

PROJECT MANUAL

GRAND RAPIDS PUBLIC SCHOOLS

Harrison Park Health Clinic

9/27/2024

GRPS Facilities & Operations
900 Union Avenue NE
Grand Rapids, MI 49503

Telephone (616) 819-3010

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INSTRUCTIONS TO BIDDERS

PROJECT: Harrison Park Health Clinic

OWNER: Grand Rapids Public Schools

DESIGN PROFESSIONAL: Architektura
P.O. Box 791
Grand Haven, MI 49417
616-843-1002
info@architekturapl.com

BID DATE: 10/11/2024

BID TIME: 10:00 AM

LOCATION FOR RECEIVING BIDS: Grand Rapids Public Schools
Service Building
900 Union Avenue NE
Grand Rapids, MI 49503

SUMMARY OF WORK

Scope of Work: Act as a general contractor to perform renovations to existing office spaces at Harrison Park Elementary to allow for conversion of the space into a New Health Clinic. General contractor to be responsible for all trades related to the construction project and will be contracted using AIA 105-2017 Standard Short Form Agreement between Owner and Contractor.

OBTAINING BID DOCUMENTS

Bid Documents may be obtained after 1:00 p.m. on 9/27/2024 on the GRPS website at <https://www.grps.org/departments/business-services>

EXAMINATION

Plans may be examined at the Plan Room noted.

Builders Exchange
678 Front Avenue NW Suite 330
Grand Rapids, MI 49546
(616) 949-8650
e-mail: projects@grbx.com

PRE-BID CONFERENCE

A pre-bid conference will be held at:

ADDRESS: Harrison Park Elementary,
1440 Davis ST NW, Grand Rapids, MI
DATE: 10/4/2024
TIME: 3:00 PM

Attendance at the pre-bid conference is MANDATORY NOT MANDATORY for those firms wishing to be considered for contract award.

CONTRACT DOCUMENTS

The Contract Documents, alone, detail the requirements of the project, and bids shall be based only on information presented there. Information obtained from others shall not affect the risks or obligations assumed the Constructor or relieve the Constructor from fulfilling any part of the contract.

SUBSTITUTIONS DURING THE BIDDING PERIOD

Unless otherwise noted, manufacturers and products not named in the specifications will be given consideration during the bidding period. Written approval from the Design Professional shall be obtained before a bidder uses substitute materials or manufacturers in its bid estimate. Bidders who base their bids on substitute materials or manufacturers without the Design Professional's written approval do so at their own risk.

Requests for substitutions during the bidding period must be received at least ten calendar days prior to bid date and may be emailed to the Design Professional at the email address noted above. The burden of showing the requested product is an adequate substitution for the specified product rests with the Bidder.

Substitution requests shall be reviewed by the Design Professional for quality and function, only. The Design Professional's approval of a substitution shall be communicated to all plan holders in an addendum. Bidders shall be responsible for any unforeseen costs that result from using an approved substitution.

TIME FOR COMPLETION

The Constructor shall be 100% complete with the work on or before 12/20/2024

Conditions precedent to establishing final completion include:

- A. Final inspection and approval by all relevant agencies.
- B. All punchlist items having been completed and accepted by Owner.
- C. Manufacturer inspection, approval, and warranties.
- D. Issuance of a Certificate of Occupancy, if necessary.

RESPONSIBILITY OF BIDDERS

Bidders shall study the bid documents and visit the site to satisfy themselves of all conditions before submitting a bid. It is incumbent upon bidders to reconcile any ambiguities, errors or omissions in the documents discovered during the bidding period.

It is the responsibility of each bidder to take those steps necessary to satisfy itself of the physical conditions under which the Work will be performed and the condition of the existing facilities, including those which may not be a part of the Work but could be affected by the performance of the Work, and (b) account for all general, local and prevailing conditions at or near the site that may in any manner affect the cost, schedule, progress or performance of the Work.

Questions about the bid documents, the intent of the design, or errors or omissions discovered in the documents shall be formally submitted to the Design Professional by email at the address given above not less than 10 calendar days prior to the date set for receipt of bids.

INSPECTION OF PREMISES

Most GRPS buildings are occupied Monday through Friday from 7:30 AM until 4:00 PM. Bidders may visit occupied buildings during those hours.

In order to maintain a safe and orderly environment, visitors shall proceed directly to the main office when entering a Grand Rapids Public School building. Identify yourself and state your business. When you have completed your business, please check out at the office.

Call Ronnie Sluiter at Facilities & Operations at (616) 819-3010, prior to visiting a secured site, to arrange for entry and to receive custodial assistance.

COST CONSIDERATIONS

Unless specifically noted otherwise, bids shall include the following costs:

1. Permits, fees, notices, etc. for any federal, state or local government agency having jurisdiction over the project.
2. Inspections by building authorities and other government agencies.
3. Maintaining an environment in compliance with all rules, statutes, regulations and codes covering an occupied school facility.
4. All equipment required to fully and safely complete the work. No equipment shall be furnished by or borrowed from Owner.
5. Unless otherwise noted, during Constructor's performance of the Work, Owner will continue to occupy the building. The Constructor shall provide labor, materials and equipment to construct, maintain and remove all temporary enclosures needed to comply with State of Michigan Fire Code and/or to prevent dust, noise, odors and debris in a construction area from entering the remainder of the building.

6. During the school day, construction operations shall be limited to those methods and procedures that do not adversely affect the environment of Owner's occupied space, including noise, odors, dust, lighting hazards and other undesirable effects and conditions.
7. Prevailing Wages DO, DO NOT apply to this Project.

BID SECURITY

Bid security shall be made payable to "Grand Rapids Public Schools" in the form of a certified or cashier's check or money order drawn upon a bank insured by an agency of the Federal government, or an executed Bid Bond on ConsensusDocs form 262, AIA form A310, or a substantially similar form in the amount of 5% of the bid. A bid bond shall be executed with a surety authorized to do business in the State. A certified or cashier's check or money order submitted as bid security shall be held by the Owner until a contract has been executed.

BIDDING PROCEDURES

1. Bids shall be submitted on the Bid Form included with this document. All blank spaces shall be printed in ink or typewritten. The Bid Form must be fully completed, signed and sealed. In the event of a discrepancy between the words and figures entered on the Bid Form, the written word shall take precedence over the numerical figures.
2. Three originals of the bid shall be submitted in a sealed, opaque envelope bearing the following information clearly marked on the outside:

Grand Rapids Public Schools
Attn: Mr. Marc Bennett, Director of Projects & Maintenance
900 Union Avenue NE
Grand Rapids, MI 49503

Sealed bid for: Harrison Park Health Clinic

The envelope shall also bear, on the outside, the name of the bidding firm, its address and telephone number.

3. Include bid security in the amount identified above.
4. Include a completed and signed Statement of Familial Relationship or the bid may be disqualified.
5. Include a completed and signed Iran Business Relationship Affidavit or the bid may be disqualified.
6. Include completed DTMB documents: Demographics, Statistics and Certification and Certification of a Michigan-based business. These forms are collected for statistical purposes and will not affect award of the contract.
7. Include a completed and signed Debarment and Suspension Certification.

8. Bids will be received until the time and date noted above at the location noted above, unless modified by Addendum, at which time all bids will be opened and read aloud.
9. Bids received after the date and time set for receipt of bids will not be considered or accepted.
10. Bids transmitted by fax, telephone, or electronic mail will not be accepted.

EVALUATION AND AWARD

1. The Owner may waive informalities or minor defects in a bid, may reject any and all bids, or may award to any bidder, regardless of bid amount, when the Owner deems it is in its best interest.
2. Any bid that is incomplete, obscure, or irregular may be rejected. Bids having erasures or corrections may be rejected. Bids that omit a price on any item in the Bid Form may be rejected. A bid for which unit prices are omitted or for which unit prices are, in the sole opinion of GRPS, unbalanced may be rejected. Any bid accompanied by insufficient or unacceptable bid surety may be rejected. A conditional or qualified bid may be rejected.
3. The Owner reserves the right to reject all bids if all bids exceed its budget for contract award.
4. In accordance with GRPS Policy 3670, a bid discount will be applied to bids from bidders who qualify as a local vendor. Non-local bidders can obtain a bid discount based on the percentage of the bid price that will be awarded to local subcontractors. Certification of the amount to be subcontracted will be required prior to award. GRPS Policy 3670 is attached to the Bid Form.
5. Upon approval of contract award by the GRPS Board of Education, the Owner will issue a Notice of Award to that bidder making Grand Rapids Public Schools the most advantageous offer. Payment and performance bonds will be required if the award amount is \$50,000 or more. Once Notice of Award has been issued, the prospective contractor shall obtain and submit payment and performance bonds, if necessary, insurance in accordance with the terms of the construction contract and any additional documentation requested by the Owner.
6. Upon receipt of acceptable payment and performance bonds, if necessary, an insurance certificate showing coverages and limits in accordance with the contract, and any additional documentation requested by the Owner, a contract will be forwarded for signature.

INSTRUCTIONS SUBSEQUENT TO AWARD

1. After executing a contract, the Owner will issue a Notice to Proceed identifying the agreed upon start date. No work shall be performed prior to the start date in the Notice to Proceed.

2. If requested, the Constructor will be furnished, free of charge, up to 3 copies of drawings and specifications, with Amendments current at time of award. Additional copies will be furnished, at cost, payable to the Owner.

BID FORM

Grand Rapids Public Schools
Harrison Park Health Clinic

DATE: _____ (Bidder to enter date)

SUBMITTED BY: (Bidder to enter name and address)

Bidder's Full Name: _____

Address: _____

City, State, Zip: _____

Telephone: _____ Fax: _____

E-Mail: _____

OFFER

A. Having examined the place of the Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by the Owner for the Project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the lump sum price of:

Total Project Base Bid: _____

_____ dollars (\$_____), in lawful money of the

United States of America.

Total Project Cost Alternate #1:

_____ dollars (\$_____), in lawful money of the

- B. We have included bid security in the amount of 10% of the base bid as required by the Instructions to Bidders.
- C. The cost of the 100% Payment and Performance Bonds included in the base bid is \$_____.
- D. The base bid price includes all applicable taxes.

ACCEPTANCE

- A. This offer shall be open to acceptance and is irrevocable for sixty days from the date on which bids were opened.
- B. If this bid is accepted by the Owner within the time period stated above, we will:
 - 1. Furnish the required bonds and insurance certificates within ten days of receipt of Notice of Award.
 - 2. Execute the Agreement immediately upon receipt from the Owner.
 - 3. Commence work within ten days after written Notice to Proceed.
- C. If this bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required bonds and insurance certificates, the bid security shall be forfeited as damages to Grand Rapids Public Schools by reason of our failure, limited in amount to the lesser of the face value of the bid security or the difference between this bid and the bid upon which a Contract is signed.
- D. In the event our bid is not accepted within the time stated above, the bid security shall be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders, unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

CONTRACT TIME

- A. If this Bid is accepted, we will complete all work on or before Completion Date. We understand that conditions precedent to achieving Final Completion include:
 - 1. Final inspection and approval by all relevant agencies.
 - 2. All punchlist items having been completed and accepted by Owner.
 - 3. Manufacturer inspection, approval, and warranties.
 - 4. Issuance of a Certificate of Occupancy, if necessary.

ADDENDA

A. We acknowledge receipt of the following Addenda. These addenda have been evaluated and their effect on the cost of the Work has been incorporated into the base bid entered above.

Addendum # _____ Dated _____ Addendum # _____ Dated _____
Addendum # _____ Dated _____ Addendum # _____ Dated _____

BID FORM SUPPLEMENTS

- A. As requested by the Owner, the following additional information is included:
 - 1. Schedule of Unit Prices: Complete the Schedule of Unit Prices attached to the Bid Form.
- B. We agree to submit the following Supplements to Bid Forms within 48 hours after receipt of a Notice of Award:
 - 1. Subcontractors: Include the names of all Subcontractors and the portions of the Work they will perform.

ACKNOWLEDGEMENTS

The Bidder acknowledges:

- a. That this bid was developed without any collusion, undertaking, or agreement, either directly or indirectly, with any other bidder or bidders to maintain the prices of indicated Work or prevent any other bidder or bidders from bidding the Work.
- b. That this bid shall not be withdrawn for a period of 60 calendar days after the date on which bids were opened.
- c. That all work will be complete on or before the Final Completion date(s) identified in the bid documents.
- d. That the following documents, identified in Instructions to Bidders, have been completed and are attached to this Bid Form:
 - 1. Bid Security in the amount of 5% of the base bid
 - 2. DTMB Demographics, Statistics and Certification
 - 3. DTMB Certification of a Michigan-Based Business
 - 4. Sworn Statement of Familial Relationship
 - 5. Iran Business Relationship Affidavit
 - 6. Debarment and Suspension Certification
 - 7. Criminal Background Affidavit

SCHEDULE OF UNIT PRICES

Provide unit prices for the following line items which will be used to price changes to the Work after award:

Item	Description	Unit Price	Unit

SIGNATURE(S)

The Corporate Seal of _____ was hereunto affixed
(Print the full name of your firm)

In the presence of:

Signature

(Seal)

Printed Name and Title

Date

If the Bid is a joint venture or partnership, add additional forms of execution for each member of the joint venture as above.

AUTHORIZED CORPORATE OFFICER

Signature

Printed Name

Title

Date

GRPS Policy 3670 – Local Construction Contracting

The District provides a preference (bid discount) in construction contracts from local vendors, providing the quality and service are commensurate with the requirements set forth by the District as to satisfy the demands of the bid or proposal. Bids, or proposals when bids are not required, shall be accepted from non-local vendors in order to maintain a fair market price.

In determining the qualification for a Local Purchasing Preference for purposes of this policy, vendors must have obtained the Certification of a Michigan Based Business as determined by the Michigan Department of Technology, Management and Budget as well as meet one of the following criteria:

- a. For at least the last six months had its primary business operations located within the municipality boundaries of the City of Grand Rapids, Michigan (Grand Rapids).
- b. Be certified by the City of Grand Rapids, as a Micro-Local Business Enterprise and have its primary business operations within the municipality boundaries of the City of Grand Rapids.

A successful recipient of a contract and/or purchase order which has received a Local Purchasing Preference may be required to present proof of its status as a Michigan Based Business and documentation of its location within the City of Grand Rapids at any time upon request from an authorized District official. Failure to provide the requested information or failure to maintain business operations with the city of Grand Rapids for the duration of the contract will make the contract voidable at the District's discretion, and will result in disqualification from future consideration of a Local Purchasing Preference for a period of five years unless excused by the Superintendent or Designee.

Preference will be provided on the following basis:

- a. **Constructor Participation:** Grand Rapids Public Schools will provide up to a 5% bid discount to prime contractors and/or construction managers who satisfy the criteria set forth for consideration as a Local Vendor.
- b. **Subcontractor Participation:** Construction bids for non-local vendors may be discounted when a bidder on a Grand Rapids Public Schools' project voluntarily subcontracts with businesses meeting Local Vendor Criteria. Prime contractors and/or construction managers must submit affidavit(s) verifying Local Vendor subcontractor participation.

Prime contractors and/or construction managers must require Local Vendor certification documentation to be submitted by each subcontract bidder with their sealed bid. The District at its discretion can request additional documentation for verification of the qualification of any Local Vendor subcontractor participating in a construction project.

- c. The following is a schedule of discounted percentages based upon Local Vendor subcontractor participation achieved by the prime Constructor:

<u>LV Subcontractor Participation</u>	<u>Discount Percentage</u>
i. 1.00% – 2.5%	1.0%
ii. 2.51% – 5.0%	1.5%
iii. 5.01% – 7.5%	2.0%
iv. 7.51% – 10.0%	2.5%
v. 10.01% – 15.0%	3.0%
vi. 15.01% – 18.0%	4.0%
vii. 18.01% +	5.0%

- d. Prime contractors and/or construction managers may not terminate an approved Local Vendor subcontractor working on a Grand Rapids Public Schools construction project, and then perform the work on the terminated subcontract with its own forces or those of another subcontractor, without prior written consent by the Grand Rapids Public Schools Executive Director of Facilities Planning and Management. If a Local Vendor subcontractor fails to complete its work on the contract for any reason, a prime Constructor/construction manager must notify the Grand Rapids Public Schools

Executive Director of Facilities Planning and Management and make good faith efforts to find another approved Local Vendor subcontractor to substitute for the original Local Vendor subcontractor. Utilizing good faith efforts, and to the extent reasonable, the prime Constructor/construction manager shall substitute an approved Local Vendor subcontractor to perform the same amount of work under the contract as the Local Vendor subcontractor that was terminated.

- e. Joint Venture Bidding: As an incentive to contractors engaging in activities that stimulate the growth and development of local, small emerging businesses as partners bidding as a joint venture, Grand Rapids Public School will apply up to a 5% bid discount for partnering with a qualified Local Vendor.
- f. The Bid Discounts outlined above may not exceed 5% or \$25,000 per bid, whichever is lower. Project bids from prime contractors and/or construction managers are considered a single bid for purposes of the Bid Discount consideration.

Grand Rapids Public Schools, Board of Education Members and employees are prohibited from having any financial interest or personal beneficial interest either directly or indirectly, in the award of any construction contracts, sub-contracts, or the recommendation/selection of any professional design service or construction manager, unless previously disclosed in writing to the Superintendent and approved in writing by the Superintendent.

This policy shall not apply to the extent that it would conflict with any provision of Michigan or federal law, regulation or constitution. The local preference shall not be applied to purchases of goods and services made with federal funds.

Policy Adopted: March 19, 2012

LEGAL Ref: MCL 380.1267; 380.1274

POLICY Ref: 3660 Bids and Quotation Requirements

3690 Local Purchasing

1900 Contracts and Board Member Disclosure Obligations

GRPS Policy Rules 3670R – Local Construction Contracting Regulations

Qualification for Local Construction Contracting Preference

On an annual basis beginning with July 1st of each fiscal year, a vendor desiring to receive a bid discount for local construction contracting may submit appropriate documentation to the Executive Director of Facilities and Operations. Appropriate documentation shall include the following:

- a. Proof of completed submittal of Certification of a Michigan Based Business as determined by the Michigan Department of Technology, Management, and Budget
and

- b. Proof it has its primary business operations located within the municipality of the City of Grand Rapids, Michigan for the past six months (on company letterhead)

or

Proof it has been certified as a Micro-Local Business Enterprise by the City of Grand Rapids and has its primary business operations within the municipality boundaries of the City of Grand Rapids (on company letterhead)

A firm may submit the same documentation with its sealed bid or proposal in order to qualify for the bid discount.

Non-Local Vendors

A non-local vendor may qualify for a bid discount if it voluntarily subcontracts with businesses that meet the above documentation requirements. Proof of subcontractors meeting these requirements must be submitted with the sealed bid or proposal in order to qualify for the discount.

Local subcontractor participation will be based on the value of the local subcontracts as compared to the total bid or proposal

Joint Venture Bidding

Contractors that engage in joint venture bidding with a local, small emerging business partner will need to submit documentation of participation level with the sealed bid or proposal. The local bid discount will be based on the value of the local, small emerging business partner as compared to the total bid or proposal.

Eligibility/Verification

The District may request documentation at the conclusion of a project for which a bid discount was received verifying eligibility with local bid discount criteria. If it is determined that a vendor did not actually meet the terms of local preference, disqualification from future consideration of a local purchasing preference may occur for a period of five years unless excused by the Superintendent or Designee.

Dated: March 12, 2012

LEGAL REF: MCL 380.1267; 380.1274

3660- Bids and Quotation Requirements

3690- Local Purchasing

1900- Contracts and Board Member Disclosure Obligations



DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
Facilities and Business Services Administration
Design & Construction Division
DEMOGRAPHICS, STATISTICS AND CERTIFICATION

- 1. Company Name:
2. Company Address:
3. Principal Place of Business:
4. Year of Establishment:

Woman-, Minority-, or Veteran-Owned Small Business Representation
(For Statistical Use Only)

DEFINITIONS:

“Woman-owned business” means a small business that is at least 51% owned by a woman or women who are US citizens and who control and operate the business.

The vendor represents that it [] IS [] IS NOT a woman-owned small business.

“Minority-owned business” means a small business that is at least 51% owned by a minority or minorities who are US citizens and who control and operate the business.

The vendor represents that it [] IS [] IS NOT a minority-owned small business.

- [] African-American [] Arab-American [] Asian-American [] Hispanic
[] American Indian [] Eskimo

“Qualified Disabled Veteran” means a business entity that is 51% or more owned by one or more veterans with a service-connected disability.

“Qualified Disabled” means a business entity that is 51% or more owned by one or more with a service-connected disability.

The vendor represents that it [] IS [] IS NOT qualified disabled.

“Veteran -owned business” means a small business that is at least 51% owned by a veteran or veterans who are U.S. citizens and who control and operate the business.

The vendor represents that it [] IS [] IS NOT a veteran-owned small business.

The Constructor represents and warrants that the company meets the above (when checked) and can provide supportive documentation upon request.

Authorized Agent Name (print or type)

Authorized Agent Signature



Certification of a Michigan-Based Business
(Information Required Prior to Contract Award
for Application of State Preference/Reciprocity Provisions)

DEFINITION: To qualify as a Michigan business, vendor must have, during the 12 months immediately preceding this bid deadline, or if the business is newly established, for the period the business has been in existence, it has (check all that apply):

Bidder shall also indicate one of the following:

- Bidder qualifies as a Michigan business (provide zip code): _____
- Filed a Michigan single business tax return showing a portion or all of the income tax base allocated or apportioned to the State of Michigan pursuant to the Michigan Single Business Tax Act, 1975 PA 228, MCL ~208.1 – 208.145; or,
- Filed a Michigan income tax return showing income generated in or attributed to the State of Michigan; or,
- Withheld Michigan income tax form compensation paid to the bidder’s owners and remitted the tax to the Department of Treasury; or

I certify that **I have personal knowledge** of such filing or withholding, that it was more than a nominal filing for the purpose of gaining the status of a Michigan business, and that it indicates a significant business presence in the state, considering the size of the business and the nature of its activities.

I authorize the Michigan Department of Treasury to verify that the business has or has not met the criteria for a Michigan business indicated above and to disclose the verifying information to the procuring agency.

Bidder does not qualify as a Michigan business (provide name of State):

Principal place of business is outside the State of Michigan, however service/commodity provided by a location within the State of Michigan (provide zip code):

Authorized Agent Name (print or type) _____

Authorized Agent Signature _____

Fraudulent Certification as a Michigan business is prohibited by MCL 18.1268 §268. A BUSINESS THAT PURPOSELY OR WILLFULLY SUBMITS A FALSE CERTIFICATION THAT IT IS A MICHIGAN BUSINESS OR FALSELY INDICATES THE STATE IN WHICH IT HAS ITS PRINCIPAL PLACE OF BUSINESS IS GUILTY OF A FELONY, PUNISHABLE BY A FINE OF NOT LESS THAN \$25,000 and subject to debarment under MCL 18.1264

SWORN STATEMENT OF FAMILIAL RELATIONSHIP

As required by Section 1267 of the Revised School Code – MCL 380.1267

STATE OF MICHIGAN COUNTY

OF _____

_____, being duly sworn, deposes and says:

That _____ (The "Bidder") has bid for an improvement to the following described project located in Kent County, Michigan, which is owned by the Grand Rapids Public Schools:

Project Name: _____

That the following is a statement of disclosure of any familial relationship that exists between the owner or any employee of the Bidder and any member of the Grand Rapids Public Schools Board of Education or Superintendent, as required pursuant to Section 1267 of the Revised School Code, as amended.

1. That there are no such familial relationships existing at this time.

OR

2. That a familial relationship exists between

_____,

an owner employee of the Bidder who is the _____ relationship

of _____, who is a member of the Board,

the Superintendent.

Deponent _____

Subscribed and sworn to before me this _____ day of _____, 20_____

Acting in: _____

My commission expires: _____

IRAN BUSINESS RELATIONSHIP AFFIDAVIT

Effective April 1, 2013 all bids, proposals, and/or qualification statements received in the State of Michigan must comply with the "Iran Economic Sanctions Act". The following certification is to be signed and included at time of submittal.

Certification

Pursuant to the Michigan Iran Economic Sanctions Act, 2012 P.A. 517, by submitting a bid, proposal or response, Respondent certifies, under civil penalty for false certification, that it is fully eligible to do so under law and that it is not an "Iran linked business" as the term is defined in the Act.

Signature

Title

Company

Date

DEBARMENT AND SUSPENSION CERTIFICATION

The bidder, under penalty of perjury, certifies that, except as noted below, he/she or any other person associated therewith in the capacity of owner, partner, director, officer, manager:

- Is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any Federal agency;
- Has not been suspended, debarred, voluntarily excluded or determined ineligible by any Federal agency within the past 3 years;
- Does not have a proposed debarment pending; and,
- Is not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or Local) in any matter involving fraud or official misconduct within the past 3 years.

If there are any exceptions to this certification, insert the exceptions in the following space:

Exceptions will not necessarily result in denial or award, but will be considered in determining bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of action.

Notes: *Providing false information may result in criminal prosecution or administrative sanctions. The above certification is part of the Bid. Signing this document on the signature portion thereof shall also constitute signature of this Certification.*

Signature

Title

Company

Date

Criminal Background Affidavit

The undersigned, the owner or authorized officer of the below-named Firm, pursuant to the criminal background compliance certification requirements of Grand Rapids Public Schools (the "School District") hereby represents and warrants that the Firm has performed and/or will perform sufficient criminal background checks, including at a minimum, an Internet Criminal History Tool ("ICHAT") check, for all of its owners, employees, agents, representatives, contractors and/or other personnel who will be on any School District premises to carry out the services contemplated by the Contract Documents. The Firm further hereby certifies that no owner, employee, agent, representative, contractor and/or other personnel of the Firm will be on any School District premises if they are a registered criminal sexual offender under the Sex Offenders Registration Act, Public Act 295 of 1994, or have been convicted of "Listed Offense" as defined under Section 722 of the Sex Offenders Registration Act, MCL 28.722.

The Firm further acknowledges that if it is found to have submitted a false certification or otherwise fails to comply with the requirements of this certification, the School District may immediately terminate the Contract.

FIRM:

Name of FIRM

By: _____

Its: _____

STATE OF _____)
)ss.

COUNTY OF _____)

This instrument was acknowledged before me on the ____ day of _____, 20__, by _____, ,

Notary Public
_____ County _____, My Commission Expires:

Acting in the County of: _____

REQUEST FOR INFORMATION

PROJECT: _____

COMPANY: _____

NAME: _____

PHONE: _____

E-MAIL: _____

DATE: _____

QUESTION:

(Type or print in box, or attach additional typed pages with this cover page.)

SEND TO: Marc Bennett
Grand Rapids Public Schools
E-Mail: Bennettm@grps.org

SECTION 01000
GENERAL REQUIREMENTS

PART 1 – GENERAL

1.1 FIELD CONDITIONS AND DIMENSIONS

- A. Prior to doing any work, verify all dimensions, details, quantities, and conditions which may affect the work. No allowance for additional compensation will be considered for discrepancies between dimensions indicated on the drawings and actual field dimensions.

1.2 SUBSTITUTIONS AFTER CONTRACT AWARD

- A. The Owner will consider substitution requests only if the proposed substitute offers the Owner cost or schedule advantages. A request for a substitution shall include a proposal for adjustments to the contract price and/or time if the substitution is approved. The Constructor shall bear the burden of providing the Design Professional any technical, cost or schedule data needed to evaluate the proposed substitution.
- B. The Design Professional shall review the substitution proposal for quality and function, only. The Constructor shall be responsible for any unforeseen costs associated with using an approved substitution.

1.3 CONTRACT DOCUMENTS

- A. The Contract Documents, alone, detail the requirements of the project. Information obtained from an officer, agent, consultant or employee of the Owner or any other person shall not affect the risks or obligations assumed or relieve the Constructor from fulfilling any part of the contract.

1.4 ASBESTOS

- A. All material to be used in the work shall be certified by the manufacturer to be free of any amount of asbestos. No material will be permitted on the site without such certification.
- B. The Constructor should review the Owner's material management plan for their information regarding asbestos. The Constructor must provide an affidavit stating that no asbestos was used in the project. Any asbestos containing material installed under this Contract by the Constructor shall be removed and replaced with like asbestos-free materials, all at the cost of the Constructor.

1.5 LEAD PAINT

- A. Lead Paint: This renovation project may involve activities that disturb lead-based paint. It is the responsibility of the Constructor to determine if the building to be renovated is a **Child-Occupied Facility** as defined under the EPA regulation **Renovation, Repair, and Painting Final Rule (RRP Rule)**. All covered renovations to a **Child-Occupied Facility** must be performed by Certified Firms, using Certified Renovators and other trained workers.

1.6 PROGRESS MEETINGS

- A. The Owner may schedule progress meetings to be held on the jobsite whenever needed to supply information necessary to complete the work without interruptions.
- B. The Constructor shall be represented at each progress meeting by persons with full authority to act for the Constructor in regard to all portions of the work.

1.7 WORKMANSHIP

- A. Except when the Contract Documents note otherwise, the Constructor shall be fully responsible for all construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the work under the Contract with the Owner.

The Constructor shall provide an authorized representative at the site – at all times during working hours – to receive and execute orders by the Owner. All such orders given to the Constructor’s representative shall be deemed as given to and received by the Constructor.

- B. The Constructor shall maintain a copy of the Contract Documents at the project site at all times.

1.8 LAWS

- A. The Constructor shall comply with all applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over the construction of the project.

1.9 CODE AND REGULATION COMPLIANCE

- A. Comply with all applicable federal, state, and local codes and regulations relating to buildings, employment, the preservation of public health and safety, use of streets, and the performance of the work under this Contract. It shall be the responsibility of the Constructor to fully understand all such requirements and to ensure that the subject requirements are fully and faithfully enforced.
- B. Any work performed that the Constructor knew or should have known was contrary to existing laws, rules and regulations, and for which the Constructor failed to give notice of such fact to the Owner, shall be the responsibility of the Constructor to correct. The Constructor shall bear all costs arising therefrom and hold the Owner harmless for any such violation.

- C. Upon completion of the Work, the Constructor shall submit to the Owner a certificate of inspection by the governmental authority having jurisdiction, showing that all work subject to inspection has been properly inspected and approved to meet current code requirements.
- D. Covid-19 Safety Update. In light of the Coronavirus Disease 2019 (COVID-19), GRPS is requiring special health and safety measures for everyone. All contractors must meet Federal, State, CDC and OSHA guidelines as it relates to Covid-19. Specifically, a safety plan that is in Compliance with OSHA 3990-3 2020 must be in place prior to work in any GRPS facilities.

1.10 PROJECT SAFETY

SAFETY IS OF ABSOLUTE IMPORTANCE. The Constructor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs associated with the Work. Under no circumstances shall the Constructor's activities jeopardize the safety of a building's occupants, construction workers or the general public.

- A. All Work must be executed in accordance with applicable standards of the Construction Safety and Health Division of the State of Michigan Department of Licensing and Regulatory Affairs.
- B. The requirements indicated in this section are to be considered the minimum. Where the requirements of any of the listed authorities having jurisdiction conflict with the requirements of this section, the maximum condition shall prevail.
- C. The Constructor shall furnish, install and maintain as long as necessary and remove when no longer required, adequate barriers, warning signs and lights or other necessary or prudent safety measures at all dangerous locations during work operations for the protection of Constructor personnel, building occupants, and the general public. Provide and erect all such safety precautions in accordance with federal, state and local codes and other legal requirements.
- D. Whenever lifting materials or equipment over or near existing or occupied buildings, provide advance notice of such activities and arrange to have any potentially endangered spaces vacated.
- E. During work operations, provide temporary partitions, barriers, curtains, and guards as necessary to confine materials, dust and debris to the immediate work areas. Do not allow dust or debris to enter the building interior. Coordinate the location of temporary barriers or partitions with the Owner.
- F. Remove all temporary protection when work is completed and restore disturbed areas to their original condition.
- G. The Constructor shall hold the Owner harmless from damage or claims arising out of any injury or damage that may be sustained by any person or persons as a result of the work under the Contract.

1.11 PROTECTION OF PROPERTY

- A. Coordinate all Work with the Owner so that adequate interior protection, as necessary, is provided and disruption to normal building operations is minimized. Repair all property damage caused by lack of such protection to the satisfaction of the Owner.
- B. Confine equipment, storage of materials, debris, and the operation and movements of workmen within the physical limits and time limits directed by the Owner. Such activities are to be governed by applicable local building codes and the traffic regulation and safety and fire regulation of local authorities.
- C. Document existing damage prior to the start of work to avoid responsibility for preexisting conditions. During work operations, provide protection for existing building, finishes, walks, drives, and landscaping in and adjacent to the work areas. Repair or replace building components or site property damaged during the work to match its condition before the damage. If the Constructor fails to repair or replace such damage, the Owner will have the work done by others and the costs of such work will be charged to the Constructor.
- D. Do not store materials, tools, or equipment on any existing roof area adjacent to the work site unless proper protection of the existing roof is provided and the materials are spread out and located at column locations.
- E. The Constructor shall hold the Owner harmless against all claims of damage or alleged damage to any such structure arising out of the work under this Contract.

1.12 FIRE SAFETY

- A. No open fire is permitted on the building site at any time (except for torches to apply modified roof membrane).
- B. Take all precautions to eliminate possible fire hazards at the site, including but not limited to the following:
 1. Remove all combustible debris from the roof and storage areas on a daily basis.
 2. Store highly flammable materials in well-ventilated areas; mixing and preparation of such materials is also restricted to such areas. Handle all such materials in accordance with safe practices and the requirements of authorities having jurisdiction.
 3. The Constructor shall not store large quantities of flammable materials at the site.

1.13 VANDALISM

- A. The cost for any damage by vandalism to material or equipment or that which occurs to items finished or installed under this contract, is to be borne by the Constructor. The Constructor is responsible for such vandalism from the date of the Notice to Proceed until Final Completion.

1.14 TEMPORARY UTILITIES AND FACILITIES

- A. Water and electricity may be available in the area where work will be performed. If so, the Constructor will not be charged for reasonable use of these services for construction operations. The Constructor shall pay costs for installation and removal of any temporary connections including necessary safety devices and controls.

1.15 MISCELLANEOUS FACILITIES AND CONTROLS

- A. New materials delivered to and stored outdoors on the jobsite shall be fully protected from weather by placement on raised platforms and shall have secure waterproof plastic coverings or tarpaulins. The waterproof plastic coverings or tarpaulins shall not extend all the way to the ground surface. They shall terminate a few inches above the ground surface. Factory-provided plastic wrap is not an acceptable waterproof covering.
- B. Contractors and their employees or suppliers will not use or interfere with existing public access, drives, roads or parking lots, except as specifically indicated by prior arrangement with the Owner.
- C. Constructor's employee parking, delivery trucks and other construction vehicle parking will only be allowed in areas designated by the Owner.
- D. The Constructor shall provide and regularly maintain portable sanitary facilities at the site. The contractors' employees shall not utilize the restrooms in the school buildings.

1.16 NO SMOKING POLICY

- A. The use of tobacco products on school property is a misdemeanor under MCL 750.473. No tobacco products will be allowed anywhere on school property at any time.

1.17 REMOVAL OF DEBRIS

- A. Remove all rubbish and debris from the site daily or more often if directed by the Owner. The premises shall be maintained as clean as practical, consistent with the neatness required for the Owner's normal operations.
- B. No storage of removed items or debris will be permitted on the site unless so directed by the Owner.
- C. The location of the trash containers is subject to the Owner's approval.
- D. During non-construction hours, cover and seal trash containers to prevent wind-blown debris and access into trash containers.

END OF SECTION

ATTACHMENT A

WORK DESCRIPTION
DRAWINGS, SKETCHES, SPECIFICATIONS

PROJECT MANUAL



architektura ^{PLC}

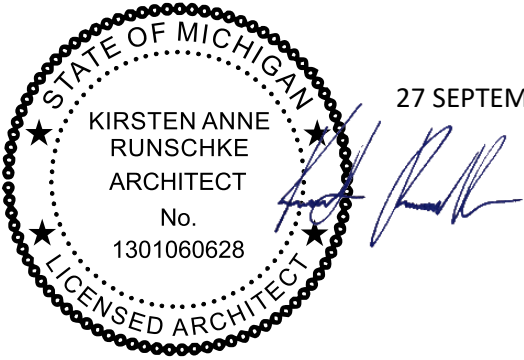
P.O. Box 791
Grand Haven, MI 49417

PROJECT MANUAL FOR:
HARRISON PARK ACADEMY – NEW HEALTH CLINIC
1440 Davis Ave NW, Grand Rapids, MI 49504

OWNER:
GRAND RAPIDS PUBLIC SCHOOLS

PREPARED BY:
ARCHITEKTURA PLC
PO BOX 971
GRAND HAVEN, MI 49417

PROJECT #
1322



ISSUANCE:
27 SEPTEMBER 2024 FOR BIDS AND PERMITS

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**SECTION 013000
ADMINISTRATIVE REQUIREMENTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. General administrative requirements.
- B. Electronic document submittal service.
- C. Submittals for review, information, and project closeout.
- D. Number of copies of submittals.
- E. Requests for Interpretation (RFI) procedures.
- F. Submittal procedures.

1.02 RELATED REQUIREMENTS

- A. Section 016000 - Product Requirements: General product requirements.
- B. Section 017000 - Execution and Closeout Requirements: Additional coordination requirements.
- C. Section 017800 - Closeout Submittals: Project record documents; operation and maintenance data; warranties and bonds.

1.03 GENERAL ADMINISTRATIVE REQUIREMENTS

- A. Comply with requirements of Section 017000 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.

1.04 PROJECT COORDINATOR

- A. Project Coordinator: GENERAL CONTRACTOR.
- B. Cooperate with the Project Coordinator in allocation of mobilization areas of site; for field offices and sheds, for site access, traffic, and parking facilities.
- C. During construction, coordinate use of site and facilities through the Project Coordinator.
- D. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.
- E. Comply with instructions of the Project Coordinator for use of temporary utilities and construction facilities.
- F. Coordinate field engineering and layout work under instructions of the Project Coordinator.
- G. Make the following types of submittals to Architect through the Project Coordinator:
 - 1. Requests for Interpretation.
 - 2. Requests for substitution.
 - 3. Shop drawings, product data, and samples.
 - 4. Test and inspection reports.
 - 5. Design data.
 - 6. Manufacturer's instructions and field reports.
 - 7. Applications for payment and change order requests.
 - 8. Coordination drawings.
 - 9. Correction Punch List and Final Correction Punch List for Substantial Completion.
 - 10. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 ELECTRONIC DOCUMENT SUBMITTAL SERVICE

- A. All documents transmitted for purposes of administration of the contract are to be in electronic (PDF, MS Word, or MS Excel) format, as appropriate to the document, and transmitted via an Internet-based submittal service that receives, logs and stores documents, provides electronic

stamping and signatures, and notifies addressees via email.

1. Besides submittals for review, information, and closeout, this procedure applies to Requests for Interpretation (RFIs), progress documentation, contract modification documents (e.g. supplementary instructions, change proposals, change orders), applications for payment, field reports and meeting minutes, Contractor's correction punchlist, and any other document any participant wishes to make part of the project record.
 2. Contractor and Architect are required to use this service.
 3. It is Contractor's responsibility to submit documents in allowable format.
 4. Subcontractors, suppliers, and Architect's consultants will be permitted to use the service at no extra charge.
 5. Users of the service need an email address, internet access, and PDF review software that includes ability to mark up and apply electronic stamps (such as Adobe Acrobat, www.adobe.com, or Bluebeam PDF Revu, www.bluebeam.com), unless such software capability is provided by the service provider.
 6. Paper document transmittals will not be reviewed; emailed electronic documents will not be reviewed.
 7. All other specified submittal and document transmission procedures apply, except that electronic document requirements do not apply to samples or color selection charts.
- B. Submittal Service: The selected service is:
- C. Training: One, one-hour, web-based training session will be arranged for all participants, with representatives of Architect and Contractor participating; further training is the responsibility of the user of the service.
- D. Project Closeout: Architect will determine when to terminate the service for the project and is responsible for obtaining archive copies of files for Owner.

3.02 REQUESTS FOR INTERPRETATION (RFI)

- A. Definition: A request seeking one of the following:
1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.
 2. A resolution to an issue which has arisen due to field conditions and affects design intent.
- B. Whenever possible, request clarifications at the next appropriate project progress meeting, with response entered into meeting minutes, rendering unnecessary the issuance of a formal RFI.
- C. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
1. Prepare a separate RFI for each specific item.
 - a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.
 - b. Do not forward requests which solely require internal coordination between subcontractors.
 2. Prepare in a format and with content acceptable to Owner.
 3. Prepare using software provided by the Electronic Document Submittal Service.
 4. Combine RFI and its attachments into a single electronic file. PDF format is preferred.
- D. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.
1. Include in each request Contractor's signature attesting to good faith effort to determine from Contract Documents information requiring interpretation.
 2. Unacceptable Uses for RFIs: Do not use RFIs to request the following:
 - a. Approval of substitutions (see Section - 016000 - Product Requirements)

- b. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
 - c. Different methods of performing work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Conditions of the Contract).
 - 3. Improper RFIs: Requests not prepared in compliance with requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response, with an explanatory notation.
 - 4. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, Contract Documents, with no additional input required to clarify the question. They will be returned without a response, with an explanatory notation.
 - a. The Owner reserves the right to assess the Contractor for the costs (on time-and-materials basis) incurred by the Architect, and any of its consultants, due to processing of such RFIs.
- E. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
 - 1. Official Project name and number, and any additional required identifiers established in Contract Documents.
 - 2. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.
- F. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.
- G. Review Time: Architect will respond and return RFIs to Contractor within seven calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 12:00 noon will be considered as having been received on the following regular working day.
 - 1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.
- H. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.

3.03 SUBMITTALS FOR REVIEW

- A. When the following are specified in individual sections, submit them for review:
 - 1. Product data.
 - 2. Shop drawings.
 - 3. Samples for selection.
 - 4. Samples for verification.
- B. Submit to Architect for review for the limited purpose of checking for compliance with information given and the design concept expressed in Contract Documents.
- C. Samples will be reviewed for aesthetic, color, or finish selection.
- D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 017800 - Closeout Submittals.

3.04 SUBMITTALS FOR INFORMATION

- A. When the following are specified in individual sections, submit them for information:
 - 1. Design data.
 - 2. Certificates.
 - 3. Test reports.
 - 4. Inspection reports.

5. Manufacturer's instructions.
6. Manufacturer's field reports.
7. Other types indicated.

B. Submit for Architect's knowledge as contract administrator or for Owner.

3.05 SUBMITTALS FOR PROJECT CLOSEOUT

- A. Submit Correction Punch List for Substantial Completion.
- B. Submit Final Correction Punch List for Substantial Completion.
- C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 017800 - Closeout Submittals:
 1. Project record documents.
 2. Operation and maintenance data.
 3. Warranties.
 4. Bonds.
 5. Other types as indicated.
- D. Submit for Owner's benefit during and after project completion.

3.06 NUMBER OF COPIES OF SUBMITTALS

- A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.
- B. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
 1. After review, produce duplicates.
 2. Retained samples will not be returned to Contractor unless specifically so stated.

3.07 SUBMITTAL PROCEDURES

- A. General Requirements:
 1. Use a separate transmittal for each item.
 2. Submit separate packages of submittals for review and submittals for information, when included in the same specification section.
 3. Transmit using approved form.
 - a. Use Contractor's form, subject to prior approval by Architect.
 4. Sequentially identify each item. For revised submittals use original number and a sequential numerical suffix.
 5. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.
 6. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
 7. Schedule submittals to expedite the Project, and coordinate submission of related items.
 - a. For each submittal for review, allow 10 days excluding delivery time to and from the Contractor.
 - b. For sequential reviews involving Architect's consultants, Owner, or another affected party, allow an additional 7 days.
 8. Provide space for Contractor and Architect review stamps.
 9. When revised for resubmission, identify all changes made since previous submission.
 10. Distribute reviewed submittals. Instruct parties to promptly report inability to comply with requirements.
 11. Incomplete submittals will not be reviewed, unless they are partial submittals for distinct portion(s) of the work, and have received prior approval for their use.
 12. Submittals not requested will be recognized, and will be returned "Not Reviewed",
- B. Product Data Procedures:
 1. Submit only information required by individual specification sections.

2. Collect required information into a single submittal.
 3. Do not submit (Material) Safety Data Sheets for materials or products.
- C. Shop Drawing Procedures:
1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting Contract Documents and coordinating related work.
 2. Do not reproduce Contract Documents to create shop drawings.
 3. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.
- D. Samples Procedures:
1. Transmit related items together as single package.
 2. Identify each item to allow review for applicability in relation to shop drawings showing installation locations.
 3. Include with transmittal high-resolution image files of samples to facilitate electronic review and approval. Provide separate submittal page for each item image.

3.08 SUBMITTAL REVIEW

- A. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action.
- B. Submittals for Information: Architect will acknowledge receipt and review. See below for actions to be taken.
- C. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.
- D. Architect's and consultants' actions on items submitted for review:
1. Authorizing purchasing, fabrication, delivery, and installation:
 - a. "Approved", or language with same legal meaning.
 - b. "Approved as Noted, Resubmission not required", or language with same legal meaning.
 - 1) At Contractor's option, submit corrected item, with review notations acknowledged and incorporated.
 - c. "Approved as Noted, Resubmit for Record", or language with same legal meaning.
 2. Not Authorizing fabrication, delivery, and installation:
- E. Architect's and consultants' actions on items submitted for information:
1. Items for which no action was taken:
 - a. "Received" - to notify the Contractor that the submittal has been received for record only.
 2. Items for which action was taken:
 - a. "Reviewed" - no further action is required from Contractor.

END OF SECTION

**SECTION 014000
QUALITY REQUIREMENTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Submittals.
- B. Quality assurance.
- C. Testing and inspection agencies and services.
- D. Control of installation.
- E. Defect Assessment.

1.02 RELATED REQUIREMENTS

- A. Section 013000 - Administrative Requirements: Submittal procedures.
- B. Section 016000 - Product Requirements: Requirements for material and product quality.

1.03 SUBMITTALS

- A. See Section 013000 - Administrative Requirements, for submittal procedures.

1.04 TESTING AND INSPECTION AGENCIES AND SERVICES

PART 3 EXECUTION

2.01 CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.
- D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Have work performed by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

2.02 TESTING AND INSPECTION

- A. Testing Agency Duties:
 - 1. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
 - 2. Perform specified sampling and testing of products in accordance with specified standards.
 - 3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 - 4. Promptly notify Architect and Contractor of observed irregularities or non-compliance of Work or products.
 - 5. Perform additional tests and inspections required by Architect.
 - 6. Submit reports of all tests/inspections specified.
- B. Limits on Testing/Inspection Agency Authority:
 - 1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 - 2. Agency may not approve or accept any portion of the Work.
 - 3. Agency may not assume any duties of Contractor.
 - 4. Agency has no authority to stop the Work.

- C. Contractor Responsibilities:
 - 1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
 - 2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
 - 3. Provide incidental labor and facilities:
 - a. To provide access to Work to be tested/inspected.
 - b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
 - c. To facilitate tests/inspections.
 - d. To provide storage and curing of test samples.
 - 4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
 - 5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
 - 6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
- D. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Architect.
- E. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

2.03 DEFECT ASSESSMENT

- A. Replace Work or portions of the Work not complying with specified requirements.

END OF SECTION

**SECTION 016000
PRODUCT REQUIREMENTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. General product requirements.
- B. Transportation, handling, storage and protection.
- C. Product option requirements.
- D. Substitution limitations.
- E. Procedures for Owner-supplied products.
- F. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 SUBMITTALS

- A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
 - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 NEW PRODUCTS

- A. Provide new products unless specifically required or permitted by Contract Documents.
- B. Use of products having any of the following characteristics is not permitted:
 - 1. Made using or containing CFC's or HCFC's.
 - 2. Containing lead, cadmium, or asbestos.
- C. Where other criteria are met, Contractor shall give preference to products that:
 - 1. If used on interior, have lower emissions, as defined in Section 016116.
 - 2. If wet-applied, have lower VOC content, as defined in Section 016116.

2.02 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.03 MAINTENANCE MATERIALS

- A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.
- B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 OWNER-SUPPLIED PRODUCTS

- A. Owner's Responsibilities:
 - 1. Arrange for and deliver Owner reviewed shop drawings, product data, and samples, to Contractor.

2. Arrange and pay for product delivery to site.
 3. On delivery, inspect products jointly with Contractor.
 4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
 5. Arrange for manufacturers' warranties, inspections, and service.
- B. Contractor's Responsibilities:
1. Review Owner reviewed shop drawings, product data, and samples.
 2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
 3. Handle, store, install and finish products.
 4. Repair or replace items damaged after receipt.

3.02 TRANSPORTATION AND HANDLING

- A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.
- B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.
- C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- D. Transport and handle products in accordance with manufacturer's instructions.
- E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.
- H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.03 STORAGE AND PROTECTION

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. See Section 017419.
- B. Store and protect products in accordance with manufacturers' instructions.
- C. Store with seals and labels intact and legible.
- D. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.
- E. For exterior storage of fabricated products, place on sloped supports above ground.
- F. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- G. Comply with manufacturer's warranty conditions, if any.
- H. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- I. Prevent contact with material that may cause corrosion, discoloration, or staining.
- J. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- K. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

**SECTION 017000
EXECUTION AND CLOSEOUT REQUIREMENTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Examination, preparation, and general installation procedures.
- B. Requirements for alterations work, including selective demolition, except removal, disposal, and/or remediation of hazardous materials and toxic substances.
- C. Pre-installation meetings.
- D. Cutting and patching.
- E. Surveying for laying out the work.
- F. Cleaning and protection.
- G. Starting of systems and equipment.
- H. Demonstration and instruction of Owner personnel.
- I. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.
- J. General requirements for maintenance service.

1.02 RELATED REQUIREMENTS

- A. Section 013000 - Administrative Requirements: Submittals procedures, Electronic document submittal service.
- B. Section 015000 - Temporary Facilities and Controls: Temporary exterior enclosures.
- C. Section 015000 - Temporary Facilities and Controls: Temporary interior partitions.
- D. Section 017800 - Closeout Submittals: Project record documents, operation and maintenance data, warranties, and bonds.
- E. Section 024100 - Demolition: Demolition of whole structures and parts thereof; site utility demolition.
- F. Section 078400 - Firestopping.

1.03 SUBMITTALS

- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
 - 1. Structural integrity of any element of Project.
 - 2. Integrity of weather exposed or moisture resistant element.
 - 3. Efficiency, maintenance, or safety of any operational element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of Owner or separate Contractor.
- C. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.04 PROJECT CONDITIONS

- A. Use of explosives is not permitted.
- B. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- C. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
 - 1. Provide dust-proof barriers between construction areas and areas continuing to be occupied by Owner.
- D. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.

1. Outdoors: Limit conduct of especially noisy exterior work to the hours of 8 am to 5 pm.
 2. Indoors: Limit conduct of especially noisy interior work to the hours of 6 pm to 7 am.
- E. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.
- F. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.05 COORDINATION

- A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Notify affected utility companies and comply with their requirements.
- C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- F. Coordinate completion and clean-up of work of separate sections.
- G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

- A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.
- C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 016000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 PREINSTALLATION MEETINGS

- A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.
- B. Require attendance of parties directly affecting, or affected by, work of the specific section.
- C. Notify Architect four days in advance of meeting date.
- D. Prepare agenda and preside at meeting:
 - 1. Review conditions of examination, preparation and installation procedures.
 - 2. Review coordination with related work.
- E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.04 GENERAL INSTALLATION REQUIREMENTS

- A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
- C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.05 ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
 - 1. Verify that construction and utility arrangements are as indicated.
 - 2. Report discrepancies to Architect before disturbing existing installation.
 - 3. Beginning of alterations work constitutes acceptance of existing conditions.
- B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
 - 1. Provide, erect, and maintain temporary dustproof partitions of construction indicated on drawings .
- C. Remove existing work as indicated and as required to accomplish new work.
 - 1. Remove items indicated on drawings.
 - 2. Relocate items indicated on drawings.
 - 3. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
 - 4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.
- D. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
 - 1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
 - 2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment

- as required.
- 3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 - a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
 - b. Provide temporary connections as required to maintain existing systems in service.
- 4. Verify that abandoned services serve only abandoned facilities.
- 5. Remove abandoned pipe, ducts, conduits, and equipment , including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.
- E. Protect existing work to remain.
 - 1. Prevent movement of structure; provide shoring and bracing if necessary.
 - 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 - 3. Repair adjacent construction and finishes damaged during removal work.
- F. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
 - 1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.
 - 2. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
- G. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.
- H. Refinish existing surfaces as indicated:
 - 1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
 - 2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.
- I. Clean existing systems and equipment.
- J. Do not begin new construction in alterations areas before demolition is complete.
- K. Comply with all other applicable requirements of this section.

3.06 CUTTING AND PATCHING

- A. Whenever possible, execute the work by methods that avoid cutting or patching.
- B. See Alterations article above for additional requirements.
- C. Perform whatever cutting and patching is necessary to:
 - 1. Complete the work.
 - 2. Fit products together to integrate with other work.
 - 3. Provide openings for penetration of mechanical, electrical, and other services.
 - 4. Match work that has been cut to adjacent work.
 - 5. Repair areas adjacent to cuts to required condition.
 - 6. Repair new work damaged by subsequent work.
 - 7. Remove samples of installed work for testing when requested.
 - 8. Remove and replace defective and non-complying work.
- D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
- E. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

- F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- G. Restore work with new products in accordance with requirements of Contract Documents.
- H. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 078400, to full thickness of the penetrated element.
- J. Patching:
 1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
 2. Match color, texture, and appearance.
 3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.07 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.08 PROTECTION OF INSTALLED WORK

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.
- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- F. Protect work from spilled liquids. If work is exposed to spilled liquids, immediately remove protective coverings, dry out work, and replace protective coverings.
- G. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- H. Prohibit traffic from landscaped areas.
- I. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.09 SYSTEM STARTUP

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.
- C. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- D. Verify that wiring and support components for equipment are complete and tested.

- E. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.
- F. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.
- G. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.10 DEMONSTRATION AND INSTRUCTION

- A. Demonstrate operation and maintenance of products to Owner's personnel two weeks prior to date of Substantial Completion.
- B. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time, at equipment location.
- C. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
- D. Provide a qualified person who is knowledgeable about the Project to perform demonstration and instruction of Owner's personnel.

3.11 ADJUSTING

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

3.12 FINAL CLEANING

- A. Use cleaning materials that are nonhazardous.
- B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- C. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
- D. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- E. Clean filters of operating equipment.
- F. Clean debris from roofs, gutters, downspouts, scuppers, overflow drains, area drains, and drainage systems.
- G. Clean site; sweep paved areas, rake clean landscaped surfaces.
- H. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.13 CLOSEOUT PROCEDURES

- A. Make submittals that are required by governing or other authorities.
 - 1. Provide copies to Architect.
- B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.
- C. Notify Architect when work is considered ready for Architect's Substantial Completion inspection.
- D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.
- E. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.

- F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.
- G. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.
- H. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

3.14 MAINTENANCE

- A. Provide service and maintenance of components indicated in specification sections.
- B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.
- C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.
- D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.
- E. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION

**SECTION 061000
ROUGH CARPENTRY**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Structural dimension lumber framing.
- B. Nonstructural dimension lumber framing.
- C. Rough opening framing for doors, windows, and roof openings.
- D. Sheathing.
- E. Roof-mounted curbs.
- F. Roofing nailers.
- G. Preservative treated wood materials.
- H. Fire retardant treated wood materials.
- I. Communications and electrical room mounting boards.
- J. Miscellaneous wood nailers, furring, and grounds.

1.02 RELATED REQUIREMENTS

- A. Section 051200 - Structural Steel Framing: Prefabricated beams and columns for support of wood framing.
- B. Section 055000 - Metal Fabrications: Miscellaneous steel connectors and support angles for wood framing.
- C. Section 061753 - Shop-Fabricated Wood Trusses.
- D. Section 092116 - Gypsum Board Assemblies: Gypsum-based sheathing.

1.03 REFERENCE STANDARDS

- A. ANSI A208.1 - American National Standard for Particleboard; 2022.
- B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2016a.
- C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2022.
- D. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2017.
- E. ASTM D2898 - Standard Practice for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing; 2010 (Reapproved 2017).
- F. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2021.
- G. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023.
- H. AWC (WFCM) - Wood Frame Construction Manual for One- and Two-Family Dwellings; 2024, with Errata.
- I. AWWA U1 - Use Category System: User Specification for Treated Wood; 2022.
- J. PS 1 - Structural Plywood; 2019.
- K. PS 2 - Performance Standard for Wood Structural Panels; 2018.
- L. PS 20 - American Softwood Lumber Standard; 2021.
- M. WWPA G-5 - Western Lumber Grading Rules; 2021.

1.04 SUBMITTALS

- A. See Section 013000 - Administrative Requirements for submittal procedures.

- B. Product Data: Provide technical data on insulated sheathing, wood preservative materials, and application instructions.
- C. Manufacturer's Certificate: Certify that wood products supplied for rough carpentry meet or exceed specified requirements.
- D. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.
- B. Fire Retardant Treated Wood: Prevent exposure to precipitation during shipping, storage, and installation.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
 - 1. If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the specified requirements.
 - 2. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee at www.alsc.org, and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
 - 3. Lumber of other species or grades is acceptable provided structural and appearance characteristics are equivalent to or better than products specified.
- B. Lumber salvaged from deconstruction or demolition of existing buildings or structures is permitted in lieu of sustainably harvested lumber provided it is clean, denailed, and free of paint and finish materials, and other contamination; identify source.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

- A. Grading Agency: Western Wood Products Association; WWPA G-5.
- B. Sizes: Nominal sizes as indicated on drawings, S4S.
- C. Moisture Content: S-dry or MC19.
- D. Stud Framing (2 by 2 through 2 by 6 (50 by 50 mm through 50 by 150 mm)):
 - 1. Species: Allowed under referenced grading rules.
 - 2. Grade: No. 2.
- E. Joist, Rafter, and Small Beam Framing (2 by 6 through 4 by 16 (50 by 150 mm through 100 by 400 mm)):
 - 1. Machine stress-rated (MSR) as follows:
 - a. Fb-single; minimum extreme fiber stress in bending: 1350 psi (9,300 kPa).
 - b. E; minimum modulus of elasticity: 1,300,000 psi (8960 MPa).
 - 2. Species: Allowed under grading rules.
- F. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
 - 1. Lumber: S4S, No. 2 or Standard Grade.
 - 2. Boards: Standard or No. 3.

2.03 STRUCTURAL COMPOSITE LUMBER

- A. At Contractor's option, structural composite lumber may be substituted for concealed dimension lumber and timbers.
- B. Structural Composite Lumber: Factory fabricated beams, headers, and columns, of sizes and types indicated on drawings; structural capacity as published by manufacturer.
 - 1. Products:
 - a. Boise Cascade Company: www.bc.com/#sle.

- b. Weyerhaeuser Company: www.weyerhaeuser.com/#sle.
- c. Substitutions: See Section 016000 - Product Requirements.

2.04 CONSTRUCTION PANELS

- A. Subflooring: Particleboard, ANSI A208.1, Grade M-2 EXTERIOR GLUE waferboard; 3/4 inch (19 mm) thick, square edge.
- B. Roof Sheathing: PS 2 type, rated Structural I Sheathing.
 - 1. Bond Classification: Exterior.
 - 2. Span Rating: 60.
 - 3. Performance Category: 3/4 PERF CAT.
- C. Wall Sheathing: Glass mat faced gypsum, ASTM C1177/C1177M, 5/8 inch Type X fire resistant (16 mm Type X fire resistant).
 - 1. At Assemblies Indicated with Fire-Rating: Use type required by indicated tested assembly.
 - 2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
 - 3. Edges: Square.
 - 4. Products:
 - a. CertainTeed Corporation; GlasRoc Brand: www.certainteed.com/#sle.
 - b. Georgia-Pacific Gypsum; DensGlass Sheathing: www.gpgypsum.com/#sle.
 - c. USG Corporation; Securock Brand Glass-Mat Sheathing Regular 5/8 in. (15.9 mm): www.usg.com/#sle.
 - d. Substitutions: See Section 016000 - Product Requirements.

2.05 ACCESSORIES

- A. Fasteners and Anchors:
 - 1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
 - 2. Drywall Screws: Bugle head, hardened steel, power driven type, length three times thickness of sheathing.
- B. Die-Stamped Connectors: Hot dipped galvanized steel, sized to suit framing conditions.
 - 1. For contact with preservative treated wood in exposed locations, provide minimum G185 (Z550) galvanizing complying with ASTM A653/A653M.
- C. Joist Hangers: Hot dipped galvanized steel, sized to suit framing conditions.
 - 1. For contact with preservative treated wood in exposed locations, provide minimum G185 (Z550) galvanizing complying with ASTM A653/A653M.
- D. Sill Gasket on Top of Foundation Wall: 1/4 inch (6 mm) thick, plate width, closed cell plastic foam from continuous rolls.

2.06 FACTORY WOOD TREATMENT

- A. Treated Lumber and Plywood: Comply with requirements of AWWA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
 - 1. Fire-Retardant Treated Wood: Mark each piece of wood with producer's stamp indicating compliance with specified requirements.
 - 2. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWWA standards.
- B. Fire Retardant Treatment:
 - 1. Exterior Type: AWWA U1, Category UCFB, Commodity Specification H, chemically treated and pressure impregnated; capable of providing a maximum flame spread index of 25 when tested in accordance with ASTM E84, with no evidence of significant combustion when test is extended for an additional 20 minutes both before and after accelerated weathering test performed in accordance with ASTM D2898.
 - a. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.

- b. Do not use treated wood in direct contact with the ground.
- 2. Interior Type A: AWPA U1, Use Category UCFA, Commodity Specification H, low temperature (low hygroscopic) type, chemically treated and pressure impregnated; capable of providing a maximum flame spread index of 25 when tested in accordance with ASTM E84, with no evidence of significant combustion when test is extended for an additional 20 minutes.
 - a. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.
 - b. Treat rough carpentry items as indicated .
 - c. Do not use treated wood in applications exposed to weather or where the wood may become wet.
- C. Preservative Treatment:
 - 1. Products:
 - a. Lonza Group: www.wolmanizedwood.com/#sle.
 - b. Substitutions: See Section 016000 - Product Requirements.
 - 2. Preservative Pressure Treatment of Plywood Above Grade: AWPA U1, Use Category UC2 and UC3B, Commodity Specification F using waterborne preservative.
 - a. Kiln dry plywood after treatment to maximum moisture content of 19 percent.

PART 3 EXECUTION

3.01 PREPARATION

- A. Install sill gasket under sill plate of framed walls bearing on foundations; puncture gasket cleanly to fit tightly around protruding anchor bolts.
- B. Coordinate installation of rough carpentry members specified in other sections.

3.02 INSTALLATION - GENERAL

- A. Select material sizes to minimize waste.
- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.
- C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.03 FRAMING INSTALLATION

- A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.
- B. Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of erection and installation of permanent bracing.
- C. Install structural members full length without splices unless otherwise specifically detailed.
- D. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes and AWC (WFCM) Wood Frame Construction Manual.
- E. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists; use metal joist hangers unless otherwise detailed.
- F. Frame wall openings with two or more studs at each jamb; support headers on cripple studs.

3.04 BLOCKING, NAILERS, AND SUPPORTS

- A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
- B. In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to authorities having jurisdiction may be used in lieu of solid wood blocking.

- C. In metal stud walls, provide continuous blocking around door and window openings for anchorage of frames, securely attached to stud framing.
- D. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.
- E. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.
- F. Provide the following specific nonstructural framing and blocking:
 - 1. Cabinets and shelf supports.
 - 2. Wall brackets.
 - 3. Handrails.
 - 4. Grab bars.
 - 5. Towel and bath accessories.
 - 6. Wall-mounted door stops.
 - 7. Chalkboards and marker boards.
 - 8. Wall paneling and trim.
 - 9. Joints of rigid wall coverings that occur between studs.

3.05 ROOF-RELATED CARPENTRY

- A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.
- B. Provide wood curb at each roof opening except where prefabricated curbs are specified and where specifically indicated otherwise; form corners by alternating lapping side members.

3.06 INSTALLATION OF CONSTRUCTION PANELS

- A. Subflooring: Glue and nail to framing; staples are not permitted.
- B. Roof Sheathing: Secure panels with long dimension perpendicular to framing members, with ends staggered and over firm bearing.
 - 1. At long edges use sheathing clips where joints occur between roof framing members.
 - 2. Nail panels to framing; staples are not permitted.
- C. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using nails, screws, or staples.
- D. Communications and Electrical Room Mounting Boards: Secure with screws to studs with edges over firm bearing; space fasteners at maximum 24 inches (610 mm) on center on all edges and into studs in field of board.
 - 1. At fire-rated walls, install board over wall board indicated as part of the fire-rated assembly.
 - 2. Where boards are indicated as full floor-to-ceiling height, install with long edge of board parallel to studs.
 - 3. Install adjacent boards without gaps.

END OF SECTION

**SECTION 064100
ARCHITECTURAL WOOD CASEWORK**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Specially fabricated cabinet units.
- B. Hardware.

1.02 RELATED REQUIREMENTS

- A. Section 061000 - Rough Carpentry: Support framing, grounds, and concealed blocking.
- B. Section 123600 - Countertops.

1.03 REFERENCE STANDARDS

- A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).
- B. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards; 2021, with Errata.
- C. BHMA A156.9 - Cabinet Hardware; 2020.
- D. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

1.04 SUBMITTALS

- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.
 - 1. Scale of Drawings: 1-1/2 inch to 1 foot (125 mm to 1 m), minimum.
- C. Product Data: Provide data for hardware accessories.
- D. Samples: Submit actual samples of architectural cabinet construction, minimum 12 inches (300 mm) square, illustrating proposed cabinet, countertop, and shelf unit substrate and finish.

1.05 QUALITY ASSURANCE

- A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.
 - 1. Single Source Responsibility: Provide and install this work from single fabricator.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Protect units from moisture damage.

1.07 FIELD CONDITIONS

- A. During and after installation of custom cabinets, maintain temperature and humidity conditions in building spaces at same levels planned for occupancy.

PART 2 PRODUCTS

2.01 CABINETS

- A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.
- B. Plastic Laminate Faced Cabinets: Custom grade.
- C. Cabinets:
 - 1. Finish - Exposed Exterior Surfaces: Decorative laminate.
 - 2. Finish - Exposed Interior Surfaces: Decorative laminate.
 - 3. Finish - Semi-Exposed Surfaces: Wood
 - 4. Finish - Concealed Surfaces: Manufacturer's option.
 - 5. Door and Drawer Front Edge Profiles: Square edge with thin applied band.
 - 6. Door and Drawer Front Retention Profiles: Fixed panel.
 - 7. Casework Construction Type: Type A - Frameless.
 - 8. Interface Style for Cabinet and Door: Style 1 - Overlay; reveal overlay.

9. Grained Face Layout for Cabinet and Door Fronts: Flush panel.
 - a. Custom Grade: Doors, drawer fronts and false fronts wood grain to run and match vertically within each cabinet unit.
10. Adjustable Shelf Loading: 50 psf (24.4 gm/sq cm).
 - a. Deflection: L/144.
11. Cabinet Style: Flush overlay.
12. Cabinet Doors and Drawer Fronts: Flush style.
13. Drawer Construction Technique: Dovetail joints.

2.02 WOOD-BASED COMPONENTS

- A. Wood fabricated from old growth timber is not permitted.

2.03 LAMINATE MATERIALS

- A. Manufacturers:
 1. Arborite; ColorEdge: www.arborite.com/#sle.
 2. Formica Corporation: www.formica.com/#sle.
 3. Panolam Industries International, Inc: www.panolam.com/#sle.
 4. Wilsonart LLC: www.wilsonart.com/#sle.
 5. Substitutions: See Section 016000 - Product Requirements.
- B. High Pressure Decorative Laminate (HPDL): NEMA LD 3, types as recommended for specific applications.
- C. Provide specific types as indicated.
 1. Horizontal Surfaces: HGS, 0.048 inch (1.22 mm) nominal thickness, through color, colors as indicated, finish as indicated.
 2. Vertical Surfaces: VGS, 0.028 inch (0.71 mm) nominal thickness, through color, colors as indicated, finish as indicated.
 3. Cabinet Liner: CLS, 0.020 inch (0.51 mm) nominal thickness, through color, _____ color, finish as indicated.
 4. Laminate Backer: BKL, 0.020 inch (0.51 mm) nominal thickness, undecorated; for application to concealed backside of panels faced with high pressure decorative laminate.

2.04 ACCESSORIES

- A. Adhesive: Type recommended by fabricator to suit application.
- B. Plastic Edge Banding: Extruded PVC, flat shaped; smooth finish; self locking serrated tongue; of width to match component thickness.
 1. Color: As selected by Architect from manufacturer's full range.
- C. Fasteners: Size and type to suit application.
- D. Concealed Joint Fasteners: Threaded steel.
- E. Grommets: Standard plastic, painted metal, or rubber grommets for cut-outs, in color to match adjacent surface.

2.05 HARDWARE

- A. Hardware: BHMA A156.9, types as recommended by fabricator for quality grade specified.
- B. Adjustable Shelf Supports: Standard side-mounted system using recessed metal shelf standards or multiple holes for pin supports and coordinated self rests, polished chrome finish, for nominal 1 inch (25 mm) spacing adjustments.
- C. Drawer and Door Pulls: "U" shaped wire pull, steel with chrome finish, 4 inch centers ("U" shaped wire pull, steel with chrome finish, 100 mm centers).
- D. Keyed Cabinet Locks: Keyed cylinder, two keys per lock, master keyed, steel with chrome finish.
- E. Cabinet Catches and Latches:
 1. Type: Touch latch.
- F. Drawer Slides:

1. Type: Extension types as indicated.
2. Static Load Capacity: Commercial grade.
3. Mounting: Side mounted.
4. Features: Provide self closing/stay closed type.
5. Manufacturers:
 - a. Blum, Inc; MOVENTO: www.blum.com/#sle.
 - b. Blum, Inc; TANDEM: www.blum.com/#sle.
 - c. Grass America Inc: www.grassusa.com/#sle.
 - d. Substitutions: See Section 016000 - Product Requirements.

2.06 FABRICATION

- A. Assembly: Shop assemble cabinets for delivery to site in units easily handled and to permit passage through building openings.
- B. Edging: Fit shelves, doors, and exposed edges with specified edging. Do not use more than one piece for any single length.
- C. Fitting: When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide matching trim for scribing and site cutting.
- D. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Locate counter butt joints minimum 2 feet from sink cut-outs. (Locate counter butt joints minimum 600 mm from sink cut-outs.)
 1. Apply laminate backing sheet to reverse side of plastic laminate finished surfaces.
- E. Provide cutouts for plumbing fixtures. Verify locations of cutouts from on-site dimensions. Prime paint cut edges.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify adequacy of backing and support framing.
- B. Verify location and sizes of utility rough-in associated with work of this section.

3.02 INSTALLATION

- A. Install work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade indicated.
- B. Set and secure custom cabinets in place, assuring that they are rigid, plumb, and level.
- C. Use fixture attachments in concealed locations for wall mounted components.
- D. Use concealed joint fasteners to align and secure adjoining cabinet units.
- E. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch (0.79 mm). Do not use additional overlay trim for this purpose.
- F. Secure cabinets to floor using appropriate angles and anchorages.

3.03 ADJUSTING

- A. Adjust installed work.
- B. Adjust moving or operating parts to function smoothly and correctly.

3.04 CLEANING

- A. Clean casework, counters, shelves, hardware, fittings, and fixtures.

END OF SECTION

SECTION 078400 FIRESTOPPING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Firestopping systems.
- B. Firestopping of joints and penetrations in fire-resistance-rated and smoke-resistant assemblies, whether indicated on drawings or not, and other openings indicated.

1.02 RELATED REQUIREMENTS

- A. Section 017000 - Execution and Closeout Requirements: Cutting and patching.

1.03 REFERENCE STANDARDS

- A. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials; 2022.
- B. ASTM E814 - Standard Test Method for Fire Tests of Penetration Firestop Systems; 2013a (Reapproved 2017).
- C. ASTM E1966 - Standard Test Method for Fire-Resistive Joint Systems; 2015 (Reapproved 2019).
- D. ASTM E2307 - Standard Test Method for Determining Fire Resistance of Perimeter Fire Barriers Using Intermediate-Scale, Multi-story Test Apparatus; 2020.
- E. ASTM E2837 - Standard Test Method for Determining the Fire Resistance of Continuity Head-of-Wall Joint Systems Installed Between Rated Wall Assemblies and Nonrated Horizontal Assemblies; 2013 (Reapproved 2017).
- F. ASTM G21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi; 2015, with Editorial Revision (2021).
- G. ITS (DIR) - Directory of Listed Products; Current Edition.
- H. FM 4991 - Approval Standard of Firestop Contractors; 2013.
- I. FM (AG) - FM Approval Guide; Current Edition.
- J. SCAQMD 1168 - Adhesive and Sealant Applications; 1989, with Amendment (2022).
- K. UL 1479 - Standard for Fire Tests of Penetration Firestops; Current Edition, Including All Revisions.
- L. UL 2079 - Standard for Tests for Fire Resistance of Building Joint Systems; Current Edition, Including All Revisions.
- M. UL (DIR) - Online Certifications Directory; Current Edition.
- N. UL (FRD) - Fire Resistance Directory; Current Edition.

1.04 SUBMITTALS

- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Schedule of Firestopping: List each type of penetration, fire rating of the penetrated assembly, and firestopping test or design number.
- C. Product Data: Provide data on product characteristics, performance ratings, and limitations.
- D. Manufacturer's Installation Instructions: Indicate preparation and installation instructions.
- E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- F. Installer's qualification statement.

1.05 QUALITY ASSURANCE

- A. Fire Testing: Provide firestopping assemblies of designs that provide the scheduled fire ratings when tested in accordance with methods indicated.

1. Listing in UL (FRD), FM (AG), or ITS (DIR) will be considered as constituting an acceptable test report.
 2. Valid evaluation report published by ICC Evaluation Service, Inc. (ICC-ES) at www.icc-es.org will be considered as constituting an acceptable test report.
- B. Installer Qualifications: Company specializing in performing the work of this section and:
1. Approved by Factory Mutual Research Corporation under FM 4991, or meeting any two of the following requirements:
 2. Verification of minimum three years documented experience installing work of this type.
 3. Verification of at least five satisfactorily completed projects of comparable size and type.
 4. Licensed by local authorities having jurisdiction (AHJ).

1.06 FIELD CONDITIONS

- A. Comply with firestopping manufacturer's recommendations for temperature and conditions during and after installation; maintain minimum temperature before, during, and for three days after installation of materials.
- B. Provide ventilation in areas where solvent-cured materials are being installed.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Firestopping Manufacturers:
 1. 3M Fire Protection Products: www.3m.com/firestop/#sle.
 2. Hilti, Inc: www.hilti.com/#sle.
 3. Specified Technologies Inc: www.stifirestop.com/#sle.
 4. Tremco Commercial Sealants & Waterproofing; TREMstop Acrylic: www.tremcosealants.com/#sle.
 5. Substitutions: See Section 016000 - Product Requirements.

2.02 MATERIALS

- A. Firestopping Materials: Any materials meeting requirements.
- B. Mold and Mildew Resistance: Provide firestopping materials with mold and mildew resistance rating of zero(0) in accordance with ASTM G21.
- C. Primers, Sleeves, Forms, Insulation, Packing, Stuffing, and Accessories: Provide type of materials as required for tested firestopping assembly.
- D. Fire Ratings: Refer to drawings for required systems and ratings.

2.03 FIRESTOPPING ASSEMBLY REQUIREMENTS

- A. Perimeter Fire Containment Firestopping: Use system that has been tested according to ASTM E2307 to have fire resistance F Rating equal to required fire rating of floor assembly.
 1. Movement: Provide systems that have been tested to show movement capability as indicated.
 2. Temperature Rise: Provide systems that have been tested to show T Rating as indicated.
 3. Air Leakage: Provide systems that have been tested to show L Rating as indicated.
 4. Where floor assembly is not required to have a fire rating, provide systems that have been tested to show L Rating as indicated.
- B. Head-of-Wall (HW) Joint System Firestopping at Joints Between Fire-Rated Wall Assemblies and Non-Rated Horizontal Assemblies: Use system that has been tested according to ASTM E2837 to have fire resistance F Rating equal to required fire rating of wall assembly.
 1. Movement: Provide systems that have been tested to show movement capability as indicated.
- C. Floor-to-Floor (FF), Floor-to-Wall (FW), Head-of-Wall (HW), and Wall-to-Wall (WW) Joints, Except Perimeter, Where Both Are Fire-Rated: Use system that has been tested according to ASTM E1966 or UL 2079 to have fire resistance F Rating equal to required fire rating of the assembly in which the joint occurs.

1. Movement: Provide systems that have been tested to show movement capability as indicated.
 2. Air Leakage: Provide systems that have been tested to show L Rating as indicated.
 3. Listing by FM (AG), ITS (DIR), UL (DIR), or UL (FRD) in their certification directories will be considered evidence of successful testing.
- D. Through Penetration Firestopping: Use system that has been tested according to ASTM E814 to have fire resistance F Rating equal to required fire rating of penetrated assembly.
1. Temperature Rise: Provide systems that have been tested to show T Rating as indicated.
 2. Air Leakage: Provide systems that have been tested to show L Rating as indicated.
 3. Listing by FM (AG), ITS (DIR), UL (DIR), or UL (FRD) in their certification directories will be considered evidence of successful testing.

2.04 FIRESTOPPING FOR PERIMETER CONTAINMENT

- A. Perimeter Joint Systems That Have Not Been Tested For Movement Capabilities (Static-S):
1. 2 Hour Construction: UL System CW-S-0002; Specified Technologies Inc. AS200 Elastomeric Spray.
- B. Perimeter Joint Systems That Have Movement Capabilities (Dynamic-D):
1. 3 Hour Construction: UL System CW-D-2005; Specified Technologies Inc. Fast Tack Firestop Spray.
 2. 2 Hour Construction: UL System CW-D-1004; Specified Technologies Inc. AS200 Elastomeric Spray.

2.05 FIRESTOPPING FOR FLOOR-TO-FLOOR, FLOOR-TO-WALL, HEAD-OF-WALL, AND WALL-TO-WALL JOINTS

- A. Concrete and Concrete Masonry Walls and Floors:
1. Floor-to-Floor Joints:
 - a. 3 Hour Construction: UL System FF-D-1008; Specified Technologies Inc. ES Elastomeric Firestop Sealant.
 2. Head-of-Wall Joints at Concrete/Concrete Masonry Wall to Concrete Over Metal Deck Floor:
 - a. 2 Hour Construction: UL System HW-D-0039; Specified Technologies Inc. ES Elastomeric Firestop Sealant.
 3. Head-of-Wall Joints at Concrete/Concrete Masonry Wall to Concrete Floor:
 - a. 3 Hour Construction: UL System HW-D-0041; Specified Technologies Inc. ES Elastomeric Firestop Sealant.
 4. Concrete/Concrete Masonry Wall-to-Wall Joint Systems That Have Not Been Tested For Movement Capabilities (Static-S):
 - a. 3 Hour Construction: UL System WW-S-0038; Specified Technologies Inc. SIL Silicone Sealant.
 5. Concrete/Concrete Masonry Wall-to-Wall Joint Systems That Have Movement Capabilities (Dynamic-D):
 - a. 3 Hour Construction: UL System WW-D-1001; Specified Technologies Inc. SIL Silicone Sealant.
- B. Gypsum Board Walls:
1. Wall-to-Wall Joints That Have Not Been Tested For Movement Capabilities (Static-S):
 - a. 2 Hour Construction: UL System WW-S-0063; Specified Technologies Inc. SpeedFlex TTG Track Top Gasket.
 2. Wall-to-Wall Joints That Have Movement Capabilities (Dynamic-D):
 - a. 2 Hour Construction: UL System WW-D-0180; Specified Technologies Inc. SpeedFlex TTG Track Top Gasket.
 3. Head-of-Wall Joints at Underside of Steel Beam and Concrete Over Metal Deck Floor with Sprayed On Fireproofing:
 - a. 2 Hour Construction: UL System HW-D-0252; Specified Technologies Inc. AS200 Elastomeric Spray.
 4. Head-of-Wall Joints at Underside of Flat Concrete:

- a. 2 Hour Construction: UL System HW-D-0079; Specified Technologies Inc. ES Elastomeric Firestop Sealant.
- 5. Head-of-Wall Joints at Concrete Over Metal Deck:
 - a. 2 Hour Construction: UL System HW-D-0034; Specified Technologies Inc. ES Elastomeric Firestop Sealant.
- 6. Head-of-Wall Joints at Concrete Over Metal Deck, Wall Parallel to Ribs:
 - a. 2 Hour Construction: UL System HW-D-0184; Hilti CP 606 Flexible Firestop Sealant.
- 7. Head-of-Wall Joints at Concrete Over Metal Deck, Wall Perpendicular to Ribs, Cut to Fit Ribs:
 - a. 2 Hour Construction: UL System HW-D-0103; Specified Technologies Inc. ES Elastomeric Firestop Sealant.
- 8. Head-of-Wall Joints at Concrete Over Metal Deck, Wall Perpendicular to Ribs, Not Cut to Fit:
 - a. 2 Hour Construction: UL System HW-D-0045; Hilti CP 606 Flexible Firestop Sealant.

2.06 FIRESTOPPING FOR FLOOR-TO-WALL MOVABLE JOINTS

- A. Floor-To-Wall Joint System That Have Movement Capabilities (Dynamic-D):
 - 1. 3 Hour Construction: UL System FW-D-1007; Specified Technologies Inc. ES Elastomeric Firestop Sealant.

2.07 FIRESTOPPING PENETRATIONS THROUGH GYPSUM BOARD WALLS

- A. Blank Openings:
 - 1. 2 Hour Construction: UL System W-L-0032; Specified Technologies Inc. FP Intumescent Firestop Plug.
- B. Penetrations By:
 - 1. Multiple Penetrations in Large Openings:
 - a. 2 Hour Construction: UL System W-L-8050; Specified Technologies Inc. SSB Intumescent Firestop Pillows.
 - 2. Uninsulated Metallic Pipe, Conduit, and Tubing:
 - a. 2 Hour Construction: UL System W-L-1049; Specified Technologies Inc. SSS Intumescent Firestop Sealant.
 - 3. Uninsulated Non-Metallic Pipe, Conduit, and Tubing:
 - a. 2 Hour Construction: UL System W-L-2048; Specified Technologies Inc. SSW Wrap Strips.
 - 4. Electrical Cables Not In Conduit:
 - a. 2 Hour Construction: UL System W-L-3076; Specified Technologies Inc. SSS Intumescent Firestop Sealant.
 - 5. Cable Trays with Electrical Cables:
 - a. 2 Hour Construction: UL System W-L-4008; Specified Technologies Inc. SSB Intumescent Firestop Pillows.
 - 6. Insulated Pipes:
 - a. 2 Hour Construction: UL System W-L-5014; Specified Technologies Inc. SSS Intumescent Firestop Sealant.
 - 7. HVAC Ducts, Insulated:
 - a. 2 Hour Construction: UL System W-L-7164; Specified Technologies Inc. FyreFlange HVAC Firestop Angle.

2.08 FIRESTOPPING SYSTEMS

- A. Firestopping: Any material meeting requirements.
 - 1. Fire Ratings: Use system that is listed by FM (AG), ITS (DIR), or UL (FRD) and tested in accordance with ASTM E814, ASTM E119, or UL 1479 with F Rating equal to fire rating of penetrated assembly and minimum T Rating Equal to F Rating and in compliance with other specified requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify openings are ready to receive the work of this section.

3.02 PREPARATION

- A. Clean substrate surfaces of dirt, dust, grease, oil, loose material, or other materials that could adversely affect bond of firestopping material.
- B. Remove incompatible materials that could adversely affect bond.
- C. Install damming materials to prevent liquid material from leakage.

3.03 INSTALLATION

- A. Install materials in manner described in fire test report and in accordance with manufacturer's instructions, completely closing openings.
- B. Do not cover installed firestopping until inspected by authorities having jurisdiction.

3.04 CLEANING

- A. Clean adjacent surfaces of firestopping materials.

3.05 PROTECTION

- A. Protect adjacent surfaces from damage by material installation.

END OF SECTION

**SECTION 079200
JOINT SEALANTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Nonsag gunnable joint sealants.
- B. Joint backings and accessories.

1.02 RELATED REQUIREMENTS

- A. Section 092116 - Gypsum Board Assemblies: Sealing acoustical and sound-rated walls and ceilings.

1.03 REFERENCE STANDARDS

- A. ASTM C661 - Standard Test Method for Indentation Hardness of Elastomeric-Type Sealants by Means of a Durometer; 2015 (Reapproved 2022).
- B. ASTM C834 - Standard Specification for Latex Sealants; 2017.
- C. ASTM C881/C881M - Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete; 2020a.
- D. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications; 2022.
- E. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018.
- F. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2016.
- G. ASTM C1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants; 2022.
- H. ASTM C1311 - Standard Specification for Solvent Release Sealants; 2022.
- I. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants; 2018.
- J. ASTM D2240 - Standard Test Method for Rubber Property--Durometer Hardness; 2015 (Reapproved 2021).
- K. ASTM D695 - Standard Test Method for Compressive Properties of Rigid Plastics; 2015.

1.04 SUBMITTALS

- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data: Submit manufacturer's technical datasheets for each product to be used; include the following:
 - 1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
 - 2. List of backing materials approved for use with the specific product.
 - 3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
 - 4. Substrates the product should not be used on.
 - 5. Substrates for which use of primer is required.
 - 6. Installation instructions, including precautions, limitations, and recommended backing materials and tools.
- C. Product Data for Accessory Products: Submit manufacturer's technical data sheet for each product to be used, including physical characteristics, installation instructions, and recommended tools.
- D. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.
- E. Samples for Verification: Where custom sealant color is specified, obtain directions from Architect and submit at least two physical samples for verification of color of each required sealant.
- F. Executed warranty.

1.05 WARRANTY

- A. See Section 017800 - Closeout Submittals for additional warranty requirements.
- B. Manufacturer Warranty: Provide 2-year manufacturer warranty for installed sealants and accessories that fail to achieve a watertight seal, exhibit loss of adhesion or cohesion, or do not cure. Complete forms in Owner's name and register with manufacturer.
- C. Extended Correction Period: Correct defective work within 5 period commencing on Date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Nonsag Sealants:
 - 1. Bostik Inc: www.bostik-us.com/#sle.
 - 2. Dow: www.dow.com/#sle.
 - 3. Hilti, Inc: www.hilti.com/#sle.
 - 4. Momentive Performance Materials, Inc (formerly GE Silicones): www.momentive.com/#sle.
 - 5. Sherwin-Williams Company: www.sherwin-williams.com/#sle.
 - 6. Sika Corporation: www.usa.sika.com/#sle.
 - 7. Tremco Commercial Sealants & Waterproofing: www.tremcosealants.com/#sle.
 - 8. W.R. Meadows, Inc: www.wrmeadows.com/#sle.
 - 9. Substitutions: See Section 016000 - Product Requirements.

2.02 JOINT SEALANT APPLICATIONS

- A. Scope:
 - 1. Interior Joints: Do not seal interior joints unless specifically indicated to be sealed. Interior joints to be sealed include, but are not limited to, the following items.
 - a. Joints between door, window, and other frames and adjacent construction.
 - b. In sound-rated wall and ceiling assemblies, gaps at electrical outlets, wiring devices, piping, and other openings; between wall/ceiling and other construction; and other flanking sound paths.
 - 1) Exception: Such gaps and openings in gypsum board and plaster finished stud walls and suspended ceilings. See Section 092116 for additional information.
 - 2) Exception: Through-penetrations in sound-rated assemblies that are also fire-rated.
 - c. Other joints indicated below.
 - 2. Do not seal the following types of joints:
 - a. Joints indicated to be treated with manufactured expansion joint cover, or some other type of sealing device.
 - b. Joints where sealant is specified to be provided by manufacturer of product to be sealed.
 - c. Joints where installation of sealant is specified in another section.
 - d. Joints between suspended panel ceilings/grid and walls.
- B. Type ___ - Interior Joints: Use nonsag polyurethane sealant, unless otherwise indicated.
 - 1. Type ___ - In Sound-Rated Assemblies: Acrylic emulsion latex sealant.
- C. Sound-Rated Assemblies: Walls and ceilings identified as STC-rated, sound-rated, or acoustical.

2.03 JOINT SEALANTS - GENERAL

2.04 NONSAG JOINT SEALANTS

- A. Type NS-2 - Mildew-Resistant Silicone Sealant: ASTM C920, Grade NS, Uses M and A; single component, mildew resistant; not expected to withstand continuous water immersion or traffic.
 - 1. Color: White.
 - 2. Products:
 - a. Sika Corporation; Sikasil GP: www.usa.sika.com/#sle.

- b. Substitutions: See Section 016000 - Product Requirements.
- B. Type NS-4 - Polyurethane Sealant: ASTM C920, Grade NS, Uses M and A; single or multi-component; not expected to withstand continuous water immersion or traffic.
 - 1. Movement Capability: Plus and minus 25 percent, minimum.
 - 2. Color: To be selected by Architect from manufacturer's standard range.
 - 3. Service Temperature Range: Minus 40 to 180 degrees F (Minus 40 to 82 degrees C).
 - 4. Products:
 - a. Tremco Commercial Sealants & Waterproofing; Dymeric 240 FC:
www.tremcosealants.com/#sle.
 - b. Substitutions: See Section 016000 - Product Requirements.
- C. Type NS-6 - Epoxy Sealant: ASTM C881/C881M, Type I and III, Grade 3, Class B and C; two-component.
 - 1. Hardness Range: 65 to 75, Shore D, when tested in accordance with ASTM C661.
 - 2. Compressive Strength: 11,000 psi (76 MPa), when tested in accordance with ASTM D695.
 - 3. Color: To be selected by Architect from manufacturer's standard range.
 - 4. Service Temperature Range: 40 to 120 degrees F (4 to 49 degrees C).
 - 5. Products:
 - a. Pecora Corporation; DynaPoxy EP-1200 Two-Part Epoxy Security Sealant:
www.pecora.com/#sle.
 - b. Substitutions: See Section 016000 - Product Requirements.
- D. Type NS-7 - Acrylic Emulsion Latex: Water-based; ASTM C834, single component, nonstaining, nonbleeding, nonsagging; not intended for exterior use.
 - 1. Color: To be selected by Architect from manufacturer's standard range.
 - 2. Grade: ASTM C834; Grade 0 Degrees F (Minus 18 Degrees C).
 - 3. Products:
 - a. Tremco Commercial Sealants & Waterproofing; Tremstop Smoke and Sound:
www.tremcosealants.com/#sle.
 - b. Substitutions: See Section 016000 - Product Requirements.

2.05 ACCESSORIES

- A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.
 - 1. Type for Joints Not Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type O - Open Cell Polyurethane.
 - 2. Type for Joints Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type B - Bi-Cellular Polyethylene.
 - 3. Open Cell: 40 to 50 percent larger in diameter than joint width.
 - 4. Closed Cell and Bi-Cellular: 25 to 33 percent larger in diameter than joint width.
- B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.
- C. Masking Tape: Self-adhesive, nonabsorbent, nonstaining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.
- D. Joint Cleaner: Noncorrosive and nonstaining type, type recommended by sealant manufacturer; compatible with joint forming materials.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that joints are ready to receive work.
- B. Verify that backing materials are compatible with sealants.
- C. Verify that backer rods are of the correct size.

3.02 PREPARATION

- A. Remove loose materials and foreign matter that could impair adhesion of sealant.
- B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
- D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.
- E. Concrete Floor Joints That Will Be Exposed in Completed Work: Test joint filler in an inconspicuous area to verify that it does not stain or discolor slab.

3.03 INSTALLATION

- A. Install this work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Provide joint sealant installations complying with ASTM C1193.
- C. Install acoustical sealant application work in accordance with ASTM C919.
- D. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.
- E. Install bond breaker backing tape where backer rod cannot be used.
- F. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.
- G. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.
- H. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

3.04 FIELD QUALITY CONTROL

- A. See Section 014000 - Quality Requirements for additional requirements.
- B. Perform field quality control inspection/testing as specified in PART 1 under QUALITY ASSURANCE article.
- C. Remove and replace failed portions of sealants using same materials and procedures as indicated for original installation.

END OF SECTION

**SECTION 081433
STILE AND RAIL WOOD DOORS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Wood doors, stile and rail design; non-fire rated.
- B. Panels of wood and glass.

1.02 RELATED REQUIREMENTS

- A. Section 087100 - Door Hardware.

1.03 REFERENCE STANDARDS

- A. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2018.
- B. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).
- C. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards; 2021, with Errata.

1.04 SUBMITTALS

- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data: Indicate stile and rail core materials and construction; veneer species, type and characteristics.
- C. Shop Drawings: Illustrate door opening criteria, elevations, sizes, types, swings, special beveling, special blocking for hardware, factory machining criteria, factory finishing criteria, cutouts for glazing, and _____.
- D. Certificate: Submit labels and certificates required by quality assurance and quality control programs.
- E. Manufacturer's Installation Instructions: Indicate special installation instructions.
- F. Manufacturer's qualification statement.
- G. Installer's qualification statement.
- H. Warranty, executed in Owner's name.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section, with not less than three years of documented experience.
 - 1. Company with at least one project within past five years with value of woodwork within at least 20 percent of cost of woodwork for this project.
 - 2. Accredited participant in specified certification program prior to commencement of fabrication and throughout duration of project.
- B. Installer Qualifications: Company specializing in performing work of the type specified in this section, with not less than three years of documented experience.
- C. Quality Certification:
 - 1. Provide labels or certificates indicating that installed work complies with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade or grades specified.
 - 2. Provide designated labels on shop drawings as required by certification program.
 - 3. Provide designated labels on installed products as required by certification program.
 - 4. Submit certifications upon completion of installation that verifies this work is in compliance with specified requirements.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Package, deliver, and store doors in accordance with quality standard specified.
- B. Accept doors on site in manufacturer's packaging, and inspect for damage.

- C. Protect doors with resilient packaging sealed with heat shrunk plastic; do not store in damp or wet areas or areas where sunlight might bleach veneer; seal top and bottom edges with tinted sealer if stored more than one week, and break seal on site to permit ventilation.

1.07 WARRANTY

- A. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Stile and Rail Wood Doors:
 - 1. Karona, Inc: www.karonadoor.com/#sle.
 - 2. Masonite Architectural; Aspiro Authentic Stile & Rail Doors: www.architectural.masonite.com/#sle.
 - 3. VT Industries, Inc: www.vtindustries.com/#sle.
 - 4. Substitutions: See Section 016000 - Product Requirements.

2.02 DOORS

- A. Quality Standard: Custom Grade, Heavy Duty performance, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless otherwise indicated.
- B. Interior Doors: 1-3/8 inches (34.93 mm) thick unless otherwise indicated; solid lumber construction; mortise and tenon joints. Transparent or opaque finish as indicated on drawings.

2.03 DOOR AND PANEL FACINGS

- A. Veneer Facing for Transparent Finish: Red Oak, veneer grade in accordance with quality standard indicated, plain sliced (flat cut), with book match between leaves of veneer, running match of spliced veneer leaves assembled on door or panel face. Finish to match existing wood doors.
- B. Adhesive: Type I - Waterproof.

2.04 DOOR CONSTRUCTION

- A. Vertical Exposed Edge of Stiles: Of same species as veneer facing.
- B. Fit door edge trim to edge of stiles after applying veneer facing.
- C. Panels: MATCH EXISTING.
- D. Glazed Openings: Non-removable stops on non-secure side; sizes and configurations as indicated on drawings.

2.05 FINISHES

- A. Finish work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), Section 5 - FINISH TO MATCH EXISTING.

2.06 ACCESSORIES

- A. Glazed Openings:
 - 1. Heat-Strengthened and Fully Tempered Glass: ASTM C1048.
 - 2. Tint: Clear.
- B. Panel or Glass Retention Molding: Wood of same species as door facing, flat bead stop, with butted corners; prepared for countersink style tamper proof screws.
- C. Door Hardware: See Section 087100.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.

- C. Do not install doors in frame openings that are not plumb or are out of tolerance for size or alignment.

3.02 INSTALLATION

- A. Install doors in accordance with manufacturer's instructions and specified quality standards.
- B. Factory-Finished Doors: Do not field cut or trim; if fit or clearance is not correct, replace door.
- C. Machine cut for hardware.
- D. Coordinate installation of doors with installation of frames and hardware.

3.03 TOLERANCES

- A. Comply with specified quality standard for fit, clearance, and joinery tolerances.

3.04 ADJUSTING

- A. Adjust doors for smooth and balanced door movement.
- B. Adjust closers for full closure.

3.05 SCHEDULE - SEE DRAWINGS

END OF SECTION

SECTION 08 71 00 – DOOR HARDWARE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section includes:

- 1. Mechanical and electrified door hardware for:
 - a. Swinging doors.
- 2. Electronic access control system components, including:
 - a. Electronic access control devices.
- 3. Field verification, preparation and modification of existing doors and frames to receive new door hardware.
- 4. The intent of the hardware specification is to specify the hardware for interior and exterior doors, and to establish a type, continuity, and standard of quality. However, it is the door hardware supplier's responsibility to thoroughly review existing conditions, schedules, specifications, drawings, and other Contract Documents to verify the suitability of the hardware specified.

B. Exclusions: Unless specifically listed in hardware sets, hardware is not specified in this section for:

- 1. Windows
- 2. Cabinets (casework), including locks in cabinets
- 3. Signage
- 4. Toilet accessories
- 5. Overhead doors

C. Related Sections:

- 1. Division 01 Section "Alternates" for alternates affecting this section.
- 2. Division 06 Section "Rough Carpentry"
- 3. Division 06 Section "Finish Carpentry: Installation of Finish Hardware"
- 4. Division 07 Section "Joint Sealants" for sealant requirements applicable to threshold installation specified in this section.

5. Division 08 Section “Flush Wood Doors”
6. Division 09 sections for touchup finishing or refinishing of existing openings modified by this section.
7. Division 26 sections for connections to electrical power system and for low-voltage wiring.
8. Division 28 sections for coordination with other components of electronic access control system.

1.03 REFERENCES

A. UL - Underwriters Laboratories

1. UL 10B - Fire Test of Door Assemblies
2. UL 10C - Positive Pressure Test of Fire Door Assemblies
3. UL 1784 - Air Leakage Tests of Door Assemblies
4. UL 305 - Panic Hardware

B. DHI - Door and Hardware Institute

1. Sequence and Format for the Hardware Schedule
2. Recommended Locations for Builders Hardware
3. Key Systems and Nomenclature

C. ANSI - American National Standards Institute

1. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties

1.04 SUBMITTALS

A. General:

1. Submit in accordance with Conditions of Contract and Division 01 requirements.
2. Highlight, encircle, or otherwise specifically identify on submittals deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.
3. Prior to forwarding submittal, comply with procedures for verifying existing door and frame compatibility for new hardware, as specified in PART 3, “EXAMINATION” article, herein.

B. Action Submittals:

1. Product Data: Technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
2. Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:
 - a. Wiring Diagrams: For power, signal, and control wiring and including:

- 1) Details of interface of electrified door hardware and building safety and security systems.
 - 2) Schematic diagram of systems that interface with electrified door hardware.
 - 3) Point-to-point wiring.
 - 4) Risers.
3. Samples for Verification: If requested by Architect, submit production sample of requested door hardware unit in finish indicated, and tagged with full description for coordination with schedule.
- a. Samples will be returned to supplier. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.
4. Door Hardware Schedule: Submit schedule with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule as published by the Door and Hardware Institute. Indicate complete designations of each item required for each door or opening, include:
- a. Door Index; include door number, heading number, and Architects hardware set number.
 - b. Opening Lock Function Spreadsheet: List locking device and function for each opening.
 - c. Quantity, type, style, function, size, and finish of each hardware item.
 - d. Name and manufacturer of each item.
 - e. Fastenings and other pertinent information.
 - f. Location of each hardware set cross-referenced to indications on Drawings.
 - g. Explanation of all abbreviations, symbols, and codes contained in schedule.
 - h. Mounting locations for hardware.
 - i. Door and frame sizes and materials.
 - j. Name and phone number for local manufacturer's representative for each product.
 - k. Operational Description of openings with any electrified hardware (locks, exits, electromagnetic locks, electric strikes, automatic operators, door position switches, magnetic holders or closer/holder units, and access control components). Operational description should include operational descriptions for: egress, ingress (access), and fire/smoke alarm connections.
 - 1) Submittal Sequence: Submit door hardware schedule concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work that is critical in Project construction schedule.
5. Key Schedule:
- a. Refer to Part 2 – Section 2.12 for Keying Requirements.
- C. Informational Submittals:
1. Qualification Data: For Supplier, Installer and Architectural Hardware Consultant.

2. Product data for electrified door hardware:
 - a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
3. Warranty: Special warranty specified in this Section.

D. Closeout Submittals:

1. Operations and Maintenance Data: Provide in accordance with Division 01 and include:
 - a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
 - b. Catalog pages for each product.
 - c. Factory order acknowledgement numbers (for warranty and service)
 - d. Name, address, and phone number of local representative for each manufacturer.
 - e. Parts list for each product.
 - f. Final approved hardware schedule, edited to reflect conditions as-installed.
 - g. Final keying schedule
 - h. Copies of floor plans with keying nomenclature
 - i. As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.
 - j. Copy of warranties including appropriate reference numbers for manufacturers to identify project.

1.05 QUALITY ASSURANCE

- A. Supplier Qualifications and Responsibilities: Recognized architectural hardware supplier with record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this Project and that provides certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.
 1. Warehousing Facilities: In Project's vicinity.
 2. Scheduling Responsibility: Preparation of door hardware and keying schedules.
 3. Engineering Responsibility: Preparation of data for electrified door hardware, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.
 4. Coordination Responsibility: Assist in coordinating installation of electronic security hardware with Architect and electrical engineers and provide installation and technical data to Architect and other related subcontractors.
 - a. Upon completion of electronic security hardware installation, inspect and verify that all components are working properly.

- B. Architectural Hardware Consultant Qualifications: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:
 - 1. For door hardware, DHI-certified, Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC).
 - 2. Can provide installation and technical data to Architect and other related subcontractors.
 - 3. Can inspect and verify components are in working order upon completion of installation.
 - 4. Capable of producing wiring diagrams.
 - 5. Capable of coordinating installation of electrified hardware with Architect and electrical engineers.

- C. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.

- D. Fire-Rated Door Openings: Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction. Provide only items of door hardware that are listed products tested by Underwriters Laboratories, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.

- E. Electrified Door Hardware: Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.

- F. Accessibility Requirements: For door hardware on doors in an accessible route, comply with governing accessibility regulations cited in "REFERENCES" article, herein.

- G. Keying Conference
 - 1. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:
 - a. Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
 - b. Preliminary key system schematic diagram.
 - c. Requirements for key control system.
 - d. Requirements for access control.
 - e. Address for delivery of keys.

- H. Pre-installation Conference
 - 1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.

2. Inspect and discuss preparatory work performed by other trades.
3. Inspect and discuss electrical roughing-in for electrified door hardware.
4. Review sequence of operation for each type of electrified door hardware.
5. Review required testing, inspecting, and certifying procedures.

I. Coordination Conferences:

1. Installation Coordination Conference: Prior to hardware installation, schedule and hold meeting to review questions or concerns related to proper installation and adjustment of door hardware.
2. Electrified Hardware Coordination Conference: Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site.
- B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.
1. Deliver each article of hardware in manufacturer's original packaging.
- C. Project Conditions:
1. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.
 2. Provide secure lock-up for door hardware delivered to Project. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.
- D. Protection and Damage:
1. Promptly replace products damaged during shipping.
 2. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work.
 3. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.

1.07 COORDINATION

- A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.
- B. Installation Templates: Distribute for doors, frames, and other work specified to be factory or shop prepared. Check Shop Drawings of other work to confirm that

adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

- C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.
- D. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.
- E. Existing Openings: Where existing doors, frames and/or hardware are to remain, field verify existing functions, conditions and preparations and coordinate to suit opening conditions and to provide proper door operation.

1.08 WARRANTY

- A. Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Beginning from date of Substantial Completion, for durations indicated.
 - a. Closers:
 - 1) Mechanical: 10 years.
 - b. Locksets:
 - 1) Mechanical: 3 years.
 - 2. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.

1.09 MAINTENANCE

- A. Maintenance Tools: Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. The Owner requires use of certain products for their unique characteristics and project suitability to insure continuity of existing and future performance and maintenance standards. After investigating available product offerings, the Awarding Authority has elected to prepare proprietary specifications. These products are specified with the notation: "No Substitute."

1. Where “No Substitute” is noted, submittals and substitution requests for other products will not be considered.
- B. Approval of manufacturers and/or products other than those listed as “Scheduled Manufacturer” or “Acceptable Manufacturers” in the individual article for the product category shall be in accordance with QUALITY ASSURANCE article, herein.
- C. Approval of products from manufacturers indicated in “Acceptable Manufacturers” is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer’s product.
- D. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect’s approval.

2.02 MATERIALS

A. Fasteners

1. Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation.
 2. Furnish screws for installation with each hardware item. Finish exposed (exposed under any condition) screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
 3. Provide concealed fasteners for hardware units exposed when door is closed except when no standard units of type specified are available with concealed fasteners. Do not use thru-bolts for installation where bolt head or nut on opposite face is exposed in other work unless thru-bolts are required to fasten hardware securely. Review door specification and advise Architect if thru-bolts are required.
 4. Install hardware with fasteners provided by hardware manufacturer.
- B. Modification and Preparation of Existing Doors: Where existing door hardware is indicated to be removed and reinstalled.
1. Provide necessary fillers, Dutchmen, reinforcements, and fasteners, compatible with existing materials, as required for mounting new opening hardware and to cover existing door and frame preparations.
 2. Use materials which match materials of adjacent modified areas.
 3. When modifying existing fire-rated openings, provide materials permitted by NFPA 80 as required to maintain fire-rating.
- C. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.
1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

D. Cable and Connectors: Hardwired Electronic Access Control Lockset and Exit Device Trim:

1. Data: 24AWG, 4 conductor shielded, Belden 9843, 9841 or comparable.
2. DC Power: 18 AWG, 2 conductor, Belden 8760 or comparable.
3. Provide type of data and DC power cabling required by access control device manufacturer for this installation.
4. Where scheduled in the hardware sets, provide each item of electrified hardware and wire harnesses with sufficient number and wire gauge with standardized Molex plug connectors to accommodate electric function of specified hardware. Provide Molex connectors that plug directly into connectors from harnesses, electric locking and power transfer devices. Provide through-door wire harness for each electrified locking device installed in a door and wire harness for each electrified hinge, electrified continuous hinge, electrified pivot, and electric power transfer for connection to power supplies.

2.03 HINGES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Ives 5BB Series.
2. Acceptable Manufacturers and Products: Hager BB Series, McKinney TA/T4A Series, Stanley FBB Series.

B. Requirements:

1. Provide hinges conforming to ANSI/BHMA A156.1.
2. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:
 - a. Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
 - b. Interior: Standard weight, steel, 4-1/2 inches (114 mm) high
3. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:
 - a. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
 - b. Interior: Heavy weight, steel, 5 inches (127 mm) high
4. 2 inches or thicker doors:
 - a. Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
 - b. Interior: Heavy weight, steel, 5 inches (127 mm) high
5. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
6. Where new hinges are specified for existing doors or existing frames, provide new hinges of identical size to hinge preparation present in existing door or existing frame.
7. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:

- a. Steel Hinges: Steel pins
 - b. Non-Ferrous Hinges: Stainless steel pins
 - c. Out-Swinging Exterior Doors: Non-removable pins
 - d. Out-Swinging Interior Lockable Doors: Non-removable pins
 - e. Interior Non-lockable Doors: Non-rising pins
8. Width of hinges: 4-1/2 inches (114 mm) at 1-3/4 inch (44 mm) thick doors, and 5 inches (127 mm) at 2 inches (51 mm) or thicker doors. Adjust hinge width as required for door, frame, and wall conditions to allow proper degree of opening.
 9. Provide hinges with electrified options as scheduled in the hardware sets. Provide with sufficient number and wire gage to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to electrified locking component.
 10. Provide mortar guard for each electrified hinge specified.
 11. Provide spring hinges where specified. Provide two spring hinges and one bearing hinge per door leaf for doors 90 inches (2286 mm) or less in height. Provide one additional bearing hinge for each 30 inches (762 mm) of additional door height.

2.04 CYLINDRICAL LOCKS – GRADE 1

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Schlage ND Series.
2. Acceptable Manufacturers and Products: Sargent 11-Line Series, Best 9K3 Series.

B. Requirements:

1. Provide cylindrical locks conforming to ANSI/BHMA A156.2 Series 4000, Grade 1, and UL Listed for 3 hour fire doors.
2. Cylinders: Refer to “KEYING” article, herein.
3. Provide locks with standard 2-3/4 inches (70 mm) backset, unless noted otherwise, with 1/2 inch latch throw. Provide proper latch throw for UL listing at pairs.
4. Provide locksets with separate anti-rotation thru-bolts, and no exposed screws.
5. Provide independently operating levers with two external return spring cassettes mounted under roses to prevent lever sag.
6. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
7. Provide electrified options as scheduled in the hardware sets.
8. Lever Trim: Solid cast levers without plastic inserts and wrought roses on both sides.
 - a. Lever Design: Schlage Rhodes (RHO).

2.05 ELECTRIC STRIKES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Von Duprin 6000 Series.
2. Acceptable Manufacturers and Products: HES 1006 Series.

B. Requirements:

1. Provide electric strikes designed for use with type of locks shown at each opening.
2. Provide electric strikes UL Listed as burglary-resistant.
3. Where required, provide electric strikes UL Listed for fire doors and frames.
4. Provide transformers and rectifiers for each strike as required. Verify voltage with electrical contractor.

2.06 PUSH BUTTONS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Schlage 620/631 Series.
2. Acceptable Manufacturers and Products: Securitron PB/PB4 Series, Security Door Controls 400 Series.

B. Requirements:

1. Provide push buttons as specified in hardware groups.

2.07 PUSH BUTTONS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Schlage 660 Series.
2. Acceptable Manufacturers and Products: Alarm Controls TS Series, Security Door Controls D-15 Series.

B. Requirements:

1. Provide push buttons as specified in hardware groups.

2.08 POWER SUPPLIES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Schlage/Von Duprin PS900 Series.
2. Acceptable Manufacturers and Products: Precision ELR Series, Securitron BPS Series.

B. Requirements:

1. Provide power supplies approved by manufacturer of supplied electrified hardware.

2. Provide appropriate quantity of power supplies necessary for proper operation of electrified locking components as recommended by manufacturer of electrified locking components with consideration for each electrified component using power supply, location of power supply, and approved wiring diagrams. Locate power supplies as directed by Architect.
3. Provide regulated and filtered 24 VDC power supply, and UL class 2 listed.
4. Provide power supplies with the following features:
 - a. 12/24 VDC Output, field selectable.
 - b. Class 2 Rated power limited output.
 - c. Universal 120-240 VAC input.
 - d. Low voltage DC, regulated and filtered.
 - e. Polarized connector for distribution boards.
 - f. Fused primary input.
 - g. AC input and DC output monitoring circuit w/LED indicators.
 - h. Cover mounted AC Input indication.
 - i. Tested and certified to meet UL294.
 - j. NEMA 1 enclosure.
 - k. Hinged cover w/lock down screws.
 - l. High voltage protective cover.

2.09 KEYING/SFIC PERMANENT CORES

- A. Provided by GRPS.

2.10 DOOR CLOSERS

- A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: LCN 4040XP Series.
2. Acceptable Manufacturers and Products: Sargent 281 Series.

- B. Requirements:

1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.
2. Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
3. Cylinder Body: 1-1/2 inch (38 mm) diameter with 5/8 inch (16 mm) diameter double heat-treated pinion journal.
4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck.

7. Provide closers with solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers.
8. Pressure Relief Valve (PRV) Technology: Not permitted.
9. Finish for Closer Cylinders, Arms, Adapter Plates, and Metal Covers: Powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI Standard A156.4 and ASTM B117, or has special rust inhibitor (SRI).
10. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.
11. Provide through-bolts for wood door closers.

2.11 DOOR STOPS AND HOLDERS

A. Manufacturers:

1. Scheduled Manufacturer: Ives.
2. Acceptable Manufacturers: Trimco, Rockwood.

B. Provide door stops at each door leaf:

1. Provide wall stops wherever possible. Provide convex type where mortise type locks are used and concave type where cylindrical type locks are used.
2. Where a wall stop cannot be used, provide universal floor stops for low or high rise options.
3. Where wall or floor stop cannot be used, provide medium duty surface mounted overhead stop.

2.12 SILENCERS

A. Manufacturers:

1. Scheduled Manufacturer: Ives.
2. Acceptable Manufacturers: Trimco, Rockwood.

B. Requirements:

1. Provide "push-in" type silencers for hollow metal or wood frames.
2. Provide one silencer per 30 inches (762 mm) of height on each single frame, and two for each pair frame.
3. Omit where gasketing is specified.

2.13 FINISHES

- ### A. Finish: Generally, Oil-Rubbed Dark Bronze BHMA 613/640 (US10B). Provide finish for each item as indicated in sets.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Field verify existing doors and frames receiving new hardware and existing conditions receiving new openings. Verify that new hardware is compatible with existing door and frame preparation and existing conditions.
- C. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Where on-site modification of doors and frames is required:
 - 1. Carefully remove existing door hardware and components being reused. Clean, protect, tag, and store in accordance with storage and handling requirements specified herein.
 - 2. Field modify and prepare existing door and frame for new hardware being installed.
 - 3. When modifications are exposed to view, use concealed fasteners, when possible.
 - 4. Prepare hardware locations and reinstall in accordance with installation requirements for new door hardware and with:
 - a. Wood Doors: DHI WDHS.5 "Recommended Hardware Reinforcement Locations for Mineral Core Wood Flush Doors."
 - b. Doors in rated assemblies: NFPA 80 for restrictions on on-site door hardware preparation.

3.03 INSTALLATION

- A. Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.
 - 1. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
- B. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.

- C. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.
- D. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.
- E. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- F. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.
- G. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated or one hinge for every 30 inches (750 mm) of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.
- H. Lock Cylinders: Install construction cores to secure building and areas during construction period.
 - 1. Owner shall replace construction cores with permanent cores as indicated in keying section.
- I. Wiring: Coordinate with Division 26, ELECTRICAL sections for:
 - 1. Conduit, junction boxes and wire pulls.
 - 2. Connections to and from power supplies to electrified hardware.
 - 3. Connections to fire/smoke alarm system and smoke evacuation system.
 - 4. Connection of wire to door position switches and wire runs to central room or area, as directed by Architect.
 - 5. Testing and labeling wires with Architect's opening number.
- J. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.
- K. Door Closers: Mount closers on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Mount closers so they are not visible in corridors, lobbies and other public spaces unless approved by Architect.
- L. Closer/holders: Mount closer/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.
- M. Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or in equipment room, or alternate location as directed by Architect.
- N. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.

- O. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

3.04 FIELD QUALITY CONTROL

- A. Engage qualified manufacturer trained representative to perform inspections and to prepare inspection reports.
 - 1. Representative will inspect door hardware and state in each report whether installed work complies with or deviates from requirements, including whether door hardware is properly installed and adjusted.

3.05 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
 - 1. Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.
 - 2. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.
- B. Occupancy Adjustment: Approximately three to six months after date of Substantial Completion, Installer's Architectural Hardware Consultant must examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors and door hardware.

3.06 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.07 DOOR HARDWARE SCHEDULE

- A. Hardware items are referenced in the following hardware. Refer to the above-specifications for special features, options, cylinders/keying, and other requirements.
- B. Hardware Sets:

Grand Rapids Public Schools (GRPS) – Harrison Park Academy

Hardware Group No. 01

For use on Door #(s):

100J-1

Each to have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	640	IVE
1	EA	PASSAGE SET	ND10S RHO	613	SCH
1	EA	WALL STOP	WS406/407CCV	613	IVE
3	EA	SILENCER	SR65	GRY	IVE

Hardware Group No. 02

For use on Door #(s):

100B 100F 100G-1

Each to have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	PASSAGE SET	ND10S RHO	613	SCH
			BALANCE OF HARDWARE TO REMAIN		

NOTES:

- 1) FIELD VERIFY EXISTING CONDITIONS. VERIFY/COORDINATE PREPS ON EXISTING DOORS AND FRAMES TO ENSURE THE COMPATIBILITY OF NEW HARDWARE PRIOR TO ORDER OF NEW MATERIALS. PROVIDE FIELD MODIFICATIONS AND/OR NECESSARY FILLERS (PAINT TO MATCH WHERE EXISTING IS PREVIOUSLY PAINTED), REINFORCEMENTS AND FASTENERS, COMPATIBLE WITH EXISTING MATERIALS REQUIRED FOR MOUNTING NEW SPECIFIED HARDWARE AND TO COVER EXISTING DOOR AND FRAME PREPARATIONS.
- 2) RETURN ALL DEMO'D DOOR HARDWARE TO OWNER. DO NOT DISPOSE OF ANY DOOR HARDWARE. TAG EXISTING SFIC CORE WITH DOOR NUMBER AND GIVE TO OWNER.

Grand Rapids Public Schools (GRPS) – Harrison Park Academy

Hardware Group No. 03

For use on Door #(s):

104A 106A

Each to have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	STOREROOM LOCK	ND80BD RHO	613	SCH
1	EA	SFIC PERMANENT CORE	PROVIDED BY OWNER		SCH
			BALANCE OF HARDWARE TO REMAIN		

NOTES:

- 1) FIELD VERIFY EXISTING CONDITIONS. VERIFY/COORDINATE PREPS ON EXISTING DOORS AND FRAMES TO ENSURE THE COMPATIBILITY OF NEW HARDWARE PRIOR TO ORDER OF NEW MATERIALS. PROVIDE FIELD MODIFICATIONS AND/OR NECESSARY FILLERS (PAINT TO MATCH WHERE EXISTING IS PREVIOUSLY PAINTED), REINFORCEMENTS AND FASTENERS, COMPATIBLE WITH EXISTING MATERIALS REQUIRED FOR MOUNTING NEW SPECIFIED HARDWARE AND TO COVER EXISTING DOOR AND FRAME PREPARATIONS.
- 2) RETURN ALL DEMO'D DOOR HARDWARE TO OWNER. DO NOT DISPOSE OF ANY DOOR HARDWARE. TAG EXISTING SFIC CORE WITH DOOR NUMBER AND GIVE TO OWNER.
- 3) DOOR 106A KEYED CONFERENCE ROOM SIDE.

Grand Rapids Public Schools (GRPS) – Harrison Park Academy

Hardware Group No. 04

For use on Door #(s):

100A

Each to have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	640	IVE
1	EA	STOREROOM LOCK	ND80BDC RHO	613	SCH
1	EA	SFIC PERMANENT CORE	PROVIDED BY OWNER		SCH
1	EA	ELECTRIC STRIKE	6211WF FSE CON	⚡ 613	VON
1	EA	SURFACE CLOSER	4040XP RW/PA - PULL-SIDE	695	LCN
1	EA	WALL STOP	WS406/407CCV	613	IVE
3	EA	SILENCER	SR65	GRY	IVE
1	EA	WIRE HARNESS	CON-192P - WIRE EXTENSION FROM ELECTRIC STRIKE TO POWER SUPPLY	⚡	SCH
1	EA	DOOR RELEASE BUTTON	660-PB	⚡ 628	SCE

NOTES:

1) POWER SUPPLY LISTED W/DOOR 100-1.

OPERATIONAL DESCRIPTION: COORDINATE SYSTEM OPERATION AND COMPONENT LOCATIONS WITH THE OWNER, THE ARCHITECT, AND ALL RELATED TRADES.

DOOR NORMALLY CLOSED AND LOCKED VIA ACCESS CONTROL SYSTEM. PRESSING DOOR RELEASE BUTTON LOCATED AT RECEPTION DESK WILL MOMENTARILY UNLOCK THE ELECTRIC STRIKE ALLOWING ACCESS. ELECTRIC STRIKE IS ALSO CAPABLE OF BEING ELECTRONICALLY UNLOCKED FOR CERTAIN TIMES OF THE DAY VIA THE ACCESS CONTROL SYSTEM, THUS IN PUSH/PULL MODE. DOOR TO REMAIN LOCKED UPON LOSS OF POWER OR ACTIVATION OF LOCKDOWN SYSTEM. FREE EGRESS AT ALL TIMES.

Grand Rapids Public Schools (GRPS) – Harrison Park Academy

Hardware Group No. 05

For use on Door #(s):

100-1

Each to have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	STOREROOM LOCK	ND80BD RHO	613	SCH
1	EA	SFIC PERMANENT CORE	PROVIDED BY OWNER		SCH
1	EA	ELECTRIC STRIKE	6211WF FSE CON	↗ 613	VON
1	EA	WIRE HARNESS	CON-192P - WIRE EXTENSION FROM ELECTRIC STRIKE TO POWER SUPPLY	↗	SCH
1	EA	CARD READER	PROVIDED BY SECURITY CONTRACTOR	↗	
1	EA	DOOR RELEASE BUTTON	660-PB	↗ 628	SCE
1	EA	POWER SUPPLY	PS902 900-4R - COORDINATE POWER SUPPLY REQUIREMENTS W/SECURITY PROVIDER BALANCE OF HARDWARE TO REMAIN	↗	VON

NOTES:

- 1) POWER SUPPLY SHARED WITH DOORS 100-2 AND 100A.
- 2) FIELD VERIFY EXISTING CONDITIONS. VERIFY/COORDINATE PREPS ON EXISTING DOORS AND FRAMES TO ENSURE THE COMPATIBILITY OF NEW HARDWARE PRIOR TO ORDER OF NEW MATERIALS. PROVIDE FIELD MODIFICATIONS AND/OR NECESSARY FILLERS (PAINT TO MATCH WHERE EXISTING IS PREVIOUSLY PAINTED), REINFORCEMENTS AND FASTENERS, COMPATIBLE WITH EXISTING MATERIALS REQUIRED FOR MOUNTING NEW SPECIFIED HARDWARE AND TO COVER EXISTING DOOR AND FRAME PREPARATIONS.
- 3) RETURN ALL DEMO'D DOOR HARDWARE TO OWNER. DO NOT DISPOSE OF ANY DOOR HARDWARE. TAG EXISTING SFIC CORE WITH DOOR NUMBER AND GIVE TO OWNER.

OPERATIONAL DESCRIPTION: COORDINATE SYSTEM OPERATION AND COMPONENT LOCATIONS WITH THE OWNER, THE ARCHITECT, AND ALL RELATED TRADES.

DOOR NORMALLY CLOSED AND LOCKED VIA ACCESS CONTROL SYSTEM. PRESENTING A VALID CREDENTIAL TO THE READER OR PRESSING DOOR RELEASE BUTTON LOCATED AT RECEPTION DESK WILL MOMENTARILY UNLOCK THE ELECTRIC STRIKE ALLOWING ACCESS. DOOR TO REMAIN LOCKED UPON LOSS OF POWER. FREE EGRESS AT ALL TIMES.

Grand Rapids Public Schools (GRPS) – Harrison Park Academy

Hardware Group No. 06

For use on Door #(s):

100-2

Each to have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	INSTITUTION LOCK	ND82BD RHO	613	SCH
2	EA	SFIC PERMANENT CORE	PROVIDED BY OWNER		SCH
1	EA	ELECTRIC STRIKE	6211WF FSE CON	↗ 613	VON
1	EA	WIRE HARNESS	CON-192P - WIRE EXTENSION FROM ELECTRIC STRIKE TO POWER SUPPLY	↗	SCH
1	EA	PUSH BUTTON	623GR DA L2/ILL	↗ 613	SCE
1	EA	DOOR RELEASE BUTTON	660-PB BALANCE OF HARDWARE TO REMAIN	↗ 628	SCE

NOTES:

- 1) POWER SUPPLY LISTED WITH DOOR 100-1.
- 2) FIELD VERIFY EXISTING CONDITIONS. VERIFY/COORDINATE PREPS ON EXISTING DOORS AND FRAMES TO ENSURE THE COMPATIBILITY OF NEW HARDWARE PRIOR TO ORDER OF NEW MATERIALS. PROVIDE FIELD MODIFICATIONS AND/OR NECESSARY FILLERS (PAINT TO MATCH WHERE EXISTING IS PREVIOUSLY PAINTED), REINFORCEMENTS AND FASTENERS, COMPATIBLE WITH EXISTING MATERIALS REQUIRED FOR MOUNTING NEW SPECIFIED HARDWARE AND TO COVER EXISTING DOOR AND FRAME PREPARATIONS.
- 3) RETURN ALL DEMO'D DOOR HARDWARE TO OWNER. DO NOT DISPOSE OF ANY DOOR HARDWARE. TAG EXISTING SFIC CORE WITH DOOR NUMBER AND GIVE TO OWNER.

OPERATIONAL DESCRIPTION: COORDINATE SYSTEM OPERATION AND COMPONENT LOCATIONS WITH THE OWNER, THE ARCHITECT, AND ALL RELATED TRADES.

UNLOCKED HOURS: DOOR NORMALLY CLOSED AND LOCKED VIA ACCESS CONTROL SYSTEM AND PUSH TO ENTER BUTTON ON SCHOOL CORRIDOR SIDE SHALL BE ENABLED BY ACCESS CONTROL SYSTEM. PRESSING PUSH TO ENTER BUTTON ON SCHOOL CORRIDOR SIDE WILL MOMENTARILY UNLOCK THE ELECTRIC STRIKE ALLOWING ACCESS FROM SCHOOL CORRIDOR INTO OFFICE. OFFICE SIDE ALWAYS LOCKED PREVENTING FREE PASSAGE FROM OFFICE INTO THE SCHOOL. PRESSING DOOR RELEASE BUTTON LOCATED AT RECEPTION DESK, WILL MOMENTARILY UNLOCK THE ELECTRIC STRIKE ALLOWING ACCESS FROM OFFICE INTO SCHOOL.

LOCKED HOURS: DOOR NORMALLY CLOSED AND LOCKED VIA ACCESS CONTROL SYSTEM AND PUSH TO ENTER BUTTON ON SCHOOL CORRIDOR SIDE SHALL BE DISABLED BY ACCESS CONTROL SYSTEM, THUS LOCKED IN BOTH DIRECTIONS. PRESSING DOOR RELEASE BUTTON LOCATED AT RECEPTION DESK, WILL MOMENTARILY UNLOCK THE ELECTRIC STRIKE ALLOWING ACCESS FROM OFFICE INTO SCHOOL.

DOOR TO REMAIN LOCKED UPON LOSS OF POWER OR ACTIVATION OF LOCKDOWN SYSTEM.

Grand Rapids Public Schools (GRPS) – Harrison Park Academy

Hardware Group No. 07

For use on Door #(s):

100C	100D	100E	100G-2	100H-1	100H-2
100J-2					

Each to have:

QTY	DESCRIPTION	CATALOG NUMBER	FINISH	MFR
		EXISTING DOOR, FRAME, AND HARDWARE TO REMAIN		

END OF SECTION 087100

**SECTION 092116
GYPSUM BOARD ASSEMBLIES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Performance criteria for gypsum board assemblies.
- B. Metal stud wall framing.
- C. Acoustic insulation.
- D. Gypsum wallboard.
- E. Joint treatment and accessories.

1.02 RELATED REQUIREMENTS

- A. Section 061000 - Rough Carpentry: Building framing and sheathing.
- B. Section 061000 - Rough Carpentry: Wood blocking product and execution requirements.
- C. Section 079200 - Joint Sealants: Sealing acoustical gaps in construction other than gypsum board or plaster work.

1.03 REFERENCE STANDARDS

- A. AISI S220 - North American Standard for Cold-Formed Steel Nonstructural Framing; 2020.
- B. AISI S240 - North American Standard for Cold-Formed Steel Structural Framing; 2015, with Errata (2020).
- C. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2019.
- D. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2022.
- E. ASTM A1003/A1003M - Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members; 2015.
- F. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2017 (Reapproved 2022).
- G. ASTM C514 - Standard Specification for Nails for the Application of Gypsum Board; 2004 (Reapproved 2020).
- H. ASTM C557 - Standard Specification for Adhesives for Fastening Gypsum Wallboard to Wood Framing; 2003 (Reapproved 2017).
- I. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2017.
- J. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2020.
- K. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2020.
- L. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2022.
- M. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2022.
- N. ASTM C1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base; 2019.
- O. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2017.
- P. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2021.
- Q. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023.

- R. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2009 (Reapproved 2016).
- S. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials; 2022.
- T. ASTM E413 - Classification for Rating Sound Insulation; 2022.
- U. GA-216 - Application and Finishing of Gypsum Panel Products; 2021.
- V. GA-600 - Fire Resistance and Sound Control Design Manual; 2021.
- W. ICC (IBC) - International Building Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- X. UL (FRD) - Fire Resistance Directory; Current Edition.

1.04 SUBMITTALS

- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data:
 - 1. Provide manufacturer's data on partition head to structure connectors, showing compliance with requirements.
- C. Shop Drawings: Indicate special details associated with fireproofing and acoustic seals.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Store gypsum products and accessories indoors and keep above freezing. Elevate boards above floor, on nonwicking supports, in accordance with manufacturer's recommendations.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

- A. Provide completed assemblies complying with ASTM C840 and GA-216.
- B. Interior Partitions, Indicated as Acoustic: Provide completed assemblies with the following characteristics:
 - 1. Acoustic Attenuation: STC of 50-54 calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.
- C. Fire-Resistance-Rated Assemblies: Provide completed assemblies with the following characteristics:
 - 1. ICC IBC Item Numbers: Comply with applicable requirements of ICC IBC for the particular assembly.
 - 2. Gypsum Association File Numbers: Comply with requirements of GA-600 for the particular assembly.
 - 3. UL Assembly Numbers: Provide construction equivalent to that listed for the particular assembly in the current UL (FRD).

2.02 METAL FRAMING MATERIALS

- A. Steel Sheet: ASTM A1003/A1003M, subject to the ductility limitations indicated in AISI S240.
- B. Manufacturers - Metal Framing, Connectors, and Accessories:
 - 1. ClarkDietrich: www.clarkdietrich.com/#sle.
 - 2. Jaimes Industries: www.jaimesind.com/#sle.
 - 3. MarinoWARE: www.marinoware.com/#sle.
 - 4. Substitutions: See Section 016000 - Product Requirements.
- C. Nonstructural Framing System Components: AISI S220; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/240 at 5 psf (L/240 at 240 Pa).
 - 1. Studs: C-shaped with knurled or embossed faces.
 - 2. Runners: U shaped, sized to match studs.
- D. Partition Head to Structure Connections: Provide mechanical anchorage devices that accommodate deflection and prevent rotation of studs while maintaining structural performance

- of partition.
1. Structural Performance: Maintain lateral load resistance and vertical movement capacity required by applicable code, when evaluated in accordance with AISI S100.
 2. Material: ASTM A653/A653M steel sheet, SS Grade 50/340, with G60/Z180 hot-dipped galvanized coating.
 3. Provide components UL-listed for use in UL-listed fire-resistance-rated head of partition joint systems indicated on drawings.
- E. Deflection and Firestop Track: Intumescent strip factory-applied to track flanges expands when exposed to heat or flames to provide a perimeter joint seal.
- F. Preformed Top Track Firestop Seal:
1. Provide components UL-listed for use in UL-listed fire-resistance-rated head of partition joint systems indicated on drawings.
- G. Preformed Top of Wall Firestop Gasket:
1. Provide components UL-listed for use in UL-listed fire-resistance-rated head of partition joint systems indicated on drawings.
- H. Non-structural Framing Accessories:
1. Partial Height Wall Framing Support: Provides stud reinforcement and anchored connection to floor.
 - a. Materials: ASTM A36/A36M formed sheet steel support member with factory-welded ASTM A1003/A1003M steel plate base.
 - b. Height: 35-3/4 inches (908 mm) and 47-3/4 inches (1213 mm).
 - c. Products:
 - 1) ClarkDietrich; Pony Wall (PW): www.clarkdietrich.com/#sle.
 - 2) Substitutions: See Section 016000 - Product Requirements.

2.03 BOARD MATERIALS

- A. Manufacturers - Gypsum-Based Board:
1. American Gypsum Company: www.americangypsum.com/#sle.
 2. CertainTeed Corporation: www.certainteed.com/#sle.
 3. Georgia-Pacific Gypsum: www.gpgypsum.com/#sle.
 4. USG Corporation: www.usg.com/#sle.
 5. Substitutions: See Section 016000 - Product Requirements.
- B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
 2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
 3. Thickness:
 - a. Vertical Surfaces: 5/8 inch (16 mm).
 - b. Multi-Layer Assemblies: Thicknesses as indicated on drawings.

2.04 GYPSUM BOARD ACCESSORIES

- A. Acoustic Insulation: ASTM C665; preformed mineral-fiber, friction fit type, unfaced; thickness as required for STC.
- B. Finishing Accessories: ASTM C1047, extruded aluminum alloy (6063 T5) or galvanized steel sheet ASTM A924/A924M G90, unless noted otherwise.
1. Types: As detailed or required for finished appearance.
 2. Special Shapes: In addition to conventional corner bead and control joints, provide U-bead at exposed panel edges.
 3. Products:
 - a. Same manufacturer as framing materials.
 - b. Phillips Manufacturing Co: www.phillipsmfg.com/#sle.
 - c. Trim-tex, Inc: www.trim-tex.com/#sle.
 - d. Substitutions: See Section 016000 - Product Requirements.

- C. Beads, Joint Accessories, and Other Trim: ASTM C1047, rigid plastic, galvanized steel, or rolled zinc, unless noted otherwise.
 - 1. Architectural Reveal Beads:
 - a. Reveal Depth: 1/4 inch (6 mm).
 - b. Reveal Width: 1/4 inch (6 mm).
 - c. Products:
 - 1) Phillips Manufacturing Co; J-400 Reveal Trim: www.phillipsmfg.com/#sle.
 - 2) Substitutions: See Section 016000 - Product Requirements.
 - 2. Expansion Joints:
 - a. Type: V-shaped metal with factory-installed protective tape.
- D. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
 - 1. Paper Tape: 2 inch (50 mm) wide, creased paper tape for joints and corners, except as otherwise indicated.
- E. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inches (0.84 mm) in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion-resistant.
- F. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch (0.84 to 2.84 mm) in Thickness: ASTM C954; steel drill screws, corrosion-resistant.
- G. Nails for Attachment to Wood Members: ASTM C514.
- H. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.
- I. Adhesive for Attachment to Wood, ASTM C557 and Metal:

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that project conditions are appropriate for work of this section to commence.

3.02 SHAFT WALL INSTALLATION

- A. Shaft Wall Framing: Install in accordance with manufacturer's installation instructions.
- B. Shaft Wall Liner: Cut panels to accurate dimensions and install sequentially between special friction studs.

3.03 FRAMING INSTALLATION

- A. Metal Framing: Install in accordance with AISI S220 and manufacturer's instructions.
- B. Studs: Space studs at 16 inches on center (at 406 mm on center).
 - 1. Extend partition framing to structure where indicated and to ceiling in other locations.
 - 2. Partitions Terminating at Ceiling: Attach ceiling runner securely to ceiling track in accordance with manufacturer's instructions.
 - 3. Partitions Terminating at Structure: Attach top runner to structure, maintain clearance between top of studs and structure, and connect studs to track using specified mechanical devices in accordance with manufacturer's instructions; verify free movement of top of stud connections; do not leave studs unattached to track.
- C. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.
- D. Blocking: Install wood blocking for support of:
 - 1. Framed openings.
 - 2. Wall-mounted cabinets.
 - 3. Wall-mounted door hardware.
 - 4. Monitors.
 - 5. Cabinets and counters.

3.04 ACOUSTIC ACCESSORIES INSTALLATION

- A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.
- B. Acoustic Sealant: Install in accordance with manufacturer's instructions.
 - 1. Place two beads continuously on substrate before installation of perimeter framing members.
 - 2. Place continuous bead at perimeter of each layer of gypsum board.
 - 3. Seal around all penetrations by conduit, pipe, ducts, and rough-in boxes, except where firestopping is provided.

3.05 BOARD INSTALLATION

- A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.
- B. Single-Layer Nonrated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.
- C. Double-Layer, Nonrated: Use gypsum board for first layer, placed parallel to framing or furring members, with ends and edges occurring over firm bearing. Use glass mat faced gypsum board at exterior walls and at other locations as indicated. Place second layer perpendicular to framing or furring members. Offset joints of second layer from joints of first layer.
- D. Fire-Resistance-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.
- E. Exposed Gypsum Board in Interior Wet Areas: Seal joints, cut edges, and holes with water-resistant sealant.
- F. Installation on Metal Framing: Use screws for attachment of gypsum board except face layer of nonrated double-layer assemblies, which may be installed by means of adhesive lamination.

3.06 INSTALLATION OF TRIM AND ACCESSORIES

- A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
- B. Corner Beads: Install at external corners, using longest practical lengths.
- C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

3.07 JOINT TREATMENT

- A. Paper Faced Gypsum Board: Use paper joint tape, embed with drying type joint compound and finish with drying type joint compound.
- B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
 - 1. Level 5: Walls and ceilings to receive semi-gloss or gloss paint finish and other areas specifically indicated.
 - 2. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
 - 3. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.
 - 4. Level 1: Fire-resistance-rated wall areas above finished ceilings, whether or not accessible in the completed construction.
 - 5. Level 0: Surfaces indicated to be finished in later stage of project.
- C. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
 - 1. Feather coats of joint compound so that camber is maximum 1/32 inch (0.8 mm).
 - 2. Taping, filling, and sanding are not required at surfaces behind adhesive applied ceramic tile and fixed cabinetry.
- D. Where Level 5 finish is indicated, spray apply high build drywall surfacer over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.
- E. Fill and finish joints and corners of cementitious backing board as recommended by manufacturer.

3.08 TOLERANCES

- A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet (3 mm in 3 m) in any direction.

3.09 CLEANING

- A. Clean _____.

3.10 PROTECTION

- A. Protect installed gypsum board assemblies from subsequent construction operations.

END OF SECTION

**SECTION 096500
RESILIENT FLOORING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Resilient base.
- B. Installation accessories.

1.02 REFERENCE STANDARDS

- A. ASTM F1861 - Standard Specification for Resilient Wall Base; 2021.

1.03 SUBMITTALS

- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.
- C. Certification: Prior to installation of flooring, submit written certification by flooring manufacturer and adhesive manufacturer that condition of subfloor is acceptable.
- D. Installer's Qualification Statement.
- E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 016000 - Product Requirements, for additional provisions.
 - 2. Extra Wall Base: 25 linear feet (_____ linear meters) of each type and color.

1.04 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in installing specified flooring with minimum three years documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Maintain temperature in storage area between 55 degrees F (13 degrees C) and 90 degrees F (72 degrees C).
- B. Protect roll materials from damage by storing on end.

1.06 FIELD CONDITIONS

- A. Store materials for not less than 48 hours prior to installation in area of installation at a temperature of 70 degrees F (21 degrees C) to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F (13 degrees C).

PART 2 PRODUCTS

2.01 RESILIENT BASE

- A. Resilient Base: ASTM F1861, Type TS, rubber, vulcanized thermoset; style as scheduled.
 - 1. Manufacturers:
 - a. Flexco Corporation; Base Sculptures: www.flexcofloors.com/#sle.
 - b. Johnsonite, a Tarkett Company: www.johnsonite.com/#sle.
 - c. Mannington Commercial: www.manningtoncommercial.com/#sle.
 - d. Roppe Corporation; Contours Profiled Wall Base System: www.roppe.com/#sle.
 - e. Substitutions: See Section 016000 - Product Requirements.
 - 2. Height: 4 inches (100 mm).
 - 3. Thickness: 0.125 inch (3.2 mm).
 - 4. Finish: Satin.
 - 5. Length: Roll.
 - 6. Color: Match existing.
 - 7. Accessories: Premolded external corners and internal corners.

2.02 ACCESSORIES

- A. Subfloor Filler: White premix latex; type recommended by adhesive material manufacturer.

- B. Primers, Adhesives, and Seam Sealer: Waterproof; types recommended by flooring manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to substrate.

3.02 INSTALLATION - GENERAL

- A. Starting installation constitutes acceptance of subfloor conditions.
- B. Install in accordance with manufacturer's written instructions.

3.03 INSTALLATION - RESILIENT BASE

- A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches (45 mm) between joints.
- B. Install base on solid backing. Bond tightly to wall and floor surfaces.

END OF SECTION

**SECTION 096813
TILE CARPETING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Carpet tile, fully adhered.
- B. Removal of existing carpet tile.

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

- A. ASTM E648 - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source; 2019a, with Editorial Revision (2020).
- B. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2022.
- C. CRI (GLP) - Green Label Plus Testing Program - Certified Products; Current Edition.
- D. NFPA 253 - Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source; 2023.

1.04 SUBMITTALS

- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.
- C. Shop Drawings: Indicate layout of joints.
- D. Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention, and suggested schedule for cleaning.
- E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 016000 - Product Requirements, for additional provisions.
 - 2. Extra Carpet Tiles: Quantity equal to 5 percent of total installed of each color and pattern installed.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in installing carpet tile with minimum three years documented experience and approved by carpet tile manufacturer.

1.06 FIELD CONDITIONS

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Tile Carpeting: Match Existing
 - 1. Substitutions: See Section 016000 - Product Requirements.

2.02 MATERIALS

- A. Tile Carpeting: Tufted, manufactured in one color dye lot.
 - 1. Product: _____ manufactured by _____.
 - 2. Tile Size: 18 by 18 inch (450 by 450 mm), nominal.
 - 3. Color: Match Existing.
 - 4. Pattern: Match Existing.
 - 5. Critical Radiant Flux: Minimum of 0.22 watts/sq cm, when tested in accordance with ASTM E648 or NFPA 253.

2.03 ACCESSORIES

- A. Edge Strips: Embossed aluminum, color as selected by Architect.
- B. Adhesives:

1. Compatible with materials being adhered; maximum VOC content of 50 g/L; CRI (GLP) certified; in lieu of labeled product, independent test report showing compliance is acceptable.
- C. Carpet Tile Adhesive: Recommended by carpet tile manufacturer; releasable type.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that subfloor surfaces are smooth and flat within tolerances specified for that type of work and are ready to receive carpet tile.
- B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive carpet tile.
- C. Verify that subfloor surfaces are dust-free and free of substances that could impair bonding of adhesive materials to subfloor surfaces.
- D. Cementitious Subfloor Surfaces: Verify that substrates are ready for flooring installation by testing for moisture and alkalinity (pH).
 1. Test as Follows:
 - a. Alkalinity (pH): ASTM F710.
 2. Obtain instructions if test results are not within limits recommended by flooring material manufacturer and adhesive materials manufacturer.
- E. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

- A. Remove existing carpet tile.
- B. Prepare floor substrates as recommended by flooring and adhesive manufacturers.
- C. Remove subfloor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with subfloor filler.
- D. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Prohibit traffic until filler is cured.
- E. Vacuum clean substrate.

3.03 INSTALLATION

- A. Starting installation constitutes acceptance of subfloor conditions.
- B. Install carpet tile in accordance with manufacturer's instructions.
- C. Blend carpet from different cartons to ensure minimal variation in color match.
- D. Cut carpet tile clean. Fit carpet tight to intersection with vertical surfaces without gaps.
- E. Lay carpet tile in square pattern, with pile direction parallel to next unit, set parallel to building lines.
- F. Trim carpet tile neatly at walls and around interruptions.
- G. Complete installation of edge strips, concealing exposed edges.

3.04 CLEANING

- A. See Section 017000 - Execution and Closeout Requirements for additional requirements.
- B. Remove excess adhesive without damage, from floor, base, and wall surfaces.
- C. Clean and vacuum carpet surfaces.

END OF SECTION

**SECTION 099123
INTERIOR PAINTING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Field application of paints.
- C. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.
- D. Do Not Paint or Finish the Following Items:
 - 1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
 - 2. Items indicated to receive other finishes.
 - 3. Items indicated to remain unfinished.
 - 4. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
 - 5. Stainless steel, anodized aluminum, bronze, terne-coated stainless steel, and lead items.
 - 6. Marble, granite, slate, and other natural stones.
 - 7. Floors, unless specifically indicated.
 - 8. Ceramic and other tiles.
 - 9. Brick, architectural concrete, cast stone, integrally colored plaster, and stucco.
 - 10. Glass.
 - 11. Concealed pipes, ducts, and conduits.

1.02 RELATED REQUIREMENTS

- A. Section 055000 - Metal Fabrications: Shop-primed items.
- B. Section 055100 - Metal Stairs: Shop-primed items.
- C. Section 099113 - Exterior Painting.
- D. Section 099600 - High-Performance Coatings.

1.03 REFERENCE STANDARDS

- A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.
- B. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Based Materials; 2020.
- C. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; Current Edition.
- D. SSPC-SP 1 - Solvent Cleaning; 2015, with Editorial Revision (2016).
- E. SSPC-SP 6 - Commercial Blast Cleaning; 2007.
- F. SSPC-SP 13 - Surface Preparation of Concrete; 2018.

1.04 SUBMITTALS

- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide complete list of products to be used, with the following information for each:
 - 1. Manufacturer's name, product name and/or catalog number, and general product category (e.g., "alkyd enamel").
 - 2. MPI product number (e.g., MPI #47).
 - 3. Cross-reference to specified paint system products to be used in project; include description of each system.
- C. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches (216 by 279 mm) in size, illustrating range of colors available for each finishing product specified.

1. Where sheen is specified, submit samples in only that sheen.
 2. Where sheen is not specified, discuss sheen options with Architect before preparing samples, to eliminate sheens not required.
- D. Manufacturer's Instructions: Indicate special surface preparation procedures.
- E. Maintenance Data: Submit data including finish schedule showing where each product/color/finish was used, product technical data sheets, material safety data sheets (MSDS), care and cleaning instructions, touch-up procedures, repair of painted and finished surfaces, and color samples of each color and finish used.
- F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
1. See Section 016000 - Product Requirements, for additional provisions.
 2. Extra Paint and Finish Materials: 1 gal (4 L) of each color; from the same product run, store where directed.
 3. Label each container with color in addition to the manufacturer's label.

1.05 QUALITY ASSURANCE

- A. Applicator Qualifications: Company specializing in performing the type of work specified with minimum 5 years experience and approved by manufacturer.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

1.07 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- C. Do not apply materials when relative humidity exceeds 85 percent, at temperatures less than 5 degrees F (3 degrees C) above the dew point, or to damp or wet surfaces.
- D. Minimum Application Temperatures for Paints: 50 degrees F (10 degrees C) for interiors unless required otherwise by manufacturer's instructions.
- E. Provide lighting level of 80 fc (860 lux) measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Provide paints and finishes from the same manufacturer to the greatest extent possible.
- B. Paints:
1. Behr Process Corporation: www.behr.com/#sle.
 2. PPG Paints: www.ppgpaints.com/#sle.
 3. Sherwin-Williams Company: www.sherwin-williams.com/#sle.
- C. Primer Sealers: Same manufacturer as top coats.
- D. Substitutions: See Section 016000 - Product Requirements.

2.02 PAINTS AND FINISHES - GENERAL

- A. Paints and Finishes: Ready-mixed, unless intended to be a field-catalyzed paint.
1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.

2. Supply each paint material in quantity required to complete entire project's work from a single production run.
 3. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.
- B. Volatile Organic Compound (VOC) Content:
1. Provide paints and finishes that comply with the most stringent requirements specified in the following:
 - a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
 2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.
- C. Colors: As indicated on drawings.

2.03 PAINT SYSTEMS - INTERIOR

- A. Paint I-OP - Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board.
1. Two top coats and one coat primer.
 2. Top Coat(s): High Performance Architectural Interior Latex; MPI #138, 139, 140, 141, or 142.
 3. Top Coat(s): Interior Latex; MPI #43, 44, 52, 53, 54, or 114.
- B. Paint I-OP-MD-DT - Medium Duty Door/Trim: For surfaces subject to frequent contact by occupants, including metals and wood:
1. Medium duty applications include doors and door frames.
 2. Two top coats and one coat primer.
 3. Top Coat(s): Interior Epoxy-Modified Latex; MPI #115 or 215.
 - a. Products:
 - 1) PPG Paints Aquapon WB EP Two-Component Waterborne Epoxy Coating, 98E-1/98E-100 Series, Semi-Gloss. (MPI #215)
 - 2) Sherwin-Williams Waterbased Catalyzed Epoxy, Gloss.
 - 3) Substitutions: See Section 016000 - Product Requirements

PART 3 EXECUTION

3.01 PREPARATION

- A. Clean surfaces thoroughly and correct defects prior to application.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
- D. Seal surfaces that might cause bleed through or staining of topcoat.
- E. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.
- F. Wood Surfaces to Receive Opaque Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats. Back prime concealed surfaces before installation.
- G. Wood Doors to be Field-Finished: Seal wood door top and bottom edge surfaces with clear sealer.

3.02 APPLICATION

- A. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".
- B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- C. Apply each coat to uniform appearance in thicknesses specified by manufacturer.

- D. Sand wood and metal surfaces lightly between coats to achieve required finish.
- E. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- F. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

END OF SECTION

**SECTION 104400
FIRE PROTECTION SPECIALTIES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Fire extinguishers.
- B. Fire extinguisher cabinets.
- C. Accessories.

1.02 RELATED REQUIREMENTS

- A. Section 061000 - Rough Carpentry: Wood blocking product and execution requirements.

1.03 REFERENCE STANDARDS

- A. ASTM E814 - Standard Test Method for Fire Tests of Penetration Firestop Systems; 2013a (Reapproved 2017).
- B. NFPA 10 - Standard for Portable Fire Extinguishers; 2022.

1.04 SUBMITTALS

- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate locations of cabinets and cabinet physical dimensions.
- C. Manufacturer's Installation Instructions: Indicate special criteria and wall opening coordination requirements.
- D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- E. Maintenance Data: Include test, refill or recharge schedules and re-certification requirements.

1.05 FIELD CONDITIONS

- A. Do not install extinguishers when ambient temperature may cause freezing of extinguisher ingredients.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Fire Extinguishers:
 - 1. Provided by Owner.
- B. Fire Extinguisher Cabinets and Accessories:
 - 1. Larsen's Manufacturing Co: www.larsensmfg.com/#sle.
 - 2. No substitutions.

2.02 FIRE EXTINGUISHERS

- A. Fire Extinguishers - Provided by Owner.

2.03 FIRE EXTINGUISHER CABINETS

- A. Fire Rating: Listed and labeled in accordance with ASTM E814 requirements for fire resistance rating of walls where being installed.
- B. Cabinet Construction: Non-fire rated.
 - 1. Formed primed steel sheet; 0.036 inch (0.9 mm) thick base metal.
- C. Fire Rated Cabinet Construction: Match fire resistance rating of walls where being installed.
 - 1. Steel; double wall or outer and inner boxes with 5/8 inch (15.9 mm) thick fire barrier material.
- D. Cabinet Configuration: Semi-recessed type.
 - 1. Size to accommodate accessories.
 - 2. Projected Trim: Returned to wall surface.
 - 3. Provide cabinet enclosure with right angle inside corners and seams, and with formed perimeter trim and door stiles.

- E. Door: 0.036 inch (0.9 mm) metal thickness, reinforced for flatness and rigidity with nylon catch. Hinge doors for 180 degree opening with two butt hinges.
- F. Door Glazing: Acrylic plastic, clear, 1/8 inch (3 mm) thick, flat shape and set in resilient channel glazing gasket.
- G. Cabinet Mounting Hardware: Appropriate to cabinet, with pre-drilled holes for placement of anchors.
- H. Fabrication: Weld, fill, and grind components smooth.
- I. Finish of Cabinet Exterior Trim and Door: Baked enamel, white color.
- J. Finish of Cabinet Interior: White colored enamel.

2.04 ACCESSORIES

- A. Extinguisher Brackets: Formed steel, galvanized and enamel finished.
- B. Lettering: FIRE EXTINGUISHER decal, or vinyl self-adhering, pre-spaced black lettering in accordance with authorities having jurisdiction (AHJ).

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify rough openings for cabinet are correctly sized and located.

3.02 INSTALLATION

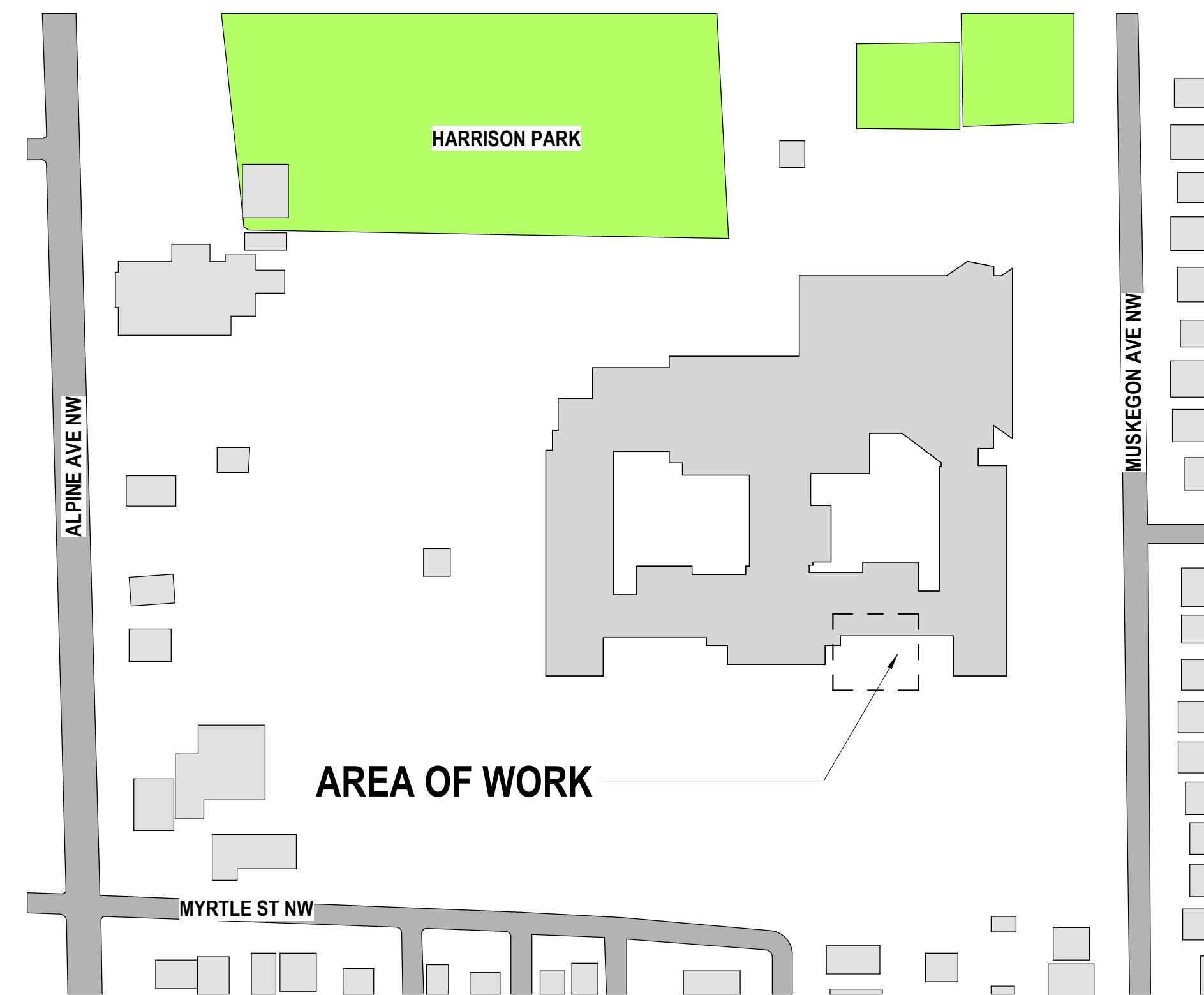
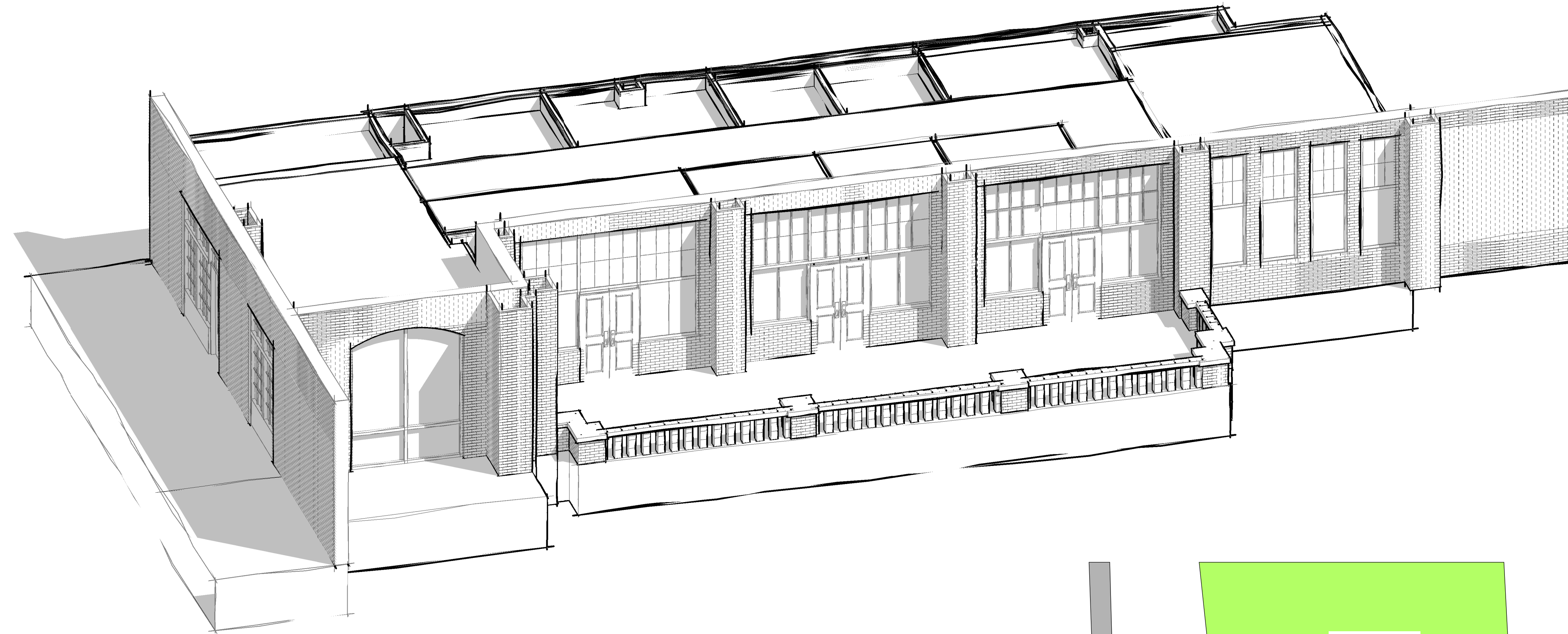
- A. Install in accordance with manufacturer's instructions.
- B. Install cabinets plumb and level in wall openings, 40 inches (____ mm) from finished floor to inside bottom of cabinet.
- C. Secure rigidly in place.
- D. Place extinguishers in cabinets.

END OF SECTION

HARRISON PARK ACADEMY RENOVATIONS - NEW HEALTH CLINIC

GRAND RAPIDS PUBLIC SCHOOLS

1440 DAVIS AVE NW, GRAND RAPIDS MI 49504

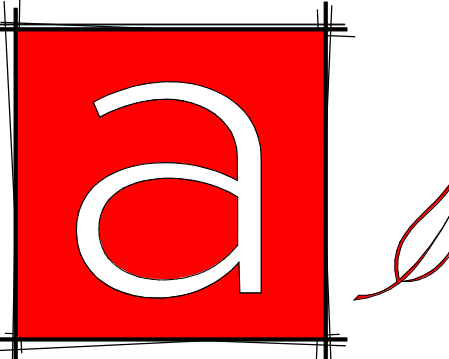


PROJECT LOCATION

3/4" = 1'-0"

DRAWING INDEX

- GENERAL
T-1 TITLE DRAWING
G-1 CODE COMPLIANCE PLANS
- ARCHITECTURAL
A-1 FIRST FLOOR PLAN AND DEMOLITION PLAN
A-2 FIRST FLOOR REFLECTED CEILING PLAN
A-3 DOOR SCHEDULE AND DETAILS
- PLUMBING
P-1 FLOOR PLAN - PLUMBING
- MECHANICAL
MD-1 FLOOR PLAN - MECHANICAL DEMOLITION
M-1 FLOOR PLAN - MECHANICAL
M-2 MECHANICAL DETAILS & SCHEDULES
- ELECTRICAL
E-1 FIRST FLOOR PLAN - LIGHTING
EP-1 FIRST FLOOR PLAN - POWER
E1.00 DETAILS, SYMBOL, LEGEND, SPECIFICATIONS



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HARRISON PARK ACADEMY RENOVATIONS - NEW HEALTH CLINIC

GRAND RAPIDS PUBLIC SCHOOLS

1440 DAVIS AVE NW, GRAND RAPIDS MI 49504

PROJECT NO. 1322
ISSUANCES

27 SEP 2024	BIDS AND PERMITS
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REVISIONS

NO.	DATE	DESCRIPTION
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PREPARER NOTES:

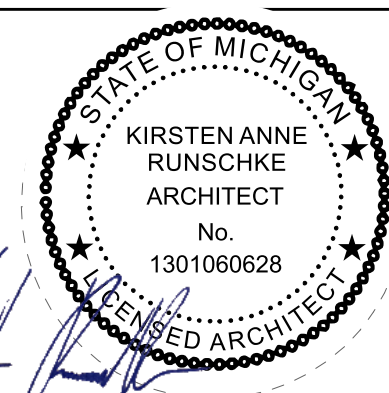
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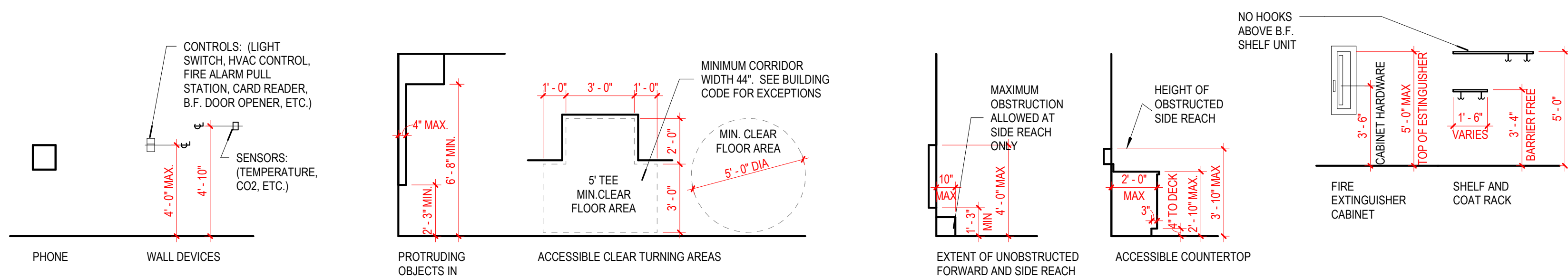


TITLE DRAWING

SCALE: As indicated

T-1

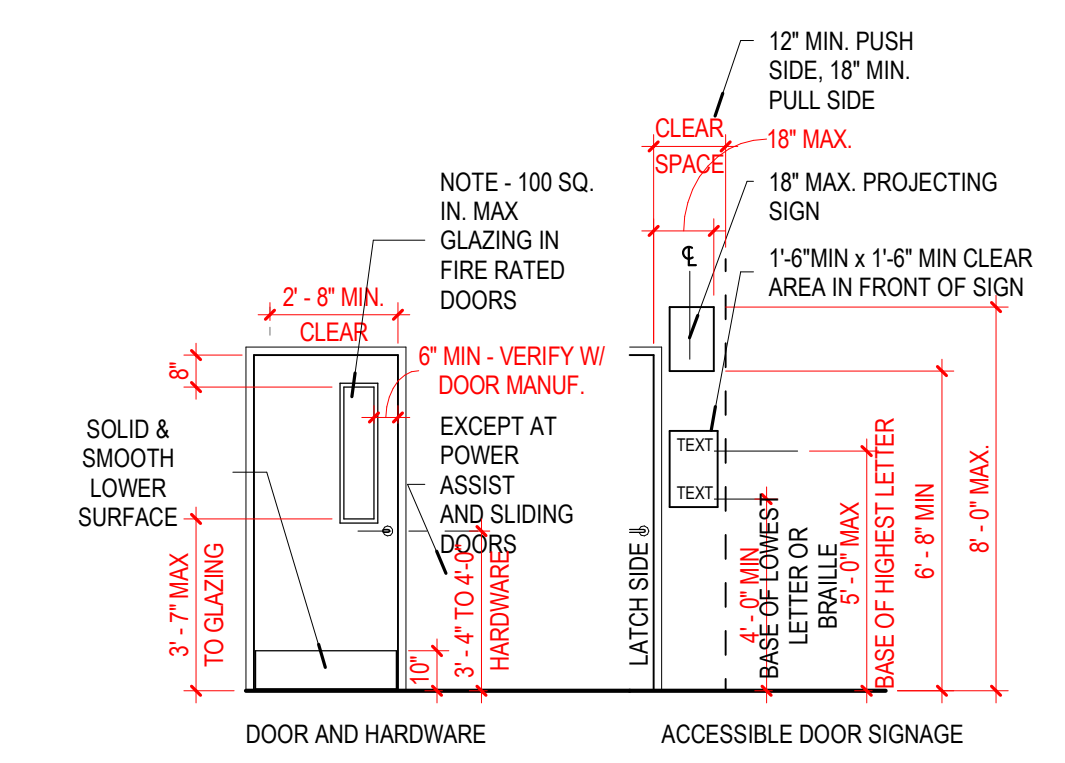
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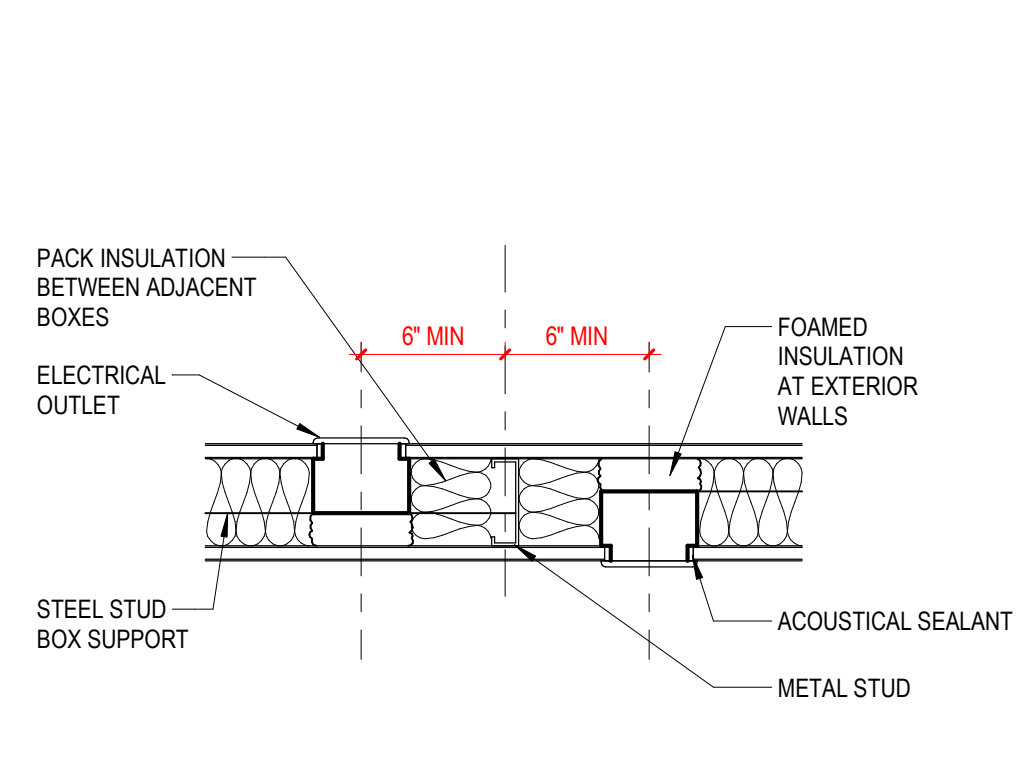
MISCELLANEOUS DEVICES

ACCESSIBLE CLEARANCES

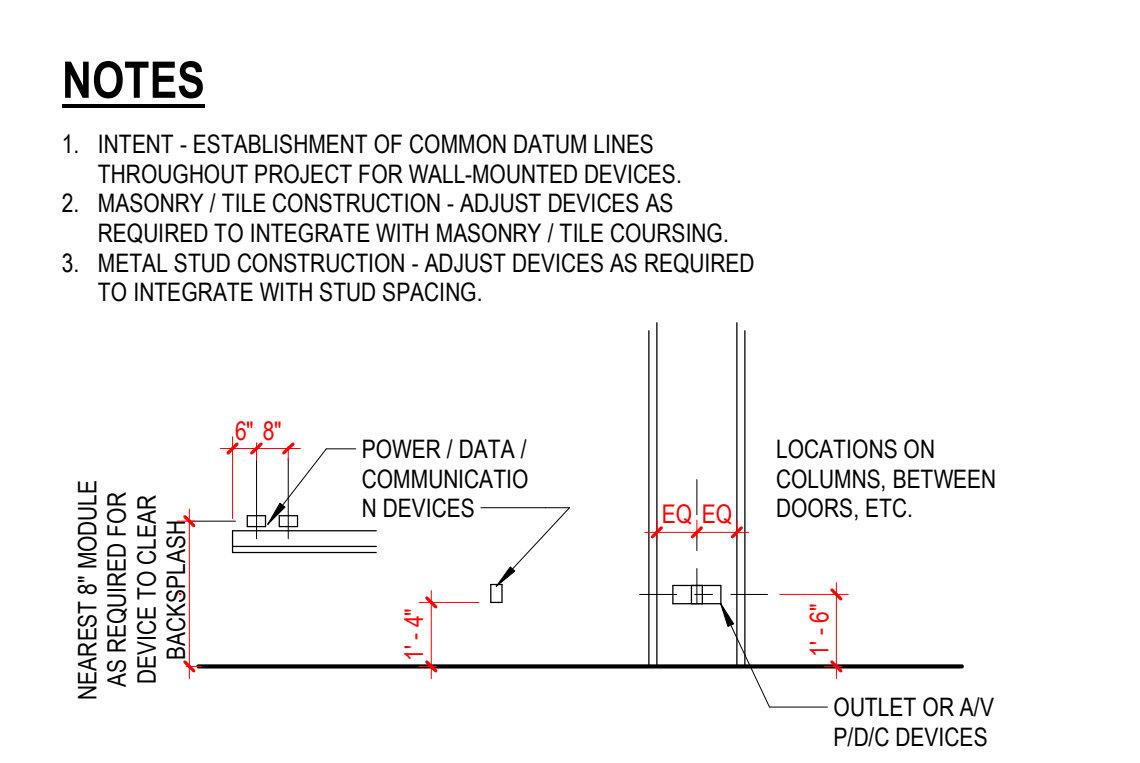
MISC. ACCESSORIES



DOORWAY FEATURES



BACK-TO-BACK OUTLETS IN STUD WALLS



ELECTRICAL DEVICES

NOTES

1. INTENT - ESTABLISHMENT OF COMMON DATUM LINES THROUGHOUT PROJECT FOR WALL-MOUNTED DEVICES.
2. MASONRY / TILE CONSTRUCTION - ADJUST DEVICES AS REQUIRED TO INTEGRATE WITH MASONRY / TILE COURSING.
3. METAL STUD CONSTRUCTION - ADJUST DEVICES AS REQUIRED TO INTEGRATE WITH STUD SPACING.

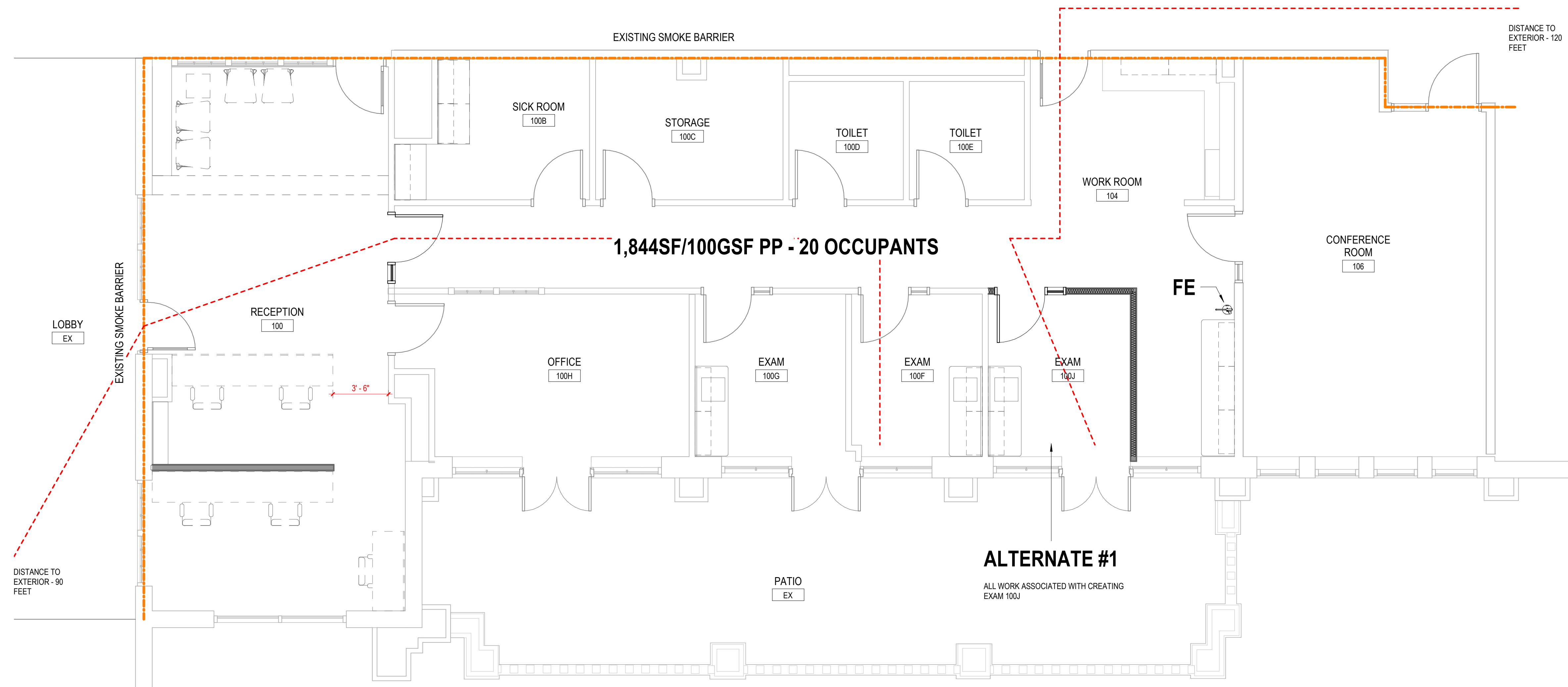


CODE SUMMARY

- SCOPE OF WORK**
 CONVERT EXISTING ADMINISTRATION SUITE TO HEALTH CLINIC, OUTPATIENT, (3) OR LESS PATIENTS AT ANY TIME. ADD ONE ROOM WITH SINK, ADD ONE LOCKABLE DOOR, ADD CASEWORK.
- A. APPLICABLE CODES:**
1. BUILDING CODES:
 - A. MICHIGAN REHABILITATION CODE FOR EXISTING BUILDINGS (MRCEB) 2015
 - B. MICHIGAN BUILDING CODE (MBC) 2015
 - C. MICHIGAN BARRIER FREE DESIGN LAW P.A. 1 OF 1966 AND 2009 ICC/ANSI A117.1
 2. MECHANICAL CODES:
 - A. MICHIGAN MECHANICAL CODE 2021
 - B. MICHIGAN PLUMBING CODE (MPC) 2021
 3. ELECTRICAL CODES:
 - A. MICHIGAN ELECTRICAL CODE 2023 (MICHIGAN ELECTRICAL CODE PART 8 INCORPORATING NATIONAL ELECTRICAL CODE 2017)
- B. EXISTING AND/OR PROPOSED BUILDING DATA:**
1. USE: ELEMENTARY SCHOOL, USE GROUP E (MBC 304.1) - NO CHANGE TO EXISTING USE. CONVERT THE ADMINISTRATION AREA OF USE GROUP B TO CLINIC, OUTPATIENT, USE GROUP B.
 2. EXISTING OCCUPANCY - USE GROUP E, NON-SEPARATED MIXED USE, ALLOWABLE AREA 62,500, ACTUAL AREA: 52,500 GSF AND 49,550 GSF. SEE PICTURE TO THE LEFT.
 3. CONSTRUCTION: TYPE 3B (MBC 602.2) - EXISTING TO REMAIN
 4. CLASSIFICATION OF WORK: ALTERATION - LEVEL 2 (MRCEB 504.1)
 5. BUILDING AREA: NO CHANGE TO EXISTING AREA OR HEIGHT
 - A. EXISTING FLOOR AREA: 164,000 SF
 - B. WORK AREA: 1,838 SF
 - C. CALCULATED PERCENTAGE: 1%
 6. AUTOMATIC FIRE SUPPRESSION:
 - A. FACILITY FULLY SPRINKLERED (MBC 903.3.1.1)
 - B. FIRE EXTINGUISHERS: REQUIRED (MBC 906.1, NO. 1)
- C. OCCUPANT LOAD FOR EGRESS PURPOSES (MBC T-1004.1.2):**
- a. USE AND OCCUPANCY: EXISTING SINGLE-OCCUPANT FACILITY (NO CHANGE)
 - a. NON-APPLICABLE FOR SINGLE-OCCUPANCY, SINGLE-TENANT STRUCTURE.
- D. MEANS OF EGRESS REQUIREMENTS (MRCEB 805):**
- a. ACCESSIBLE ROUTE TO PRIMARY FUNCTION SHALL BE PROVIDED
 - b. ACCESSIBLE ROUTE FROM PRIMARY FUNCTION TO TOILET FACILITIES AND DRINKING FOUNTAINS SHALL BE PROVIDED.
- F. PLUMBING FIXTURE REQUIREMENTS (MPC T-403.1):**
1. INCREASE IN FLOOR OCCUPANCY LOAD < 20% - EXISTING FIXTURES TO REMAIN (MRCEB 810.1)

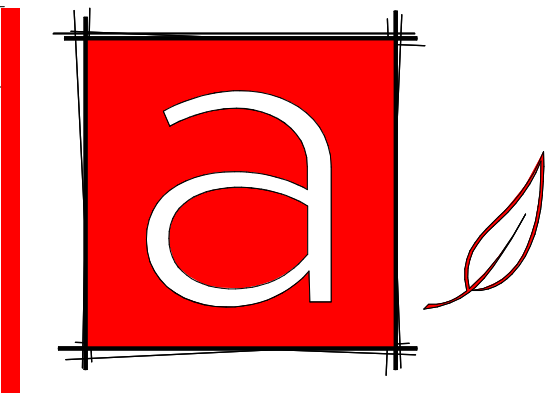
CODE LEGEND

- 100 EXIT/EXIT ACCESS WITH CAPACITY SERVED
- DIRECTION OF EGRESS INCLUDING SECONDARY EXIT/EXIT ACCESS
- # OCCUPANT LOAD OF SPACE AND BASIS FOR CALCULATION
XXXXXX SF
- COMMON PATH OF TRAVEL
- 1-HR RATED WALL UL DESIGN NO. U_
- SMOKE TIGHT WALL CONSTRUCTION
- (20) DOOR RATING
- EXIT
XXXX - REQUIRED EGRESS WIDTH
XXXX - PROVIDED EGRESS WIDTH
- FE FIRE EXTINGUISHER
- EXIT EXIT SIGN AND STROBE



CODE COMPLIANCE PLAN

1/4" = 1'-0"



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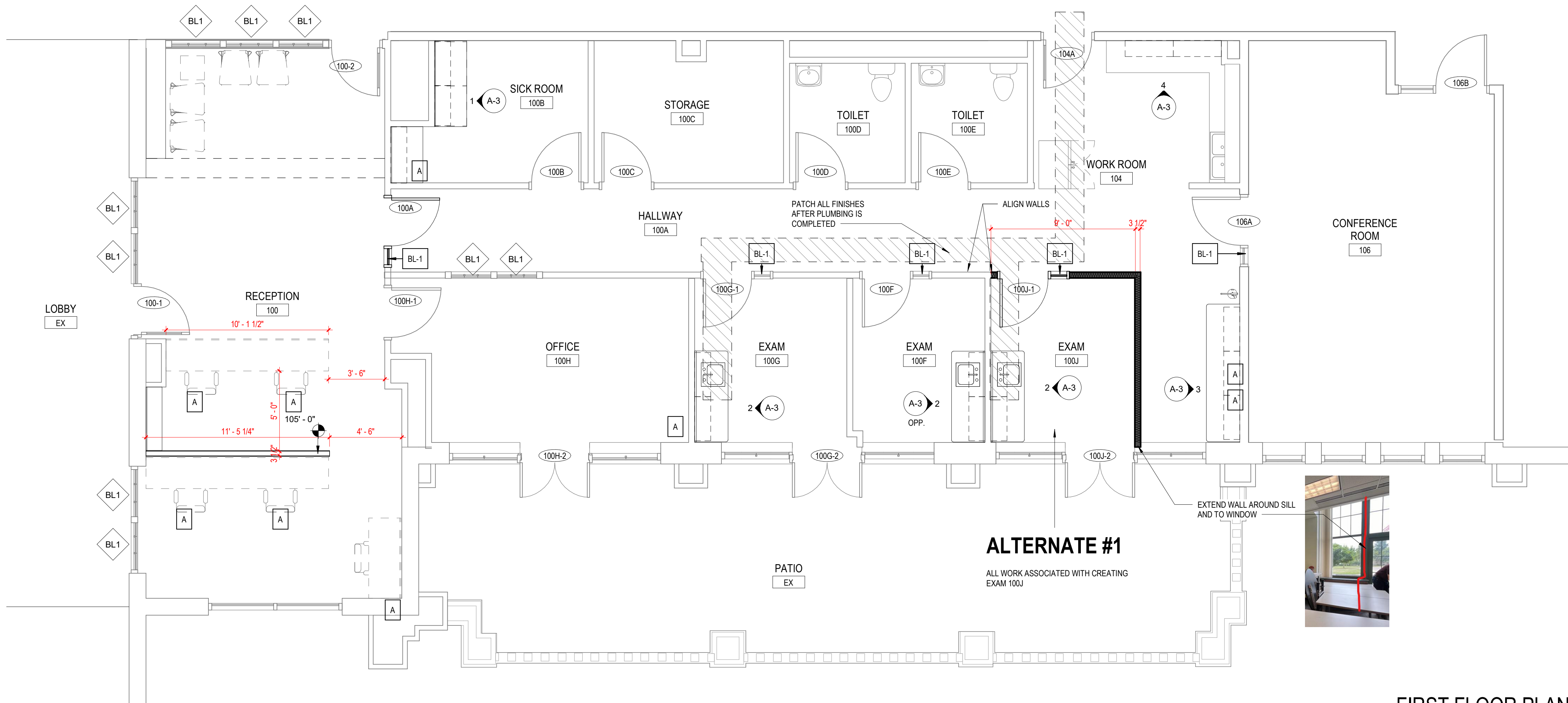
REVISIONS		
NO.	DATE	DESCRIPTION

CODE COMPLIANCE PLANS

SCALE: As indicated

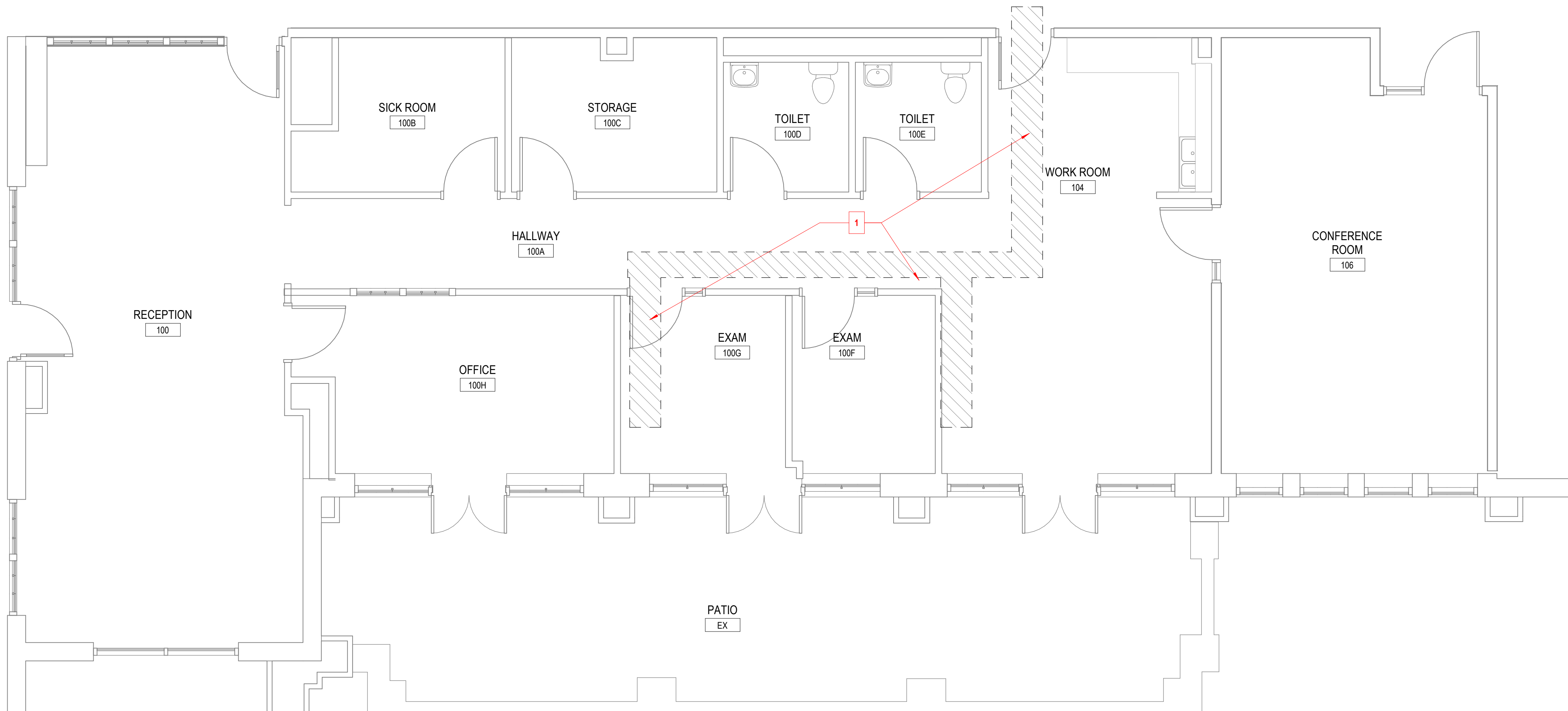
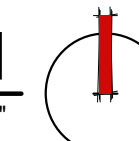
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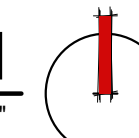
FIRST FLOOR PLAN

1/4" = 1'-0"



FIRST FLOOR DEMOLITION PLAN

1/4" = 1'-0"



GENERAL NOTES

- DO NOT SCALE DRAWINGS.
- FINISH FLOOR ELEVATION = 100'-0". REFER TO CIVIL DRAWINGS FOR SITE DATUM ELEVATION EQUIVALENT.
- EXISTING BUILDING CONDITIONS BASED ON OWNER PROVIDED DRAWINGS AND LIMITED FIELD VERIFICATION. VERIFY EXACT CONDITIONS IN FIELD. SHOULD DISCREPANCIES OCCUR, NOTIFY ARCHITECT FOR CLARIFICATIONS.
- BEGINNING WORK INDICATES THAT THE CONTRACTOR HAS ACCEPTED AND VERIFIED EXISTING CONDITIONS.
- REFER TO CODE COMPLIANCE DRAWING(S) FOR LOCATIONS OF RATED ASSEMBLIES AND CODE SUMMARY.
- WALL DIMENSIONS ARE TO FACE OF MASONRY, FACE OF CONCRETE, FACE OF STUDS, COLUMN CENTERLINE AS SHOWN OR EXISTING CONSTRUCTION UNLESS OTHERWISE NOTED.
- ALL DIMENSIONS ARE PERPENDICULAR AND PARALLEL, UNLESS NOTED OTHERWISE.
- REFER TO ALL DRAWINGS SHOWING NEW CONSTRUCTION AND COORDINATE DEMOLITION REQUIRED TO COMPLETE NEW WORK SHOWN.
- REFER TO DEMOLITION DRAWINGS AND OTHER DRAWINGS TO DETERMINE LOCATIONS THAT REQUIRE PATCHING DUE TO REMOVAL OF EXISTING ITEMS, INCLUDING MECHANICAL, PLUMBING AND ELECTRICAL ITEMS.
- PATCH ALL DISTURBED EXISTING SURFACES WITH MATERIALS TO MATCH EXISTING ADJACENT SURFACE CONSTRUCTION.
- REFER TO MECHANICAL, ELECTRICAL AND STRUCTURAL DRAWINGS FOR SIZE AND LOCATION OF CHASES, WALL AND FLOOR OPENINGS AND RECESSES, ETC. COORDINATE WITH CONSTRUCTION MANAGER / GENERAL CONTRACTOR AND ALL AFFECTED TRADES.
- PROVIDE APPROVED SMOKE/FIRESTOPPING ASSEMBLIES AT ALL MECHANICAL AND ELECTRICAL PENETRATIONS THROUGH FIRE RATED AND SMOKE RESISTANT PARTITIONS IDENTIFIED ON CODE COMPLIANCE DRAWINGS.

INTERIOR WALL GENERAL NOTES

- EXISTING WALL CONSTRUCTION — NEW WALL CONSTRUCTION
- CONSTRUCT ALL WALLS TIGHT TO DECK ABOVE AND EXTEND INTO DECK FLUTES AND WEBS OF STEEL MEMBERS UNLESS OTHERWISE NOTED.
 - PROVIDE DEFLECTION TRACK AT THE TOP OF ALL INTERIOR NON-BEARING METAL STUD WALLS CAPABLE OF ACCOMMODATING ROOF/FLOOR DEFLECTION.
 - REFER TO CODE COMPLIANCE PLAN FOR RATED WALL LOCATIONS. FIRE RATED AND SMOKE RESISTANT ASSEMBLIES SHALL BE CONTINUOUS, WITH OTHER PARTITIONS ABUTTING THEM.
 - PROVIDE FIRESTOPPING/ SMOKE SEALANT AT ALL PENETRATIONS THROUGH FIRE RATED AND SMOKE RESISTANT ASSEMBLIES, CORRIDORS, AND FLOORS WITH OCCUPIABLE SPACES ABOVE AND BELOW.
 - PERMANENTLY IDENTIFY FIRE RATED AND SMOKE RESISTANT PARTITIONS ON WALL ABOVE CEILINGS AT 30 FEET ON CENTER.
 - PROVIDE ACOUSTICAL SEALANT AT ALL WALLS WITH ACOUSTICAL INSULATION.
 - PROVIDE 5/8" MOISTURE RESISTANT GYPSUM WALLBOARD AT ALL WALLS OF TOILET ROOMS, WALLS RECEIVING TILE, AND WALLS BEHIND AND ADJACENT TO SINKS.
 - PROVIDE 5/8" TILE BACKER AT ALL WALLS OF SHOWER ENCLOSURES.
 - REFER TO STRUCTURAL DRAWINGS FOR MASONRY REINFORCING AND GROUTING.
 - PROVIDE BULLNOSE CONCRETE MASONRY UNITS AT EXPOSED SILLS AND AT ALL INTERIOR EXPOSED VERTICAL CORNERS, INCLUDING WINDOW AND DOOR JAMBS.
 - ALL WALLS ARE 3 5/8" METAL FRAMING AT 16" O/C WITH 5/8" GYPSUM WALLBOARD EA SIDE ACOUSTICAL INSULATION, EXTEND TO UNDERSIDE OF DECK UNLESS NOTED OTHERWISE.

SPECIALTY NOTES

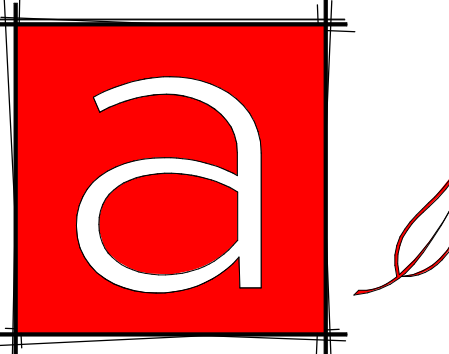
- A PROVIDE PHONE LINE

GENERAL FINISH PLAN NOTES

- FLOORING:
 - A ALL FLOORING MATERIALS SHALL MATCH EXISTING.
- BASE:
 - A ALL BASE SHALL MATCH EXISTING 4" HIGH RUBBER BASE (BLACK)
- WALLS:
 - A ALL FIRE EXTINGUISHER CABINETS, IN FINISH OTHER THAN BRUSHED ALUMINUM, SHALL BE PAINTED. COLOR TO MATCH ADJACENT WALL COLOR.
 - B ALL WALLS TO BE PAINTED. COLOR TBD.
- CASEWORK:
 - A SEE ARCHITECTURAL PLAN(S) AND DETAIL(S) FOR CASEWORK FINISH DESIGNATIONS. CONSULT DESIGNER AS NEEDED.
 - B CABINET INTERIOR TO BE WHITE UNLESS OTHERWISE SPECIFIED.
- DOOR AND DOOR / WINDOW FRAMES:
 - A ALL INTERIOR WOOD DOORS TO BE STAINED TO MATCH EXISTING

DEMOLITION NOTES

- EXISTING BUILDING CONDITION BASED ON OWNER PROVIDED DRAWINGS AND LIMITED FIELD VERIFICATION. VERIFY EXACT CONDITIONS IN FIELD. SHOULD DISCREPANCIES OCCUR, NOTIFY ARCHITECT FOR CLARIFICATIONS.
 - BEGINNING WORK INDICATES THAT THE CONTRACTOR HAS ACCEPTED AND VERIFIED EXISTING CONDITIONS.
 - COORDINATE DEMOLITION WITH ALL CONTRACTORS WORKING IN AREAS BEING RENOVATED.
 - DURING DEMOLITION, PROTECT ALL ADJACENT CONSTRUCTION TO REMAIN.
 - ANY ASBESTOS CONTAINING MATERIALS THAT ARE ENCOUNTERED ARE TO BE REMOVED BY THE OWNER.
 - REFER TO CIVIL, STRUCTURAL, MECHANICAL, ELECTRICAL AND COMMUNICATION DRAWINGS FOR ITEMS TO BE REMOVED NOT SHOWN HERE.
 - COORDINATE THE RETURN AND STORAGE OF ALL ITEMS DESIGNATED AS SALVAGE WITH OWNER.
 - PROVIDE TEMPORARY SHORING AND/OR STAGING OF THE DEMOLITION WORK.
 - MANY OF THE MASONRY WALLS OF THIS BUILDING ARE LOAD-BEARING. COORDINATE DEMOLITION OF ALL WALLS OR PORTIONS OF WALLS FOR NEW OPENINGS WITH STRUCTURAL DOCUMENTS AND EXISTING CONDITIONS. CONTRACTOR IS RESPONSIBLE FOR SHORING ALL STRUCTURE SUPPORTED BY BEARING WALLS PRIOR TO REMOVAL.
- 1 SAW CUT AND REMOVE FLOOR OR PORTION OF EXISTING FLOOR SLAB AS SHOWN OR DIMENSIONED ON FLOOR PLAN. EXCAVATE, FILL & COMPACT SOIL AS REQUIRED FOR NEW SLAB. COORDINATE WITH MECHANICAL, ELECTRICAL, DEMOLITION NOTES FOR RELATED ITEMS & LOCATIONS. INSTALL NEW SLAB TO MATCH EXIST. ELEVATION.
- 2 SEE MECHANICAL DEMOLITION NOTES FOR REMOVAL OF EXIST. PLUMBING/MECHANICAL i.e. LAVATORY SINKS, WATER CLOSETS, URINALS, FIN TUBE, MECH. DUCTWORK, UNIT VENTS, ETC.



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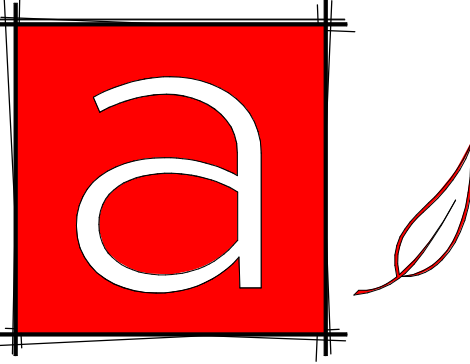
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FIRST FLOOR PLAN AND DEMOLITION PLAN

SCALE: As indicated

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FIRST FLOOR REFLECTED CEILING PLAN

SCALE : As indicated

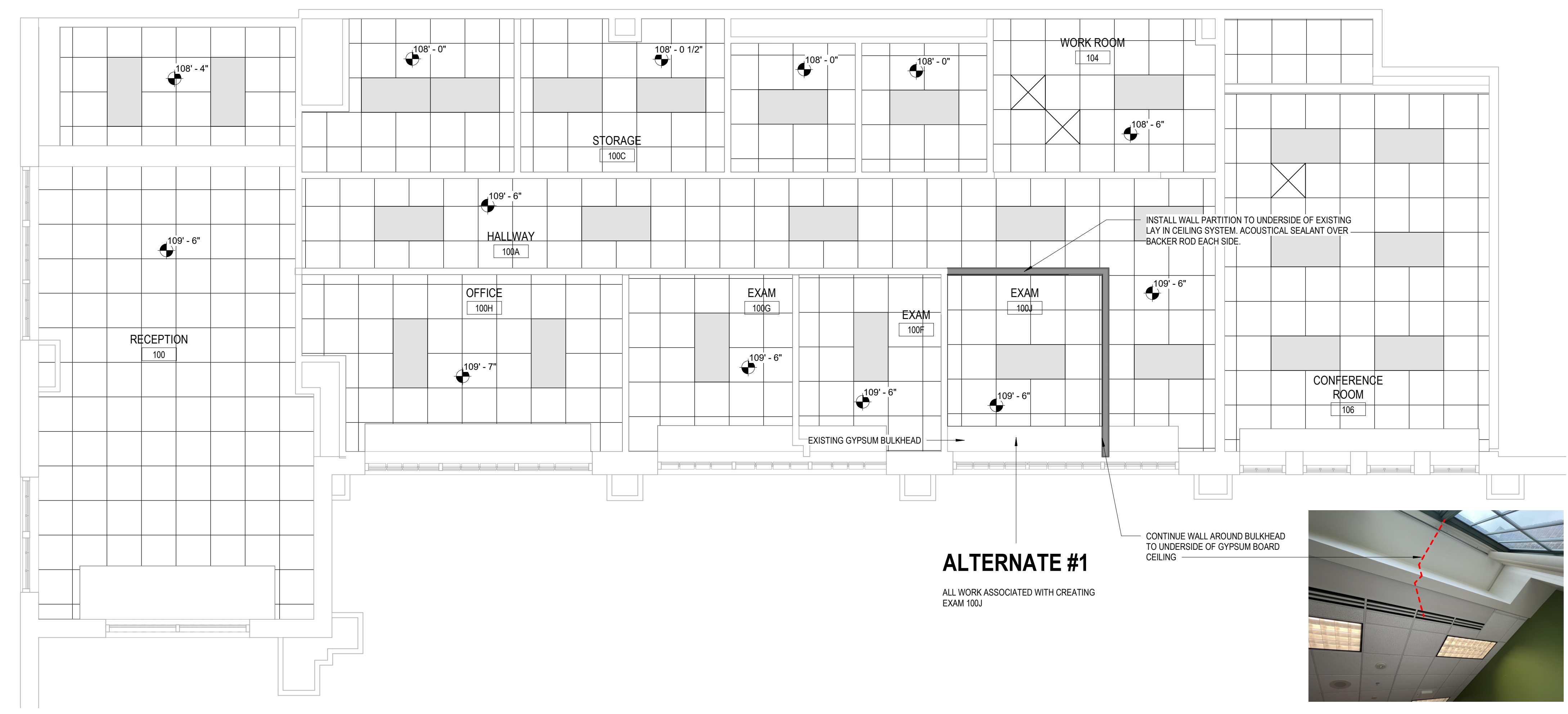
A-2

REFLECTED CEILING PLAN GENERAL NOTES

1. ALL CEILING GRIDS ARE TO BE CENTERED IN ROOM / AREA OR ALIGNED WITH ADJACENT ROOM / AREA AS INDICATED, UNLESS NOTED OTHERWISE.
2. CEILING HEIGHTS INDICATED ARE DIMENSIONED FROM THE FINISHED FLOOR BELOW.
3. ALL LIGHT FIXTURES, SPRINKLER HEADS, RETURN AIR GRILLES AND SUPPLY AIR GRILLES ARE TO BE LOCATED IN THE CENTER OF THE CEILING PAD, UNLESS NOTED OTHERWISE.
4. FIRE PROTECTION CONTRACTOR TO COORDINATE LOCATIONS OF SPRINKLER HEADS WITH MECHANICAL AND ELECTRICAL CONTRACTOR. SEE NOTE ABOVE.
5. COORDINATE MECHANICAL, ELECTRICAL AND FIRE PROTECTION TO ASSURE PROPER CLEARANCES AND LAYOUT.
6. MECHANICAL, ELECTRICAL AND FIRE PROTECTION CONTRACTORS TO PROVIDE ACCESS PANELS IN CEILINGS AS REQUIRED FOR MAINTENANCE OF EQUIPMENT. COORDINATE SIZE AND LOCATIONS OF ACCESS PANELS TO MINIMIZE QUANTITIES. CONTRACTOR IS REQUIRED TO PROVIDE LAYOUT TO ARCHITECT FOR REVIEW PRIOR TO INSTALLATION, UNLESS NOTED OTHERWISE.

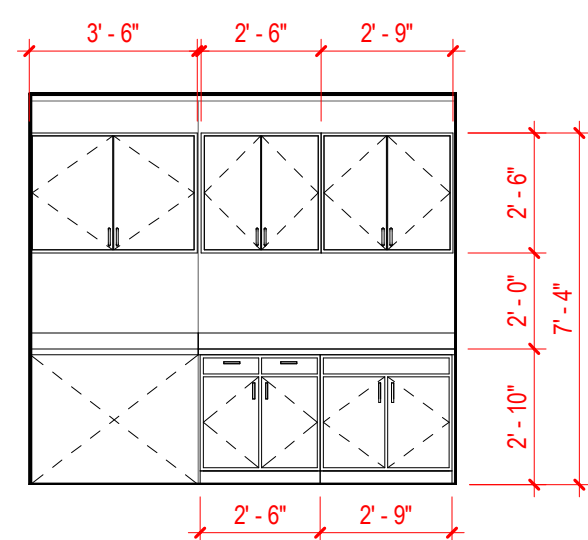
REFLECTED CEILING PLAN LEGEND

- EXISTING 2X2 ACOUSTIC CEILING PANEL
- EXISTING GYPSUM BOARD
- CEILING HEIGHT INDICATOR
- PLASTER OR GYPSUM WALL BOARD CONTROL JOINT
- CEILING ACCESS PANEL OR ROOF HATCH
- RECESSED ROUND LIGHT FIXTURE (EMERGENCY FIXTURES SHADED)
- 2X2 LIGHT FIXTURE
- 2X4 LIGHT FIXTURE
- LINEAR LIGHT FIXTURE
- HVAC SUPPLY GRILLE
- HVAC RETURN GRILLE
- RADIANT PANEL
- FIRE EXIT SIGN LOCATION
- SPEAKER LOCATION (SEE ELECTRICAL COMMUNICATIONS)
- CAMERA LOCATION (SEE ELECTRICAL COMMUNICATIONS)
- CEILING MOUNTED PROJECTOR

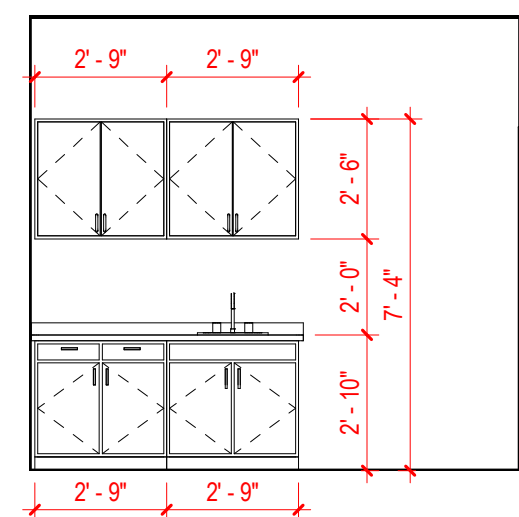


FIRST FLOOR REFLECTED CEILING PLAN
 1/4" = 1'-0"

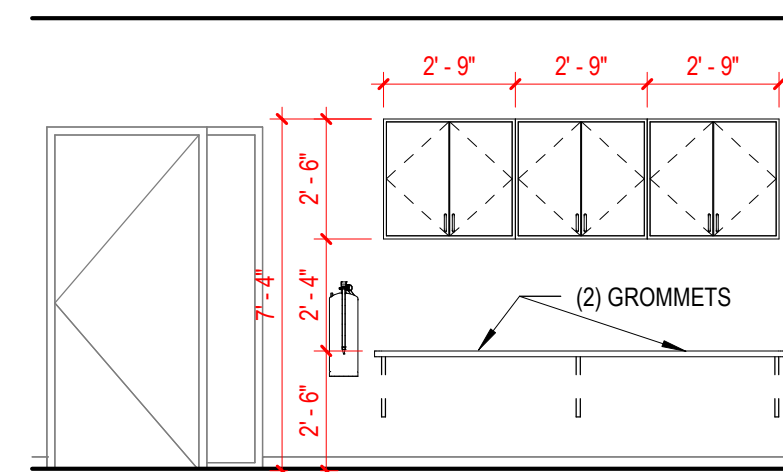
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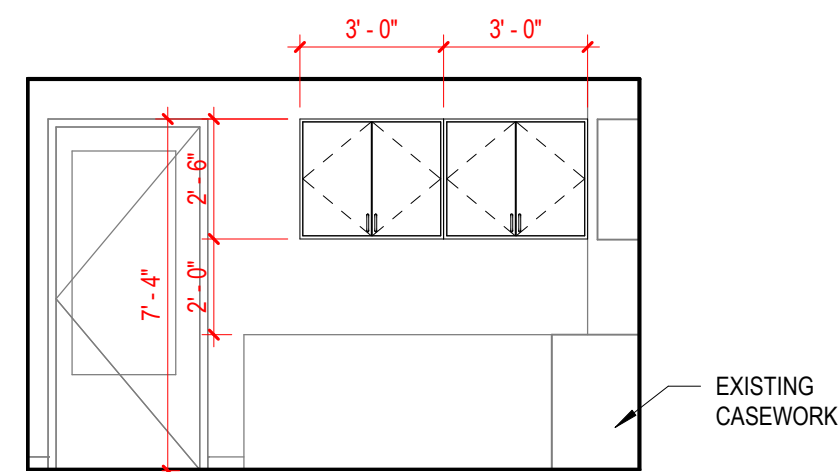
1 INT ELEV - SICK ROOM CASEWORK
1/4" = 1'-0"



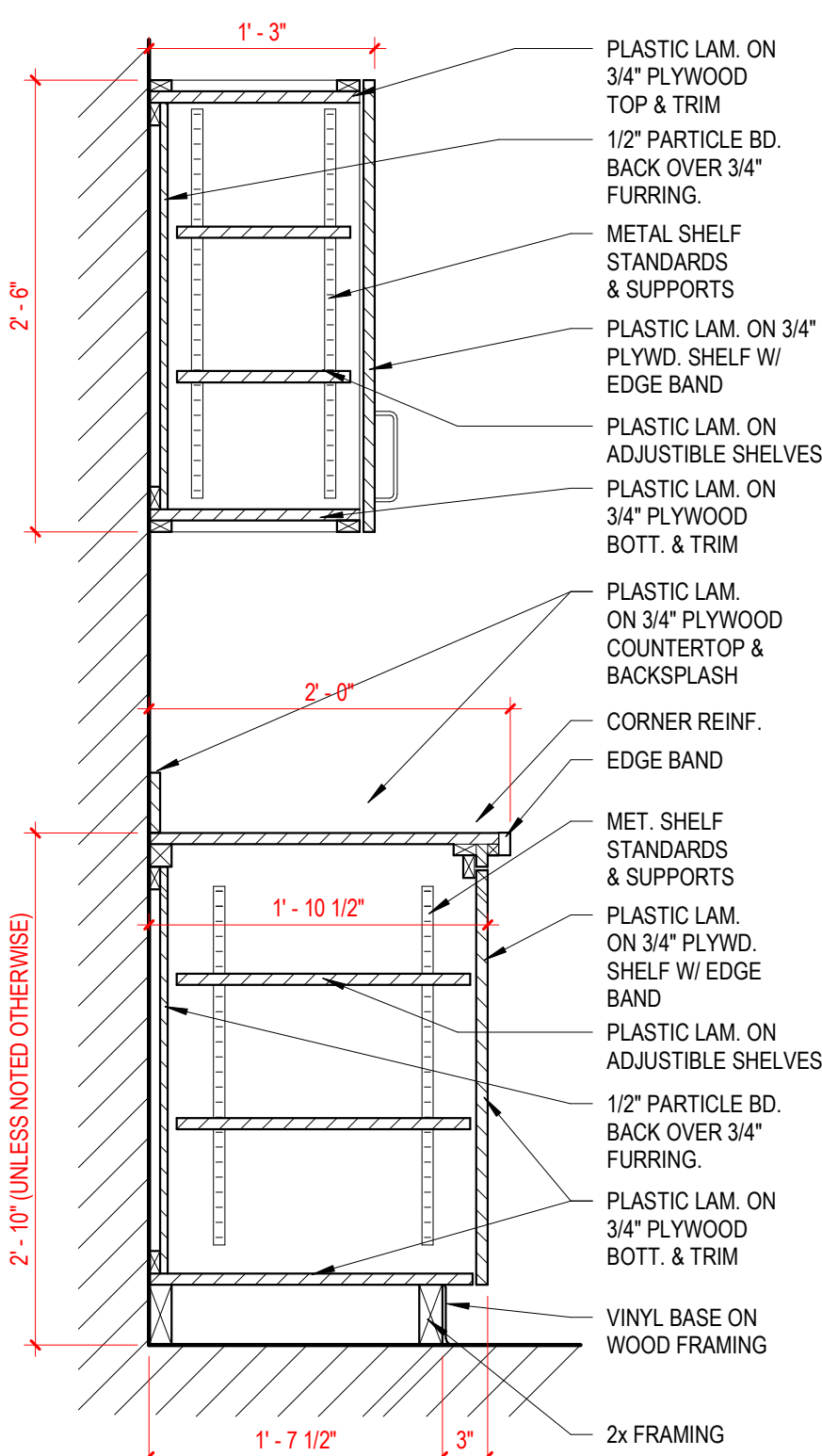
2 INT ELEV - EXAM CASEWORK
1/4" = 1'-0"



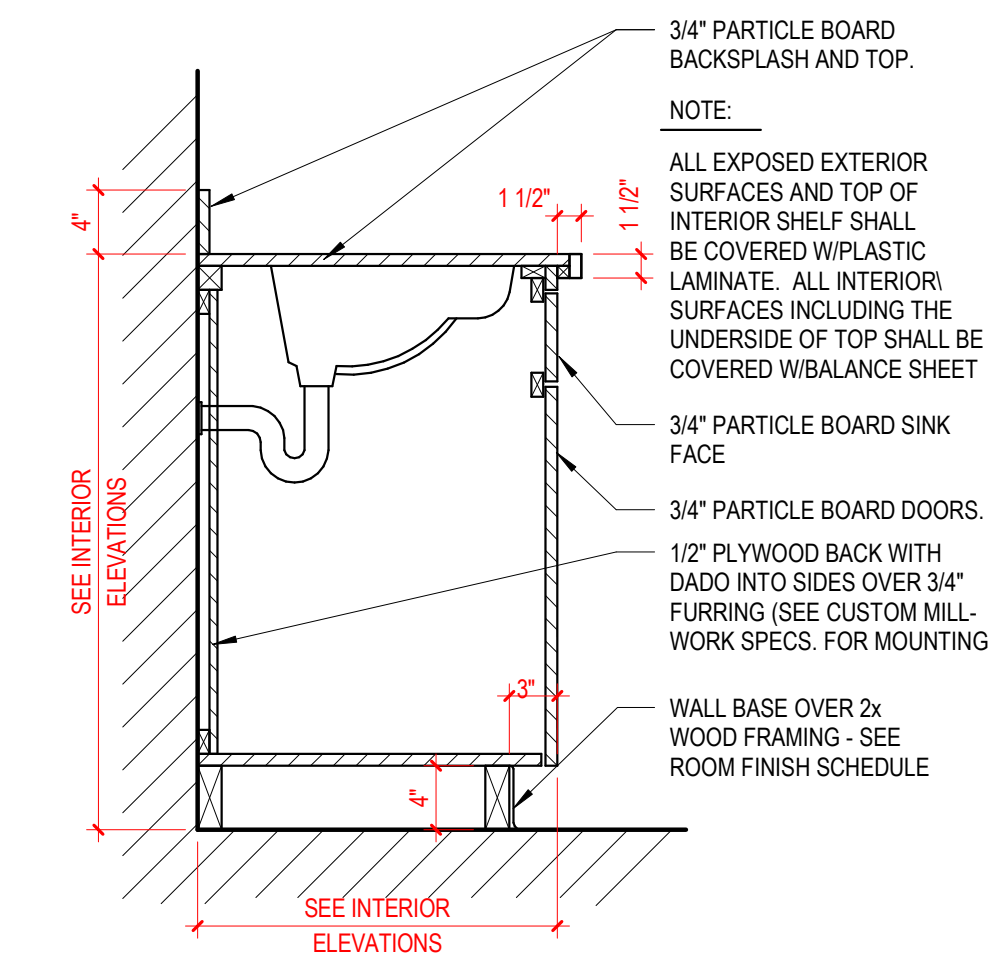
3 INT ELEV - WORK ROOM EAST
1/4" = 1'-0"



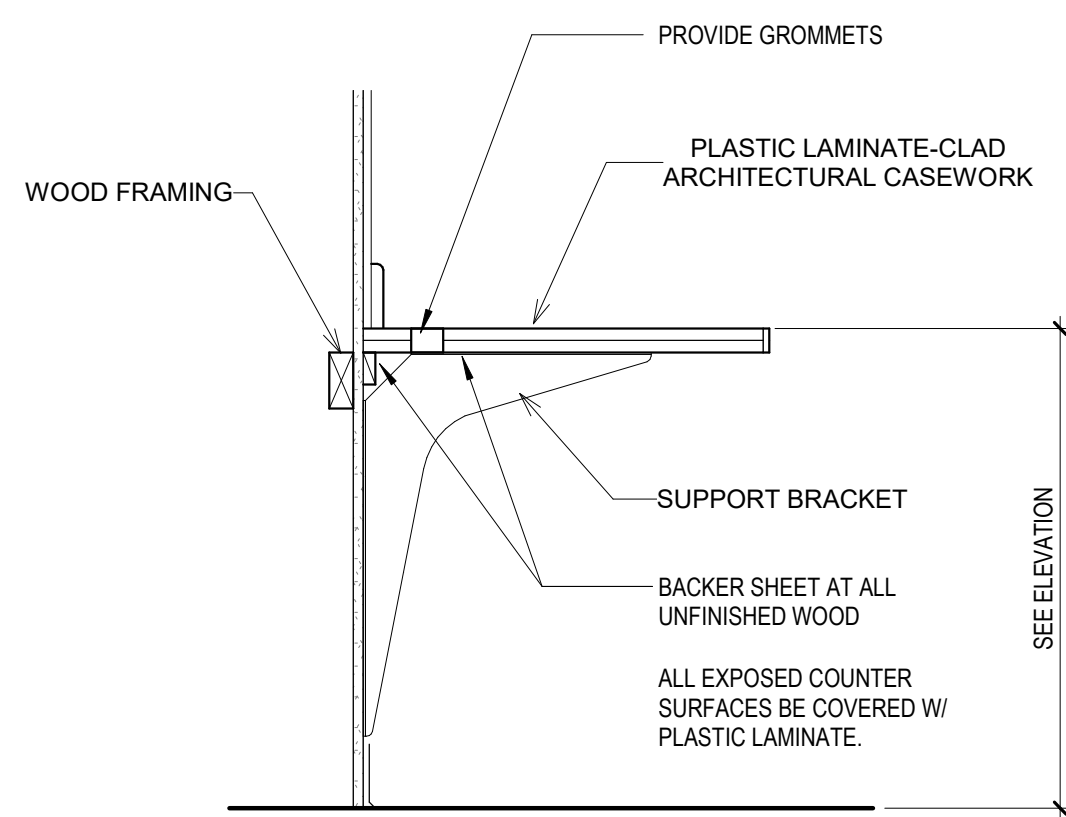
4 INT ELEV - WORKROOM NORTH
1/4" = 1'-0"



5 UPPER & LOWER CABINET DETAIL
1" = 1'-0"

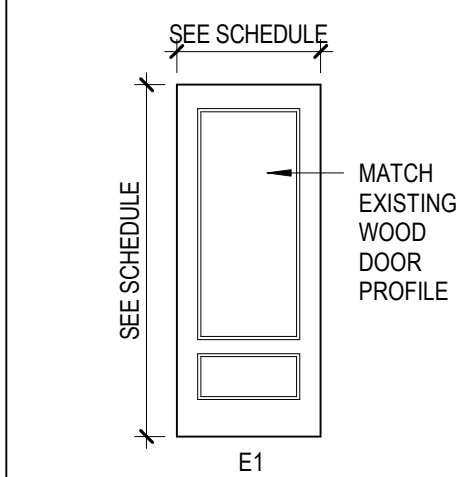


6 SINK BASE CABINET DETAIL
1" = 1'-0"

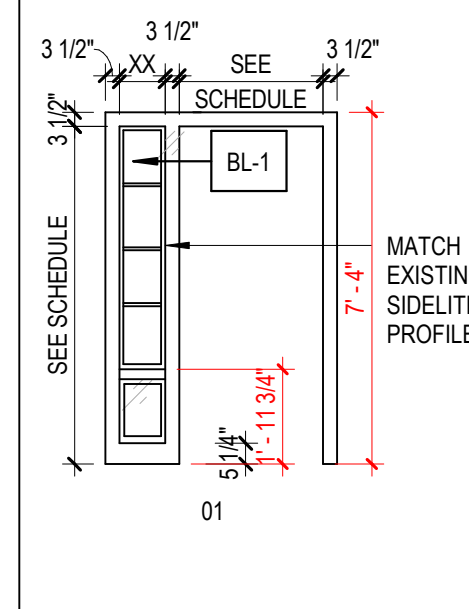


7 TYPICAL WORK SURFACE
1" = 1'-0"

DOOR TYPES



FRAME TYPES



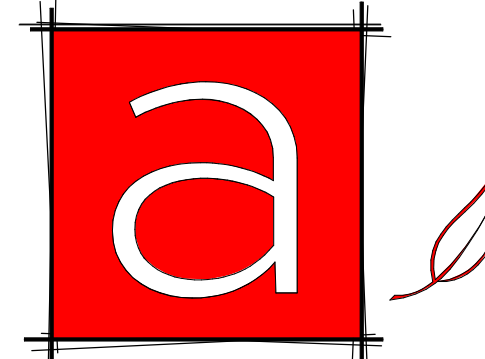
DOOR SCHEDULE

Mark	DOOR				FRAME			HDW	NOTES
	WIDTH	HEIGHT	TYPE	MATERIAL	TYPE	MATERIAL	RATING		
FIRST FLOOR									
100-1	3'-0"	7'-2"	F	WD	S	WD	0	05	
100-2	3'-0"	7'-2"	F	WD	S	WD	0	06	
100A	3'-0"	7'-0"	E1	WD	01	WD	0	04	
100B	3'-1"	7'-0"	F	WD	S	WD	0	02	
100C	3'-1"	7'-0"	F	WD	S	WD	0	07	EXISTING STORAGE
100D	3'-1"	7'-0"	F	WD	S	WD	0	07	EXISTING PRIVACY
100E	3'-1"	7'-0"	F	WD	S	WD	0	07	EXISTING PRIVACY
100F	3'-0"	7'-0"	E1	WD	01	WD	0	02	
100G-1	3'-0"	7'-0"	E1	WD	01	WD	0	02	
100G-2	4'-4"	7'-0"	DFG	ALUMINU M	DBL	ALUMINUM	0	07	EXISTING EXTERIOR LOCKED
100H-1	3'-1"	7'-0"	F	WD	S	WD	0	07	EXISTING OFFICE
100H-2	4'-4"	7'-0"	DFG	ALUMINU M	DBL	ALUMINUM	0	07	EXISTING EXTERIOR LOCKED
100J-1	3'-0"	7'-0"	E1	WD	01	WD	0	01	
100J-2	4'-4"	7'-0"	DFG	ALUMINU M	DBL	ALUMINUM	0	07	EXISTING EXTERIOR LOCKED
104A	3'-0"	7'-2"	F	WD	S	WD	0	03	
106A	3'-0"	7'-0"	E1	WD	01	WD	0	03	
106B	3'-2"	7'-0"	F	HM	S	HM	0	07	EXISTING NO CHANGE

BL-1 - PROVIDE FULL PRIVACY FILM ON ALL BORROWED LITES
SXWF-HM WHITE MATTE BY SOLYX WINDOW FILMS | DECORATIVE FILMS OR EQUAL.

DOOR HARDWARE

- SUBMIT PRODUCT DATA AND LITERATURE TO OWNER/ARCHITECT FOR APPROVAL FOR ALL HARDWARE SELECTIONS FOR MANUFACTURER, STYLES, COLORS, AND FINISHES AS INDICATED ALONG WITH HARDWARE SCHEDULE. INSTALL ALL PRODUCTS PER MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS AS INDICATED.
- EGRESS DOOR HARDWARE SHALL BE READILY OPENABLE FROM THE SIDE FROM WHICH EGRESS IS TO BE MADE WITHOUT THE USE OF A KEY, SPECIAL KNOWLEDGE OR EFFORT.
- ALL DOORS SHALL HAVE HANDLES, PULLS, LATCHES, AND OTHER OPERATING DEVICES WHICH DO NOT REQUIRE THUMBTRUNS, TIGHT GRASPING, TIGHTENING PINCHING, OR TWISTING OF THE WRIST TO OPERATE. ALL DOOR HARDWARE SHALL BE NO HIGHER THAN 48" A.F.F.
- ALL DOOR HARDWARE MUST COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS.
- UNLESS NOTED OTHERWISE, ALL DOOR TO HAVE LEVER TYPE OPERATOR.
- CLOSER HARDWARE SHALL MEET ADA REQUIREMENTS, SECTIONS 404.2.8 FOR A DOOR CLOSING SPEED OF 5 SECONDS MINIMUM FROM 90 DEG. TO 12 DEG.
- DOOR OPENING FORCE FOR NON-FIRE DOORS SHALL MEET ADA REQUIREMENTS, SECTION 404.2.9, FOR AN OPERATING FORCE OF 5 LBS. MAX. AT INTERIOR HINGED DOORS. FIRE DOORS SHALL MEET THE MINIMUM FORCE PER THE LOCAL AUTHORITY HAVING JURISDICTION.
- DOOR OPENING FORCE FOR DOORS SHALL MEET 2015 MICHIGAN CODE REQUIREMENTS, SECTION 1010.1.3 FOR AN OPERATING FORCE OF 5 LBS. MAX. AT INTERIOR HINGED DOORS. OTHER SIDE-HINGED SWINGING, SLIDING, AND FOLDING DOORS MUST RELEASE THE LATCH WITH A 15 LB. FORCE, BE SET IN MOTION WITH A 30 LB. FORCE, AND SWING TO THE FULL OPEN POSITION WITH A 15 LB. FORCE FROM THE LATCH SIDE OF THE DOOR.
- ALL LOCKSETS TO BE KEYPED SEPARATELY.
- THE UNLATCHING OF ANY DOOR OR LEAF SHALL NOT REQUIRE MORE THAN ONE OPERATION.
- ALL HARDWARE TO BE US26D, SATIN CHROMIUM FINISH, UNLESS NOTED OTHERWISE.
- PROVIDE SOLID WOOD BLOCKING DOOR REINFORCING AS REQUIRED FOR HARDWARE COMPONENTS. COORDINATE MOUNTING TEMPLATES WITH DOOR MANUFACTURER.
- PROVIDE FLOOR ANCHORS AT ALL HOLLOW METAL FRAMES.
- ALL FRAMES SHALL HAVE 3 ANCHORS PER JAMB.
- PROVIDE ADEQUATE BARRIER AGAINST THE ELECTROLYTIC ACTIONS BETWEEN DISSIMILAR TYPES OF METALS THAT MAY COME INTO CONTACT WITH EACH OTHER.
- PROVIDE ASPHALTIC COATING TO INTERIOR OF HOLLOW METAL FRAMES WHERE NOTED TO BE GROUTED SOLID.
- CAULK PERIMETERS OF ALL DOOR FRAMES, BOTH SIDES.
- DOOR SHALL HAVE HINGES AS FOLLOWS:
 - UNDER 96" H = 3 HINGES PER LEAF
 - 96" H DOOR = 4 HINGES PER LEAF
- ALIGN CENTERS OF DOORS IN SERIES UNLESS NOTED OTHERWISE.
- WOOD DOORS: TO BE TYPE L2, 5 PLY SOLID CORE, WITH GRADE 'A' PLAIN SLICED WHITE MAPLE VENEER BOOK MATCHED FACE, RUNNING MATCH.
- WOOD VENEER DOOR TO HAVE PAIR MATCH VENEERS FOR PAIRED DOORS AND SET MATCH VENEERS FOR PAIRED DOORS IN ADJACENT SETS.
- REFER TO MECHANICAL DRAWINGS FOR UNDERCUT DOORS AS REQUIRED.



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HARRISON PARK ACADEMY RENOVATIONS - NEW HEALTH CLINIC

GRAND RAPIDS PUBLIC
SCHOOLS



1440 DAVIS AVE NW, GRAND RAPIDS MI 49504

PROJECT NO. 1322
ISSUANCES

27 SEP 2024	BIDS AND PERMITS
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REVISIONS

NO.	DATE	DESCRIPTION
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DOOR SCHEDULE AND
DETAILS

SCALE: As indicated

A-3

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