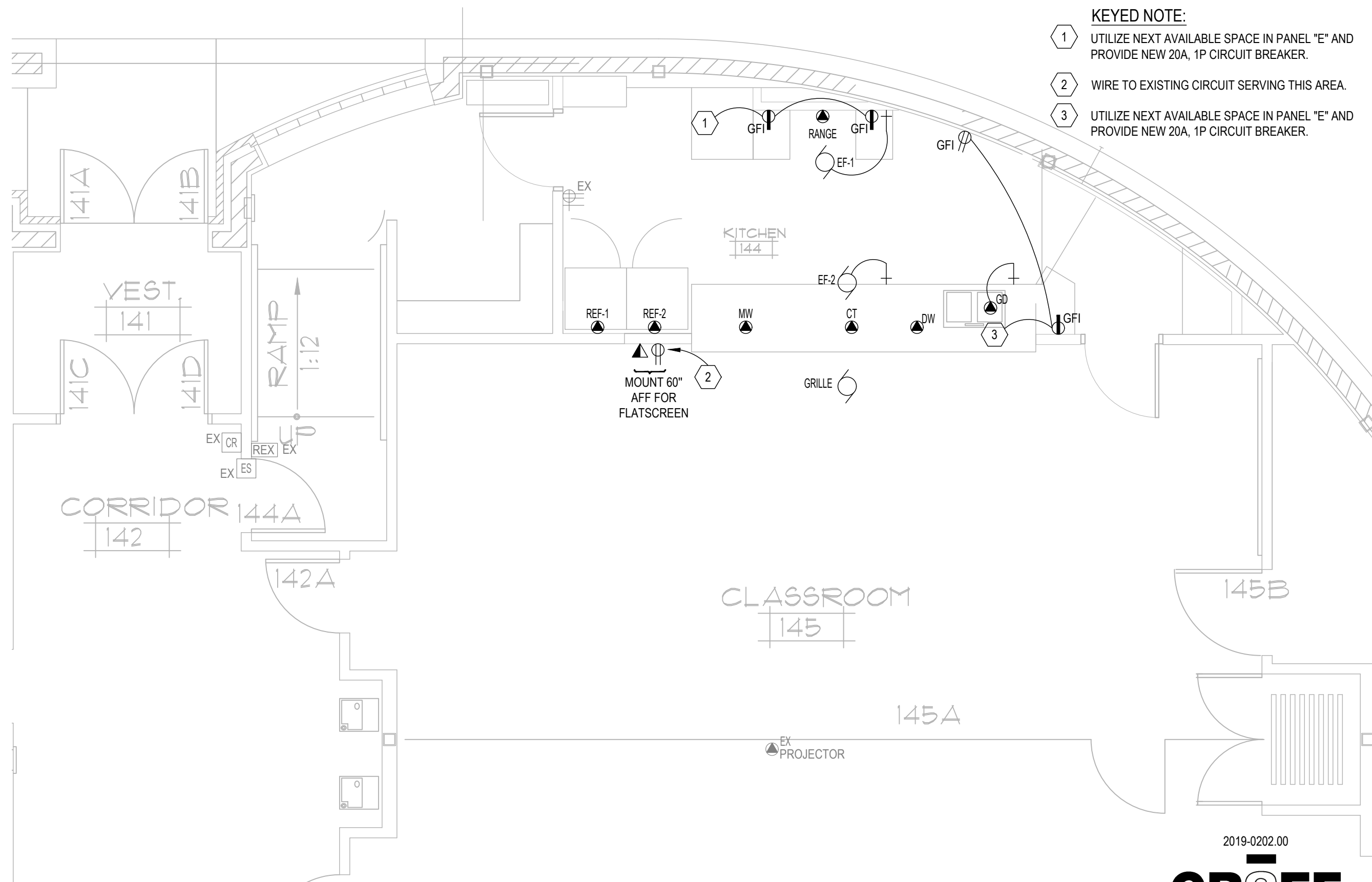
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**GRÄEF**

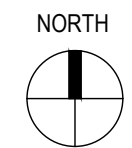
One Honey Creek Corporate Center  
125 South 84th Street, Suite 401  
Milwaukee, WI 53214-1470  
414 / 259 1500  
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**KEYED NOTE:**

- 1 UTILIZE NEXT AVAILABLE SPACE IN PANEL "E" AND PROVIDE NEW 20A, 1P CIRCUIT BREAKER.
- 2 WIRE TO EXISTING CIRCUIT SERVING THIS AREA.
- 3 UTILIZE NEXT AVAILABLE SPACE IN PANEL "E" AND PROVIDE NEW 20A, 1P CIRCUIT BREAKER.



**1 FIRST FLOOR POWER AND SYSTEMS PLAN**  
1/4"=1'-0"



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Architecture  
Planning

Dorschner Associates, Inc.  
849 E Washington Ave Ste112  
Madison, Wisconsin 53703

ISSUED

**PROJECT**

FEN OAK FIRST FLOOR  
KITCHEN RENOVATION

LYMAN F. ANDERSON  
AGRICULTURE AND  
CONSERVATION  
CENTER 5201 FEN OAK  
DRIVE MADISON, WI

**DRAWING**

**DATE**  
06.13.19

**E4.0**

MOTOR WIRING SCHEDULE													
TAG	DRIVING	LOC.	POWER			FEED FROM		BREAKER		BRANCH WIRING			SEE NOTE
			HP	VOLT	PH	PANEL	CIRCUIT	SIZE	POLE	NO	SIZE	COND.	
EF-1	RANGE HOOD	144	300w	120	1	E	-	20	1	2+G	12	1/2"	1, 2, 3
EF-2	RANGE HOOD	144	VERIFY	120	1	E	-	20	1	2+G	12	1/2"	1, 2,3
GRILLE	GRILLE OVERHEAD DOOR	144	VERIFY	120	1	E	-	20	1	2+G	12	1/2"	3, 4

**NOTES:**

1. VERIFY MOUNTING HEIGHT WITH ARCHITECT PRIOR TO ROUGH-IN.
2. PROVIDE LED BULB.
3. UTILIZE NEXT AVAILABLE SPACE IN PANEL "E".
4. VERIFY ELECTRICAL INFORMATION WITH MANUFACTURE PRIOR TO WIRING TO PANEL.

SPECIAL OUTLET SCHEDULE													
TAG	DRIVING	LOC.	FEED FROM		BREAKER		BRANCH WIRING			POWER			SEE NOTE
			PANEL	CIRCUIT	SIZE	POLE	NO	SIZE	COND.	VOLT	PH	LOAD	
RANGE	RANGE	144	B	-	40	2	2+G	8	1"	208	1	8KW	3
CT	COOKTOP	144	B	-	40	2	2+G	8	1"	208	1	8KW	3
DW	DISHWASHER	144	E	-	20	1	2+G	12	1/2"	120	1	VERIFY	4
REF-1	REFRIGERATOR	144	B	-	20	1	2+G	12	1/2"	120	1	VERIFY	1, 3
REF-2	REFRIGERATOR	144	B	-	20	1	2+G	12	1/2"	120	1	VERIFY	1, 3
MW	MICROWAVE	144	B	-	20	1	2+G	12	1/2"	120	1	VERIFY	2, 3
GD	GARBAGE DISPOSAL	144	B	-	20	1	2+G	12	1/2"	120	1	3/4HP	3, 5

**NOTES:**

1. PROVIDE NEMA 5-15R RECEPTACLE MOUNTED AT 46" AFF TO CENTER OF BOX. PROVIDE DEAD FRONT GFI DEVICE IN A READILY ACCESSIBLE LOCATION.
2. PROVIDE NEMA 5-15R RECEPTACLE. VERIFY MOUNTING HEIGHT WITH ARCHITECTUAL INTERIOR ELEVATION PLAN.
3. WIRE BACK TO EXISTING CIRCUIT WHICH SERVED THE OLD KITCHEN EQUIPMENT.
4. UTILIZE NEXT AVAILABLE SPACE IN PANEL "E".
5. COORDINATE POWER REQUIREMENTS WITH PLUMBING CONTRACTOR PRIOR TO INSTALLATION.

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