Request for Proposal

CENTRAL SCHOOL RESTORATION PROJECT
PHASE 2B-2: BUILDING SYSTEMS

Prepared by the Mount Prospect Historical Society

October 15, 2014

Central School Restoration Project
Phase 2B-2: Building Systems

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NOTICE TO CONTRACTORS

The Mount Prospect Historical Society is seeking proposals for the installation of certain building systems for the Central School Building, a historical building located at 103 S. Maple Street, Mount Prospect, Illinois (the "Central School Restoration Project, Phase 2B-2: Building Systems" or "Project"). Proposals for the Project must be received in sealed envelopes at the Mount Prospect Historical Society, 101 S. Maple Street, Mount Prospect, Illinois, 60056, no later than 2:00 p.m. on Friday, November 7, 2014. Envelopes shall be plainly marked, "Sealed Proposal for Central School Restoration Project, Phase 2B-2: Building Systems". Three (3) copies of the proposal must be included when submitted. Proposals must conform to the requirements of this Request for Proposal.

A contractor walk-through of the facility will be conducted by FGM Architects at 10:00 a.m. on Friday, October 24, 2014.

INSTRUCTIONS TO CONTRACTORS

1) All proposals for the Project shall be submitted to and received by the Mount Prospect Historical Society, 101 S. Maple Street, Mount Prospect, Illinois, 60056, in sealed envelopes no later than 2:00 p.m. on Friday, November 7, 2014. Envelopes shall be plainly marked, "Sealed Proposal for Central School Restoration Project, Phase 2B-2: Building Systems". Three (3) copies of the proposal must be included when submitted.

2) No proposal may be withdrawn for at least thirty (30) days after the scheduled closing time for receipt of proposals.

3) Contractors shall include with their proposals the names of three (3) references as to their financial qualifications and three (3) references as to their qualifications by experience, ability, personnel and equipment to undertake work of the nature and extent contemplated by the proposal and specifications.

4) The Proposal Form, attached hereto as Attachment A, shall be completed and submitted as part of the proposal. If the Contractor wishes to qualify its proposal or make special stipulations thereto, such qualifications or stipulations shall be stated on standard 8 ½" x 11" sheets of paper, separate from the Proposal Form but included within the sealed proposal.

5) Contractors shall provide a list of subcontractors, if any, proposed to be used for the Work, including the type of work, and their addresses and telephone numbers.

6) The proposal must be signed by an authorized official of the organization submitting the proposal with the name of the official and his/her title typed below the signature. The person signing the proposal must initial all erasures or revisions to the proposal.

7) The Work to be performed under this contract includes the furnishing of all supervision, labor, materials, tools, equipment and incidentals of every kind and description necessary for construction of the Work, in accordance with the General Conditions and Specifications/Scope of Work included herein.

8) Prior to submission of a proposal, contractors are advised to visit the site of the proposed Work and to inform and familiarize themselves as to the location, condition, topography, and any obstacle, which may be encountered, or other relevant matters concerning the Work to be performed. No extra compensation will be allowed the successful Contractor for failure to inform or familiarize itself prior to submitting its proposal.

9) The Mount Prospect Historical Society reserves the right to reject any or all proposals, or any part thereof, to waive any informality or any information in any

proposal deemed not to be in the best interests of the Society, and to accept any proposal considered advantageous to the society.

10) The Society reserves the right to add to or subtract from the estimated Work in order to stay within its appropriated funding.

11) Contractor shall include with its proposal a construction schedule for completion of the Work, in accordance with the Contract.

12) Faxed or emailed Proposals will not be accepted.

Questions about this Request should be directed to:

Executive Director
Mount Prospect Historical Society
101 S. Maple Street
Mount Prospect, IL 60056
Phone: (847) 392-9006

OR

Frank Corry, Board President
(847) 590-3226
YourCentralSchool@gmail.com

GENERAL CONDITIONS

I. DEFINITION OF TERMS

In these specifications and the accompanying documents, the several terms hereinafter defined shall be understood to mean as follows:

The term, "Society," shall mean the Mount Prospect Historical Society in the Village of Mount Prospect, Illinois.

The term, "Board," shall mean the Board of Directors of the Mount Prospect Historical Society in the Village of Mount Prospect, Illinois.

The term, "Executive Director," shall mean the Executive Director of the Mount Prospect Historical Society in the Village of Mount Prospect, IL or his duly appointed representative.

The term, "Board President," shall mean the President of the Board of Directors of the Mount Prospect Historical Society in the Village of Mount Prospect, Illinois.

The term, "Inspector," shall mean the authorized representative of the Board President assigned to make detailed inspection of any or all portions of the work or materials therefor.

The term, "Owner," shall mean the Mount Prospect Historical Society.

The term, "Project," or phrase, "Central School Restoration Project", shall mean the renovation of the Central School Building described herein.

The term, "Proposal," shall mean a formal written offer of a contractor to perform the proposed work in accordance with these specifications.

The term, "Contract," shall mean the written agreement between the Society and the Contractor.

The term, "Subcontractor," shall mean any individual, firm or corporation other than the Contractor supplying labor, equipment, tools and materials for use in the work of the Contract.

The term, "Notice to Contractors," shall mean the official notice included in the documents requesting a proposal for the proposed improvements.

The term, "Award," shall mean the decision of the Mount Prospect Historical Society to accept the proposal of the Contractor for the Work, subject to the execution and approval of a written Contract therefore, and bond, if required, to secure the performance thereof, and to such other conditions as may be specified or otherwise required by law.

The terms, “Performance Bond” or “Letter of Credit,” shall mean the approved form of security furnished by the Contractor and its financial institution as a guarantee that it will execute the work in accordance with the terms of the Contract.

The term, “Work,” shall mean the improvement advertised for letting, described in the Request for Proposal, as indicated on the plans, and covered in the General Conditions, Specifications/Scope of Work and Contract, and authorized alterations, extensions and deductions, including labor, tools, equipment, materials and incidentals necessary for the satisfactory completion of the Contract.

The term, “Contractor,” shall mean the individual, firm or corporation who shall have entered into an agreement or Contract to furnish all necessary labor, equipment, tools and materials for the performance of the work herein contemplated.

II. CONTRACT

Award of the Work shall be subject to the execution of a written contract by the Board of Directors of the Historical Society. The contractor shall enter into a written contract with the Society in the form attached hereto and incorporated herein as Attachment B (the “Contract”). The Contract requires contractor to provide, among other things, specific insurance coverage and to indemnify the Society for its work. The contractor agrees to comply with the terms of the Contract as a material part of its proposal. To the extent that any provision of the Contract conflicts with a provision in this Request for Proposal, the Contract provision shall govern.

A not-for-profit organization, the Mount Prospect Historical Society invites and welcomes donations of labor, materials, equipments and services, including the costs for any subcontractors. For contractors wishing to donate all or a portion of their services on this project, a modified contract shall be available that specifies the handling of such transaction(s). The Society shall, in lieu of payment(s), provide such contractor with a letter evidencing its donation of said labor, materials, equipments and services to the Society as a not-for-profit organization for tax purposes.

III. SCHEDULE

Time is of the essence in completion of the Work. All Work is to be performed in a timely manner. Work shall commence within thirty (30) days of the award of the contract and execution of the Contract. All work shall be completed within sixty (60) days of the Effective Date of the Contract, as defined in the Contract.

IV. COORDINATION

The Contractor assumes full responsibility to supervise and coordinate all Work. In the event that the Society suffers costs in excess of the contract price due to contractor’s failure to properly coordinate the work, the Society shall be entitled to a credit for those excess costs.

SPECIFICATIONS / SCOPE OF WORK

The Project scope of work for Phase 2B-2: Building Systems consists of the work generally described below, and detailed in Appendix A:

PROJECT DESCRIPTION

Mechanical

- Installation of new mechanical equipment and infrastructure as indicated on architectural drawings, mechanical drawings and specification manual.

Plumbing

- Installation of new plumbing components as indicated on architectural drawings, plumbing drawings and specification manual. Perform selective demolition of selected existing interior components as noted for installation of new work. Include rough carpentry and framing for new interior wall partitions as noted.

Fire Protection

- Installation of new fire suppression system infrastructure and components as indicated on project drawings and specification manual.

Electrical

- Installation of new electrical infrastructure and components as indicated on architectural drawings, electrical drawings and specification manual.

PROJECT DETAIL (See Appendix A.)

- Project Manual For Mount Prospect Historical Society Central Schoolhouse Restoration, Phase 2B-2: Building Systems

- Drawings:
  - G-0, G-1
  - A-1, A-2, A-3, A-4, A-5, A-6, A-7
  - M-1, M-2, M-3
  - P-1, P-2, P-3, P-4
  - E-0, E-1, E-2, E-3

REFERENCE (See Appendix B.)

NOTE: The following documents are presented for reference only and are not intended to be utilized for bidding purposes. Reference drawings detail the proposed work to be performed in future phases of the project and are offered here solely to establish the overall project context for the work to be performed in the current Phase 2B-2.

- Drawings:
  - AR-1, AR-2, AR-3, AR-4, AR-5, AR-6, AR-7, AR-8, AR-9, AR-10, AR-11, AR-12, AR-13

ATTACHMENT A

PROPOSAL FORM

I, the undersigned, herewith submit a proposal for the Central School Restoration Project at the Mount Prospect Historical Society, 101 S. Maple Street, Mount Prospect, Illinois, 60056, in accordance with the Request for Proposal for the Central School Restoration Project Phase 2B-2: Building Systems, dated October 15, 2014. I have examined the site of the Work and the Request for Proposal and its attachments.

In submitting this proposal, I agree:

1. To not withdraw my proposal for a period of 30 days after receipt of the proposal.
2. To enter into and execute a written contract, if awarded, on the basis of this proposal, and to furnish contract bonds, if required, within ten (10) days of a written Notice of Award.
3. To construct the Work in accordance with the General Conditions and Specifications/Scope of Work.
4. To complete the Work within the time required. I acknowledge that failure to submit a construction schedule may nullify my proposal.

I will construct the Work for the stipulated sum:

1. Mechanical **$_____**

2. Plumbing **$_____**

3. Fire Protection **$_____**

4. Electrical **$_____**

TOTAL COST FOR ALL WORK (1, 2, 3 and 4): **$_____**

SUBCONTRACTORS, IF ANY, TO PERFORM WORK:

Type of work	Name	Address	Telephone

Attach additional sheet(s) as necessary.

SCHEDULE

I have included my schedule for the Work showing starting and completion dates for each element of Work, including permit, entry closing, etc.

I understand that the Mount Prospect Historical Society reserves the right to waive irregularities, technicalities and formalities and to reject any or all proposals.

_____
Name of Company/Firm

_____
Address of Company/Firm

By: _____

Print Name: _____

Title: _____

Phone: _____

Date submitted: _____, 2014.

Submit 3 copies of sealed proposal to:

Mount Prospect Historical Society, 101 S. Maple Street, Mount Prospect, Illinois, 60056.

Envelopes shall be plainly marked, “Sealed Proposal for Central School Restoration Project, Phase 2B-2: Building Systems”.

ATTACHMENT B

CONTRACT FOR THE CENTRAL SCHOOL RESTORATION PROJECT
PHASE 2B-2: BUILDING SYSTEMS

This Contract (the "**Contract**") is made and entered into on the Effective Date, as hereinafter defined, by and between _____, located at _____, _____, an _____ _____, (the "**Contractor**"), and the Mount Prospect Historical Society, an Illinois not-for-profit corporation (the "**Society**") (hereinafter collectively the "**Parties**").

WHEREAS, the Society leases certain real property at 101-103 South Maple Street, Mount Prospect, Illinois, which is owned by the Village of Mount Prospect, an Illinois municipal corporation, 50 S. Emerson Street, Mount Prospect, Illinois 60056 (hereinafter, the **"Village");** and

WHEREAS, the Central School Building is a historical building located at 103 South Maple Street, Mount Prospect, Illinois (the "**School Building**"), which the Society leases from the Village for use as a historical museum; and

WHEREAS, the Society wishes to restore the School Building (the "**Central School Restoration Project**" or "**Project**"); and

WHEREAS, the Contractor has agreed to provide certain services for the project.

NOW THEREFORE, in consideration of the above Recitals, which are made a part hereof, and other good and valuable consideration, the Society and the Contractor hereby agree to the following terms:

1. **Scope of Service**. The Contractor shall, at its sole cost, furnish and provide labor, materials, equipments and services necessary to perform the work specified in **Exhibit A,** attached hereto and incorporated herein by reference (hereinafter the "**Work**").

2. **Performance of the Work; Subcontractors**.

   A. The Work shall be performed in a workmanlike manner and in accordance with all applicable laws, rules, ordinances, and/or regulations relative to the performance of the Work, including the Village's Maintenance and Building Codes (hereinafter collectively the "**Regulations**").

   B. Contractor shall continually provide the Society with an updated list of all subcontractors performing the Work, including the type of work performed, name, address and telephone number.

3. **Time of Performance**. Time is of the essence in Contractor's performance of the Work. The Contractor shall begin the Work within thirty (30) days of the

Effective Date of this Contract and complete the Work within sixty (60) days of the Effective Date. The Contractor is excused from compliance with this performance time period to the extent that the delay is authorized in writing by the Society, or delay or nonperformance are caused by an act of God, strikes, unavailability of materials, or any other contingency beyond the Contractor's control, in which cases the time of completion shall be extended for such reasonable time as the Society may deem reasonable.

4. **Payment for Services**. The Society shall pay to the Contractor for its performance of the Work the Contract Sum of _____ ($ .00). Upon completion of the Work, Contractor shall provide the Society with an invoice evidencing its cost for labor, materials, equipments and services under this Contract, including the costs of any of it subcontractors, and a properly completed Contractor's Affidavit setting out, under oath, the name, address and amount due or to become due, of Contractor, each subcontractor, vendor, supplier or other appropriate party included in its cost. For every party listed, the Contractor shall also provide a full waiver of lien. The Contractor's Affidavit shall be accompanied by final waivers of lien from any and all contractors, subcontractors and suppliers in connection with the Work. Within thirty (30) days after receipt of said invoice, Contractor's Affidavit and the required lien waivers, and acceptance of the work by the Society based upon its determination that the Work is satisfactory (hereafter "Final Acceptance"), the Society shall make final payment due to the Contractor.

5. **Supervision at Work Site**. The Contractor is responsible for all Work performed at the Work site, including supervision of the Work, and shall at all times have a competent person in charge of its work crew at the Work site to whom the Society's designated representative may issue directives. Such person shall be authorized to accept and act upon such directives.

6. **Payment of Taxes**. The Contractor shall pay all federal, state and local taxes as may be applicable on all materials, labor and services furnished by it under the Contract.

7. **Prevailing Wage:** It is hereby stipulated that this Contract calls for prevailing wages, within the meaning of the Illinois Prevailing Wage Act, 820 ILCS 130/1, et seq., as amended (the "Act"). The Contractor and all subcontractors are required to pay wage rates in accordance with the Act to all laborers, workers and mechanics. The Society has adopted the prevailing wages as determined by the Illinois Department of Labor ("IDOL") for Cook County. The prevailing rate of wages is revised by the IDOL and is available on the IDOL website, www.state.il.us/agency/idol/rates/rates.HTM. The Contractor and all subcontractors are solely responsible for checking the Department's website for revisions to prevailing wage rates. In the event that the IDOL should revise the prevailing rate of wages, then the revised rates shall apply to this Contract. In no

case shall any revision in the rates of prevailing wages result in an increase in the total Contract price.

Contractor shall comply with all applicable provisions of the Prevailing Wage Act, including, but not limited to, the requirements of Section 5 of the Prevailing Wage Act, 820 ILCS 130/5. The Contractor, and all Subcontractors and Sub-Subcontractors participating on the Project, shall make and keep those records required under Section 5 of the Prevailing Wage Act. In conformance with the Act, each contractor and subcontractor, or other entity performing work on the Project, shall maintain records of all laborers, mechanics and other workers employed by them on the Project, including the following information on each worker: (1) name; (2) address; (3) telephone number when available; (4) social security number; (5) classification or classifications; (6) hourly wages paid in each pay period; (7) number of hours worked each day; and (8) starting and ending times of each day. These records shall be kept by the participating contractor and subcontractor for a period of not less than three (3) years from the date of last payment on the Contract of subcontract. Each participating contractor and subcontractor shall submit a monthly certified payroll to the Society consisting of the above-referenced information as well as a statement signed by the participating contractor or subcontractor that certifies: (a) the records are true and accurate; (b) the hourly rate paid to each worker is not less than the general prevailing rate of hourly wages required under the Prevailing Wage Act; and (c) the contractor or subcontractor is aware that filing a certified payroll that he or she knows to be false is a Class A misdemeanor.

8. **Assignment**. The Contractor shall not assign this Contract without prior written approval of the Society. In the event that the Society so approves an assignment, the Contractor shall remain responsible for the acts and omissions of its assigns.

9. **Indemnification**. The Contractor shall indemnify, release and hold harmless the Society, the Village, their officers, officials, agents, employees, volunteers, representatives, assigns, successors, transferees, licensees, invitees, and attorneys, from any and all risks, lawsuits, actions, damages, losses, expenses (including attorneys' fees), claims, or liabilities of any character, brought because of any death, injuries or damages received or sustained by any person, persons, or property on account of any act, omission, neglect or misconduct of Contractor, its officers, agents and/or employees, including any of its subcontractors, arising out of or in performance of any provision of this Contract, including any claims or amounts arising or recovered under the Workers' Compensation Act or any other law, ordinance, order or decree.

10. **Property Damage**. The Contractor assumes responsibility for all damage to property, real and personal, caused by any equipment used by Contractor or its subcontractors. The Contractor shall be responsible to repair such damage.

11. **Insurance**. During the entire period of Work and for a period thereafter of twelve (12) months from the date of Final Acceptance of all Work by the Society, the Contractor shall provide and continuously maintain the following types of insurance, written on the comprehensive form and as an "occurrence" policy, in not less than the following specific amounts:

    a. Comprehensive General Liability - $1,000,000 limit for bodily injury, personal injury or death to each person; $1,000,000 limit for property damage per occurrence; and $1,000,000 for all other types of liability. The aggregate shall be a minimum of $2,000,000. A copy of the policy may be required.

    b. Automobile Liability: $1,000,000 limit per accident for each person and $1,000,000 for each occurrence. Said insurance is to be extended to cover owned, non-owned and hired vehicles.

    c. Workers Compensation: limits required by Illinois' State statute, by an insurance company licensed to write workers compensation coverage in the State of Illinois.

    d. Employer Liability: limits of not less than $1,000,000.

    e. Umbrella or Excess Liability: $2,500,000 per occurrence and in the aggregate.

    f. Insurance Rating: All insurance policies required by this contract shall be underwritten by insurance companies with a minimum A.M. Best rating of A: VII.

    Contractor shall furnish to the Village and Society, prior to commencing any activities under this Contract, satisfactory proof of the above insurance requirements by a reliable insurance company or companies authorized to do business in Illinois. Such proof shall consist of certificates executed by the respective insurance companies and filed with the Village and Society. Said certificates shall list the Society, the Village, their officers, officials, agents, employees, volunteers, representatives, assigns, successors, transferees, licensees, invitees, and attorneys, as additional insureds and loss payees on all required insurance policies. Such insurance is primary and in no event will be considered contributory to any insurance purchased by the Society or Village. Such insurance shall apply to any and all claims whatsoever, which arise out of or result from the Contractor's performance under the Contract, whether such acts or omissions be by the Contractor or by a subcontractor or anyone directly or indirectly employed by any of them. Such insurance will not be canceled, reduced, or materially changed without providing the Society thirty (30) days advance written notice, via certified mail.

12. **Permits and Licenses**. All permits and licenses necessary for the completion and execution of the Work shall be secured by Contractor at Contractor's expense, unless the cost is waived by the Village, and displayed by the Contractor.

13. **Access to Subject Property**. The Contractor shall at all times permit the Society, the Village, their employees and agents access to the work site to inspect the Work for compliance with the terms of this Contract, including Attachment A and the Regulations.

14. **Warranty**. The Contractor shall guarantee and warrant the Work against defects in workmanship and materials for a period of twelve (12) months from the date of Final Acceptance of all Work by the Society.

15. **Notice.** Proper notice shall be given by personal service or certified or registered mail:

    To CONTRACTOR: _____

    _____

    _____

    To SOCIETY: Executive Director
    Mount Prospect Historical Society
    101 S. Maple Street
    Mount Prospect, Illinois 60056

    Notice shall be effective upon the date of receipt by personal service or as evidenced by a valid return receipt. The name and/or address to which notice is required may be amended at any time by written notice to the other party as provided herein.

16. **Nondiscrimination; Adherence To Laws**.

    a. The Contractor shall complete the Contractor's Certification, attached hereto and incorporated herein as **Exhibit B**, and submit said Certification along with the executed Contract.

    b. The Contractor and any subcontractor shall be subject to and conform with all applicable federal, state, county and municipal laws and ordinances, including the following:

        (1) Provide a drug free Workplace pursuant to the Illinois Drug Free Workplace Act (30 ILCS 580/1, et seq.);

        (2) Comply with Article 2 of the Illinois Human Rights Act (775 ILCS 5/2-101, et seq.), and the Rules and Regulations of the Illinois

Department of Human Rights, including establishment and maintenance of a sexual harassment policy as required by Section 2-105 of that Article and Act; and

(3) Comply with the Americans with Disabilities Act.

Contractor shall include this subsection 16(b) in any contract with a subcontractor.

17. **Choice Of Law And Forum** This Contract shall be construed pursuant to the laws of the State of Illinois. Any litigation regarding this Contract or its content shall be filed in the Circuit Court in Cook County, Illinois.

18. **Enforceability** If any provision of this Contract is found to be invalid, illegal or unenforceable, that provision shall be severable from the rest of this Contract and the validity, legality and enforceability of the remaining provisions will in no way be affected or impaired.

19. **Remedies** In addition to any other provision in this Contract, the Parties shall have all remedies, at law or in equity, in order to enforce the terms of this Contract.

20. **No Waiver or Relinquishment of Right to Enforce Contract** Failure of any Party to this Contract to insist upon the strict and prompt performance of the terms, covenants, agreements and conditions herein contained, or any of them, upon any other party imposed, shall not constitute or be construed as a waiver or relinquishment of any party's right thereafter to enforce any such term, covenant, agreement or condition, but the same shall continue in full force and effect.

21. **Captions and Paragraph Headings** The captions and paragraph headings used herein are for convenience only and are not a part of this Contract and shall not be used in construing it.

22. **Entire Contract** This Contract sets forth all of the entire understanding of the Parties relative to the subject hereof and supersedes any and all prior agreements, express or implied, oral or written. No amendment or modification of this Contract shall be effective unless reduced to writing and executed by the Parties.

23. **Counterparts**. This Contract may be executed in two (2) or more counterparts, each of which, taken together, shall constitute one and the same instrument.

24. **Effective Date**. This Contract shall become effective upon the date last signed by the Society.

IN WITNESS THEREOF, the parties hereto execute this Contract.

CONTRACTOR

By: _____

Title: _____ Date: _____

By: _____

Title: _____

MOUNT PROSPECT HISTORICAL SOCIETY

By: _____ Date: _____
Board President

ATTEST:

By: _____

EXHIBIT A
SPECIFICATIONS / SCOPE OF WORK

The Project scope of work for Phase 2B-2: Building Systems consists of the work generally described below, and detailed in Appendix A:

PROJECT DESCRIPTION

Mechanical

- Installation of new mechanical equipment and infrastructure as indicated on architectural drawings, mechanical drawings and specification manual.

Plumbing

- Installation of new plumbing components as indicated on architectural drawings, plumbing drawings and specification manual. Perform selective demolition of selected existing interior components as noted for installation of new work. Include rough carpentry and framing for new interior wall partitions as noted.

Fire Protection

- Installation of new fire suppression system infrastructure and components as indicated on project drawings and specification manual.

Electrical

- Installation of new electrical infrastructure and components as indicated on architectural drawings, electrical drawings and specification manual.

PROJECT DETAIL (See Appendix A.)

- Project Manual For Mount Prospect Historical Society Central Schoolhouse Restoration, Phase 2B-2: Building Systems

- Drawings:
  - G-0, G-1
  - A-1, A-2, A-3, A-4, A-5, A-6, A-7
  - M-1, M-2, M-3
  - P-1, P-2, P-3, P-4
  - E-0, E-1, E-2, E-3

REFERENCE (See Appendix B.)

NOTE: The following documents are presented for reference only and are not intended to be utilized for bidding purposes. Reference drawings detail the proposed work to be performed in future phases of the project and are offered here solely to establish the overall project context for the work to be performed in the current Phase 2B-2.

- Drawings:
  - AR-1, AR-2, AR-3, AR-4, AR-5, AR-6, AR-7, AR-8, AR-9, AR-10, AR-11, AR-12, AR-13

NOTE: THE ABOVE-REFERENCED DOCUMENTS, PRESENTED IN APPENDICES A & B OF THIS RFP, WILL BE INCORPORATED INTO THE CONTRACT.

EXHIBIT B

MOUNT PROSPECT HISTORICAL SOCIETY
CONTRACTOR'S CERTIFICATION

_____, having been first duly sworn, deposes and states as follows:
(Officer or Owner of Company)

_____, having submitted a proposal for:
(Name of Company) (the "Contractor")

THE CENTRAL SCHOOL RESTORATION (PROJECT)
PHASE 2B-2: BUILDING SYSTEMS

to the Mount Prospect Historical Society, Mount Prospect, Illinois, hereby certifies that the undersigned Contractor:

1. has a written sexual harassment policy in place in full compliance with 775 ILCS 5/2-105(A)(4).

2. provides a drug free workplace pursuant to the Drug Free Workplace Act, 30 ILCS 580/1, et seq., and has, to the extent not covered by a collective bargaining that deals with the subject of the Substance Abuse Prevention in Public Works Projects Act, 820 ILCS 265/1 et seq., a substance abuse prevention program that meets or exceeds these requirement of that Act.

Contractor: _____

By: _____
Officer or Owner of Company named above

Subscribed and sworn to before
me this _____ day of
_____, 2014.

_____
Notary Public

APPENDICES

APPENDIX A – PROJECT DETAIL – PHASE 2B-2: ROUGH CARPENTRY

APPENDIX B – REFERENCE

APPENDIX A

PROJECT DETAIL

PHASE 2B-2: BUILDING SYSTEMS

PROJECT MANUAL

FOR

Mount Prospect Historical Society
Central Schoolhouse Restoration
Phase 2B-2: Building Systems

AT

103 S. Maple Street
Mount Prospect, IL 60056

OWNER:

Mount Prospect Historical Society

DOCUMENTS DATED: August 28, 2014

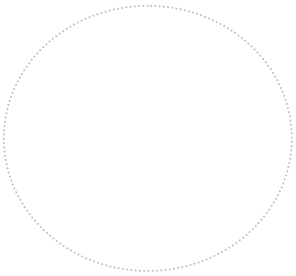
ISSUED FOR Bid

FGM ARCHITECTS INC.
1211 WEST 22ND STREET, SUITE 705
OAK BROOK, ILLINOIS 60523

FGM JOB NO. 13-1641.01

CERTIFICATIONS:

I hereby certify that these plans and specifications were prepared under my supervision and to the best of my knowledge comply with the 2012 International Building Code (IBC), 2012 International Energy Conservation Code (IECC), 2012 International Fire Code (IFC) except Chapter 4, Illinois Accessibility Code, as well as the applicable requirements of 23 Ill. Adm. Code 180.



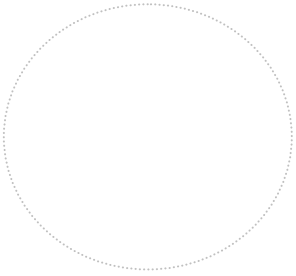
Architect's Seal

_____

(Architect's Signature)

Date Signed: _____ Expiration Date: _____

I hereby certify that these plans and specifications were prepared under my supervision and to the best of my knowledge comply with the 2012 International Mechanical Code (IMC), 2012 International Energy Conservation Code (IECC), 2012 International Fire Code (IFC) except chapter 4, International Fuel and Gas Code (IFGC), Illinois Plumbing Code (77 Ill. Adm. Code 890), Illinois Accessibility Code, Illinois Fire Marshal's Boiler and Pressure Vessel Safety (41 Ill. Adm. Code 120), as well as the applicable requirements of 23 Ill. Adm. Code 180.



MEP Engineer's Seal

_____

(Engineer's Signature)

Date Signed: _____ Expiration Date: _____

DOCUMENT 000030 – TABLE OF CONTENTS

END OF DOCUMENT

DOCUMENT 000040 - DRAWING INDEX

DRAWINGS ISSUED FOR BID:

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A - 5	PROPOSED BASEMENT REFLECTED CEILING PLAN
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A - 7	PARTITION TYPES

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M - 2	MECHANICAL FIRST FLOOR PLAN
M - 3	MECHANICAL SCHEDULES AND NOTES

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P - 2	FIRST FLOOR PLAN
P - 3	PLUMBING SCHEDULES
P - 4	PLUMBING DIAGRAMS

ELECTRICAL DRAWINGS

E - 0	ELECTRICAL SYMBOL LIST, GENERAL NOTES AND SPECIFICATIONS
E - 1	BASEMENT ELECTRICAL PLAN
E - 2	FIRST FLOOR ELECTRICAL PLAN
E - 3	ELECTRICAL SCHEDULES

REFERENCE DRAWINGS (FOR FUTURE SCOPE OF WORK):

ARCHITECTURAL DRAWINGS (ISSUED FOR REFERENCE ONLY)

AR - 1	PROJECT KEYNOTES
AR - 2	FIRST FLOOR DEMOLITION PLAN
AR - 3	BASEMENT FLOOR PLAN
AR - 4	FIRST FLOOR PLAN
AR - 5	FIRST FLOOR REFLECTED CEILING PLAN
AR - 6	EXTERIOR ELEVATIONS
AR - 7	EXTERIOR ELEVATIONS
AR - 8	EXTERIOR ELEVATIONS
AR - 9	INTERIOR ELEVATIONS
AR - 10	PARTITION TYPES
AR - 11	PARTITION TYPES

AR - 12	DETAILS
AR - 13	REFERENCE PHOTOS

END OF SECTION

SECTION 011000 - SUMMARY OF WORK

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Work Included.
  1. Work by Owner.
  2. Contractor use of site and premises.
  3. Work Sequence.

1.2 WORK INCLUDED
- A. The contractor shall provide all labor and materials, perform and complete all work for the construction of the project as indicated in the Contract Documents and include all work specified in the addenda of said Contract Documents.
- B. Provide all of the labor, materials, necessary equipment and transportation and services necessary to perform and complete in a workmanlike manner all work required to complete the proposed work indicated in the bidding documents for the Mount Prospect Historical Society Central Schoolhouse Renovation; all in accordance with the Plans and Specifications prepared by the office of FGM Architects.

1.3 WORK BY OWNER
- A. Items noted NIC (Not in Contract), and by Owner will be supplied, installed and coordinated by Owner.
- B. Owner reserves the right to remove and save salvageable materials and equipment prior to, or during demolition.
- C. Owner may have other contractors on premises performing other work.

1.4 CONTRACTOR USE OF SITE AND PREMISES
- A. Limit use of site and premises to allow:
  1. Owner occupancy.
  2. Work by Others and Work by Owner.
- B. Construction Operations: Limited to areas shown or indicated on Drawings. In general, confine operations to the Owner's site.

1.5 WORK SEQUENCE
- C. Construct Work to accommodate Owner's occupancy requirements during the construction period, coordinate construction schedule and operations with the Owner. All contractors are to review construction schedule with the Owner prior to bidding.
- C. Work is to commence within 15 days of notice of award.

PART 2 PRODUCTS Not Used.

PART 3 EXECUTION

3.1 PERMIT AND FEES
- A. The contractor or contractors shall secure and pay for all permits and fees, other than a building permit, required for performance and execution of this work including, but not limited to permits and fees for:
- B. Contractor's licensing fees
- C. Penalties
- D. Miscellaneous fees and permits

3.2 COORDINATION

A. Each contractor shall coordinate his work and all other related work with the Owner and with any trades to facilitate the general progress of the work. Each trade shall have every reasonable opportunity for the installation of their work and for the storage of materials.

B. Each trade shall lay out their work so as not to interfere with location of work of other trades.

3.3 CONTRACTOR

A. Each trade shall be responsible for proper execution of this work.

B. Each contractor is to provide temporary shoring, anchoring and bracing required by the nature of the work in order to make all parts absolutely rigid and stable as required. The Contractor shall be responsible for any damage resulting from failure to provide if either through lack of proper judgment or from any other cause.

C. Verify all measurements at site before ordering material or doing work. No extra charge or compensation is allowed on account of differences between actual dimensions and measurements indicated on drawings. Submit any differences to Owner/Architect for clarification before proceeding.

3.4 PROTECTION

A. Protect so as to maintain all work, materials, apparatus and fixtures free from injury or damage. At the end of a day's work, all new work likely to be damaged shall be covered.

3.5 SAFETY

A. Each contractor shall be responsible for providing and maintaining all required safety procedures in accordance with the requirements of OSHA, local municipality, state and federal government, and Owners insurance company.

B. Provide all shoring, and bracing as required for safety and prosecution of the work, and have same removed when work is completed.

3.6 PEDESTRIAN TRAFFIC

A. The Contractor is responsible for the safe passage of pedestrian traffic for the duration of the job. Any precautionary measures, necessary warning signs, temporary partitions, etc., required to assist the Contractor in the performance of the work shall be provided for and included in this contract.

3.7 SUPERINTENDENT LOG

A. Provide a daily log by Contractor's superintendent in a ledger type book with bound pages for the Architect's and Owner's review. Enter date, time, weather, and other items required by the Architect. Each contractor’s superintendent shall provide the Construction Manager with information as necessary for log to be complete. The Contractor’s log is to be submitted as part of the project close out documents.

3.8 PERSONNEL

A. If any person employed on the work site is in the opinion of the Owner intemperate, disorderly, willfully negligent or dishonest in the performance of his duties, he or she shall be directed to cease work and vacate the job site immediately.

3.9 RADIOS/BOOM BOXES

A. The use of radios and “boom boxes” will be strictly monitored so the volume and content of music, talk radio, etc. is not disruptive to Owner’s use of premises.

3.10 COORDINATION

A. Examine contract documents covering work of all trades coming in contact with, or superimposed on work of each trade. Become acquainted with whole project's work to achieve its coordinated,

efficient and timely performance. Provide all work and material of each trade necessary for receiving, executing and completing work coming in contact with it. No extra charge or compensation is allowed on account of additional work resulting from lack of coordination.

3.11 APPLICATION OF DOCUMENTS

A. Drawings and specifications are considered mutually explanatory and all work called for by one and not the other shall be performed as though called for by both. In cases of conflicting information, the Architect shall be notified at once, in writing.

B. If doubts as to the true meaning of part of the contract documents, ask the Architect for interpretation to the final authority on any interpretation of the contract documents.

C. In the absence of any specific instruction or specification, employ workmanship and material approved by the Architect, quality equal to that in the contract documents.

3.12 ARCHITECT'S REPRESENTATIVE

A. Architect's representative may inspect all work for conformity with contract documents, reporting any nonconformity or question of document interpretation to Architect for decision.

END OF SECTION

SECTION 014000 - QUALITY CONTROL

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Quality assurance - control of installation.
- B. Tolerances
- C. References and standards.
- D. Mock-up.
- E. Inspecting and testing laboratory services.
- F. Manufacturers' field services.

1.2 RELATED SECTIONS
- A. Section 016000 - Material and Equipment

1.3 QUALITY ASSURANCE - 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 Owner/Architect/Engineer prior to 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. Perform Work 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, or disfigurement.

1.4 TOLERANCES
- A. Monitor fabrication and installation tolerance control of Products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect/Engineer prior to proceeding.
- C. Adjust Products to appropriate dimensions; position before securing Products in place.

1.5 REFERENCES AND STANDARDS
- A. For Products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents, except where a specific date is established by code.
- C. Obtain copies of standards where required by product specification sections.
- D. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Architect/Engineer shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.6 MOCK-UP
- A. Tests will be performed under provisions identified in this section and identified in the respective product specification sections.

B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.
C. Accepted mock-ups shall be a comparison standard for the remaining Work.
D. Where mock-up has been accepted by Owner/Architect/Engineer and is specified in product specification sections to be removed; remove mock-up and clear area when directed to do so.

1.7 TESTING SERVICES

A. Owner will appoint, employ, and pay for specified services of an independent firm to perform testing.
B. The independent firm will perform tests and other services specified in individual specification sections and as required by the Architect/Engineer.
C. Testing and source quality control may occur on or off the project site. Perform off-site testing as required by the Architect/Engineer or the Owner.
D. Reports will be submitted by the independent firm to the Owner and Architect, in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
E. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.
    1. Notify Owner/Architect/Engineer and independent firm 24 hours prior to expected time for operations requiring services.
    2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
F. Testing does not relieve Contractor to perform Work to contract requirements.
G. Re-testing required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the Architect/Engineer. Payment for re-testing will be charged to the Contractor by deducting testing charges from the Contract Sum/Price.

1.8 INSPECTION SERVICES

A. Owner will appoint, employ, and pay for specified services of an independent firm to perform inspection.
B. The independent firm will perform inspections and other services specified in individual specification sections and as required by the Owner/Architect/Engineer.
C. Inspecting may occur on or off the project site. Perform off-site inspecting as required by the Architect/Engineer or the Owner.
D. Reports will be submitted by the independent firm to the Owner and Architect, in duplicate, indicating inspection observations and indicating compliance or non-compliance with Contract Documents.
E. Cooperate with independent firm; furnish safe access and assistance by incidental labor as requested.
F. Notify Owner/Architect/Engineer and independent firm 24 hours prior to expected time for operations requiring services.
G. Inspecting does not relieve Contractor to perform Work to contract requirements.

1.9 MANUFACTURERS' FIELD SERVICES

A. When specified in individual specification sections, require material or Product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment, as applicable, and to initiate instructions when necessary.
B. Submit qualifications of observer to Owner/Architect/Engineer 30 days in advance of required observations.

C. Provide written report to Owner and Architect, in duplicate, of observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new 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. Verify that utility services are available, of the correct characteristics, and in the correct locations.

3.2 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.

END OF SECTION

SECTION 016000 - MATERIAL AND EQUIPMENT

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Products.
- B. Transportation and handling.
- C. Storage and protection.
- D. Product options.
- E. Substitutions.

1.2 RELATED SECTIONS
- A. Section 014000 – Quality Control

1.3 PRODUCTS
- A. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.
- B. Provide interchangeable components of the same manufacture for components being replaced.

1.4 TRANSPORTATION AND HANDLING
- A. Transport and handle Products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure that Products comply with requirements, quantities are correct, and Products are undamaged.
- C. Provide equipment and personnel to handle Products by methods to prevent soiling, disfigurement, or damage.

1.5 STORAGE AND PROTECTION
- A. Store and protect Products in accordance with manufacturers' instructions.
- B. Store with seals and labels intact and legible.
- C. Store sensitive Products in weather tight, climate controlled, enclosures in an environment favorable to Product.
- D. For exterior storage of fabricated Products, place on sloped supports above ground.
- E. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.
- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of Products.
- G. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- H. Provide equipment and personnel to store Products by methods to prevent soiling, disfigurement, or damage.
- I. Arrange storage of Products to permit access for inspection. Periodically inspect to verify Products are undamaged and are maintained in acceptable condition.
- J. Protect steel decking from corrosion, deformation, and other damage during delivery, storage, and handling.
- K. Stack steel deck on platforms or pallets and slope to provide drainage. Protect with a waterproof covering and ventilate to avoid condensation.

1.6 PRODUCT OPTIONS
- A. Products Specified by Reference Standards or by Description Only: Any Product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Products of 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 in accordance with the following article.

1.7 SUBSTITUTIONS

A. Owner/Architect/Engineer will consider requests for Substitutions only within 15 days after date of Owner-Contractor Agreement.

B. Substitutions may be considered when a Product becomes unavailable through no fault of the Contractor.

C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.

D. A request constitutes a representation that the Contractor:

1. Has investigated proposed Product and determined that it meets or exceeds the quality level of the specified Product.
2. Will provide the same warranty for the Substitution as for the specified Product.
3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.
4. Waives claims for additional costs or time extension which may subsequently become apparent.
5. Will reimburse Owner and Architect/Engineer for review or redesign services associated with re-approval by authorities.

E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

F. Substitution Submittal Procedure:

1. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
2. Submit shop drawings, product data, and certified test results attesting to the proposed Product equivalence. Burden of proof is on proposer.
3. The Owner/Architect/Engineer will notify Contractor in writing of decision to accept or reject request.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 016500 - STARTING OF SYSTEMS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Starting systems.
- B. Demonstration and instructions.
- C. Testing, adjusting, and balancing.

1.2 RELATED SECTIONS
- A. Section 014000 – Quality Control
- B. Section 017000 – Contract Closeout

1.3 STARTING SYSTEMS
- A. Coordinate schedule for start-up of various equipment and systems with Owner.
- B. Notify Owner seven days prior to start-up of each item.
- C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions which may cause damage.
- D. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- E. Verify that wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision of applicable manufacturer's representative and Contractors' personnel in accordance with manufacturers' instructions.
- G. 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.
- H. Submit a written report that equipment or system has been properly installed and is functioning correctly.

1.4 DEMONSTRATION AND INSTRUCTIONS
- A. Demonstrate operation and maintenance of Products to Owner's personnel two weeks prior to date of Substantial Completion and again as required by the Owner at final inspection.
- B. Demonstrate Project equipment and instruct proper use and maintenance at the project site by a qualified manufacturers' representative who is knowledgeable about the Project.
- C. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
- D. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owners' personnel in detail to explain all aspects of operation and maintenance.
- E. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed time, at project location.
- F. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.
- G. Contractor is to submit documentation that demonstration and instruction has taken place by submittal of letter indicating names and signatures of Owner’s personnel participating.

1.5 TESTING, ADJUSTING, AND BALANCING
- A. The Owner will appoint, employ, and pay for services of an independent firm to perform testing, adjusting, and balancing.
- B. Reports will be submitted by the independent firm to the Owner indicating observations and results of tests and indicating compliance or non-compliance with the requirements of the Contract Documents.

PART 2 PRODUCTS
(Not Used)

PART 3 EXECUTION
(Not Used)

END OF SECTION

SECTION 017310 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes procedural requirements for cutting and patching.

1.2 SUBMITTALS

A. Cutting and Patching Proposal: Submit a proposal describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:
   1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
   2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
   3. Products: List products to be used and firms or entities that will perform the Work.
   4. Dates: Indicate when cutting and patching will be performed.
   5. Utility Services and Mechanical/Electrical Systems: List services/systems that cutting and patching procedures will disturb or affect. List services/systems that will be relocated and those that will be temporarily out of service. Indicate how long services/systems will be disrupted.
   6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.

1.3 QUALITY ASSURANCE

A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
   1. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
   2. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.

B. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

1.4 WARRANTY

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

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

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

PART 3 - EXECUTION

3.1 EXAMINATION

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

3.2 PREPARATION

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

3.3 PERFORMANCE

A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
   1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
B. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with Owner.
   1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
   2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
   3. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
   4. Proceed with patching after construction operations requiring cutting are complete.
C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
   1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
   2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
   3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
   4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION

SECTION 017320 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Demolition and removal of selected portions of building or structure.
   2. Removal of designated partitions, ceilings and components.
   3. Removal and legal disposal of demolished or removed material.
   4. Salvage of existing items to be reused or recycled.
   5. Temporary protection of materials or products scheduled for reuse.

1.2 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
B. Remove and Salvage: Detach items from existing construction and deliver them to Owner ready for reuse.
C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.3 SUBMITTALS

A. Schedule of Selective Demolition Activities: Indicate detailed sequence of selective demolition and removal work, with starting and ending dates for each activity, interruption of utility services, and locations of temporary partitions and means of egress.

1.4 QUALITY ASSURANCE

A. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.
B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
C. Standards: Comply with ANSI A10.6 and NFPA 241.
D. Pre-demolition Conference: Conduct conference at Project site.

1.5 PROJECT CONDITIONS

A. The Owner assumes no responsibility for actual condition of areas of site items to be demolished. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
   1. Before selective demolition, Contractor to remove existing furniture to location as determined by the Owner.
B. Notify Owner and Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
C. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
   1. Maintain fire-protection facilities in service during selective demolition operations.
   2. Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by authorities having jurisdiction. Provide temporary services during interruptions to existing facilities, as acceptable to governing authorities.
   3. Contractor shall arrange for shut-off of utilities. Disconnecting and sealing of indicated utilities before starting demolition operations is part of this work.
D. Traffic: Conduct demolition operations and removal of debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities..

1. Do not close or obstruct streets, walks or other occupied or used facilities without permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations

E. Damages: Promptly repair damages caused to adjacent facilities by demolition operations at no cost to Owner.

1.6 WARRANTY

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

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped where required.
B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems: Maintain services/systems indicated to remain and protect them against damage during selective demolition operations.
B. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
   1. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing.

3.3 PREPARATION

A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent items to remain.
C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

3.4 SELECTIVE DEMOLITION

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
   1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
   2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
   3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting

flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.

4. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
5. Dispose of demolished items and materials promptly.

B. Removed and Salvaged Items:
1. Clean salvaged items.
2. Store items in a secure area until delivery to Owner.
3. Transport items to Owner's storage area designated by Owner.
4. Protect items from damage during transport and storage.

C. Removed and Reinstalled Items:
1. Clean and repair items to functional condition adequate for intended reuse.
2. Protect items from damage during transport and storage.
3. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.5 ADJUSTING

A. Repair any damage to structure caused by construction activities.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

D. Removal: Contractor shall make all necessary arrangements for times for actual trucking away of debris so as to not interfere with Owner's operation.

3.7 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

B. Streets and drive shall be kept reasonably clean and shall be swept when necessary to remove any spilled debris.

END OF SECTION

SECTION 017700 - CONTRACT CLOSEOUT

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Closeout procedures.
- B. Final cleaning.
- C. Adjusting.
- D. Project record documents.
- E. Operation and maintenance data.
- F. Spare parts and maintenance Products.
- G. Warranties and bonds.
- H. Maintenance service.

1.2 CLOSEOUT PROCEDURES
- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Owner/Architect/Engineer's review.
- B. Provide submittals to Architect that are required by governing or other authorities.

1.3 FINAL CLEANING
- A. Execute final cleaning prior to final project assessment.
- B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces,
- C. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- D. Replace filters of operating equipment.
- E. Clean debris from roofs, gutters, downspouts, and drainage systems.
- F. Clean site; sweep paved areas, rake clean landscaped surfaces.
- G. Remove waste and surplus materials, rubbish, and construction facilities from the site.

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

1.5 PROJECT RECORD DOCUMENTS
- A. Each Contractor is to maintain the record documents pertaining to their work; record actual revisions to the Work:
  1. Drawings.
  2. Specifications.
  3. Addenda.
  4. Change Orders and other modifications to the Contract.
  5. Reviewed Shop Drawings, Product Data, and Samples.
  6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
- E. Specifications: Legibly mark and record at each Product section description of actual Products installed, including the following:
  1. Manufacturer's name and product model and number.
  2. Product substitutions or alternates utilized.
  3. Changes made by Addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:

1. Measured depths of foundations in relation to finish main floor datum.
2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
4. Field changes of dimension and detail.
5. Details not on original Contract drawings.

G. Submit documents to Construction Manager prior to claim for final Application for Payment.

1.6 OPERATION AND MAINTENANCE DATA

A. Prepare data in the form of an instructional manual.

B. Binders: Commercial quality, 8-1/2 x 11 inch three D side ring binders with durable plastic covers; 3 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.

C. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.

D. Provide tabbed dividers for each separate product and system, with typed description of product and major component parts of equipment.

E. Text: Manufacturer's printed data, or typewritten data.

F. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

G. Contents: Prepare a Table of Contents for each volume, with each Product or system description identified, in three parts as follows:

1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect/Engineer, Contractor, Subcontractors, and major equipment suppliers.
2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
   a) Significant design criteria.
   b) List of equipment.
   c) Parts list for each component.
   d) Operating instructions.
   e) Maintenance instructions for equipment and systems.
   f) Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
3. Part 3: Project documents and certificates, including the following:
   a) Shop drawings and product data.
   b) Air and water balance reports.
   c) Certificates.
   d) Photocopies of warranties and bonds.

1.7 CONTENTS, EACH VOLUME

A. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Architect/Engineer, Subconsultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.

B. For Each Product or System: List names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

C. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

D. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.

E. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01400.

F. Warranties and Bonds: Bind in copy of each.

1.8 MANUAL FOR MATERIALS AND FINISHES

A. Building Products, Applied Materials, and Finishes: Include product data, with catalog number, size, composition, and color and texture designations. Provide information for re-ordering custom manufactured Products.

B. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.

C. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.

D. Additional Requirements: As specified in individual Product specification sections.

E. Provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

1.9 MANUAL FOR EQUIPMENT AND SYSTEMS

A. Each Item of Equipment and Each System: Include description of unit or system, and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and model number of replaceable parts.

B. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.

C. Include color coded wiring diagrams as installed.

D. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.

E. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

F. Provide servicing and lubrication schedule, and list of lubricants required.

G. Include manufacturer's printed operation and maintenance instructions.

H. Include sequence of operation by controls manufacturer.

I. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

J. Provide control diagrams by controls manufacturer as installed.

K. Provide Contractor's coordination drawings, with color coded piping diagrams as installed.

L. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

M. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

N. Include test and balancing reports as specified in Section 01400.

O. Additional Requirements: As specified in individual Product specification sections.

P. Provide a listing in Table of Contents for design data, with tabbed dividers and space for insertion of data.

Q. Submit 1 draft copy of completed volumes 15 days prior to final inspection. This copy will be reviewed and returned after with Architect/Engineer comments. Revise content of all document sets as required prior to final submission.

R. Submit two sets of revised final volumes, within 30 days after final inspection.

1.10 SPARE PARTS AND MAINTENANCE PRODUCTS

A. Provide spare parts, maintenance, and extra Products in quantities specified in individual specification sections.

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

1.11 WARRANTIES AND BONDS

A. Provide duplicate notarized copies.
B. Execute and assemble transferable warranty documents from Subcontractors, suppliers, and manufacturers.
C. Provide Table of Contents and assemble in three D side ring binder with durable plastic cover.
D. Submit prior to final Application for Payment.
E. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within 10 days after acceptance, listing date of acceptance as start of warranty period.

1.12 MAINTENANCE SERVICE

A. Furnish service and maintenance of components indicated in specification sections for during the warranty period.
B. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.
C. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.
D. Maintenance service shall not be assigned or transferred to any agent or Subcontractor without prior written consent of the Owner.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Cast-In-Place concrete floors.
- B. Floors and slabs on grade.
- C. Control, expansion and contraction joint devices associated with concrete work.
- D. Equipment pads.
- E. Filling control joints in cast-in-place concrete floors.
- F. Vapor Retarders
- G. Finishing slabs-on-grade, and separate floor toppings.
- H. Surface treatment with concrete hardener, and sealer.
- I. Initial and final curing of horizontal and vertical concrete surfaces.
- J. Work as shown on the drawings and specified herein.

1.2 RELATED SECTIONS
- A. Section 07920 - Joint Sealers
- B. Section 15000 - Mechanical General Provisions

1.3 REFERENCES
- A. ACI 301 - Structural Concrete for Buildings.
- B. ACI 302 - Recommended Practice for Concrete Floor and Slab Construction.
- C. ACI 304 - Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete.
- D. ACI 305R - Hot Weather Concreting.
- E. ACI 306R - Cold Weather Concreting.
- F. ACI 308 - Standard Practice for Curing Concrete.
- G. ACI 318 - Building Code Requirements for Reinforced Concrete.
- H. ANSI/ASTM D1751 - Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types).
- I. ASTM C33 - Concrete Aggregates.
- J. ASTM C94 - Ready-Mixed Concrete.
- K. ASTM C150 - Portland Cement.
- L. ASTM C171 - Sheet Materials for Curing Concrete.
- M. ASTM C260 - Air Entraining Admixtures for Concrete.
- N. ASTM C494 - Chemicals Admixtures for Concrete.
- O. ASTM D2103 - Polyethylene Film and Sheeting.

1.4 SUBMITTALS
- A. Product Data: Provide data on joint devices, admixtures, floor finishing materials, and curing materials.
- B. Concrete Design Mixes: Submit certification of concrete mix designs prepared by approved testing laboratory. Mix design shall be approved prior to placing any concrete.
- C. Manufacturer's Installation Instructions: Indicate installation procedures and interface required with adjacent Work.

1.5 PROJECT RECORD DOCUMENTS
- A. Accurately record actual locations of embedded utilities and components which are concealed from view.

1.6 QUALITY ASSURANCE
- A. Perform Work in accordance with ACI 301.
- B. Acquire cement and aggregate from same source for all work.
- C. Conform to ACI 305R when concreting during hot weather.
- D. Conform to ACI 306R when concreting during cold weather.

1.7 COORDINATION

A. Coordinate the placement of joint devices with erection of concrete formwork and placement of form accessories.

PART 2 PRODUCTS

2.1 CONCRETE MATERIALS

A. Cement: ASTM C150, Type I - Normal Portland type.
B. Fine and Coarse Aggregates: ASTM C33.
C. Water: Clean and not detrimental to concrete.

2.2 ADMIXTURES

A. Air Entrainment: ASTM C260.
B. Chemical: ASTM C494 as required; Type A - Water Reducing, Type B - Retarding, Type C - Accelerating, Type D - Water Reducing and Retarding, and Type E - Water Reducing and Accelerating.

2.3 ACCESSORIES

A. Bonding Agent: VOC compliant, non-revertable, high solids acrylic emulsion bonding agent; Everbond as manufactured by L&M Construction Chemicals or approved equal..
B. Vapor Barrier: 15 mil thick fabric reinforced plastic film, type recommended for below grade application as manufactured by Stego Industries or approved equal.
C. Non-Shrink Grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents; capable of developing minimum compressive strength of 3,500 psi in 24 hours and 7,000 psi in 28 days; Duragrout as manufactured by L&M Construction Chemicals or approved equal.
    1. Compressive strength of all grout used to provide level bearing of columns is to match or exceed the compressive strength of the supporting substructure.

2.4 JOINT DEVICES AND FILLER MATERIALS

A. Joint Filler: ASTM D1751; Asphalt impregnated cellular fibers, 1/2 inch thick; Sealtight Fibre Expansion Joint Filler as manufactured by W.R. Meadows or approved equal.
B. Construction Joint Devices: Extruded plastic; 3-1/2 inches deep, formed to tongue and groove profile, installed with 3/8 inch wide removable screed cap which when stripped exposes a sealant trough; Plastic Keyway No. 521 and Screed Cap No. 250 as manufactured by Greenstreak Plastic Products Company or approved equal.
C. Sealant: Type S-3, with primer as recommended by manufacturer, as specified in Section 07900.

2.5 CONTROL JOINT FILLER FOR CONCRETE FLOORS

A. Polymer reinforced control joint sealant: One part self leveling joint filler with controlled rigidity for control joints. Sealant to be polymer reinforced to assure positive bonding and minimum deflection to take the stress of impact loading and thermal change; Joint Tite 750 as manufactured by L&M Construction Chemicals or approved equal.

2.6 CONCRETE MIX

A. Mix and deliver concrete in accordance with ASTM C94, Alternative No. 2.
B. Select proportions for normal weight concrete in accordance with ACI 301 Method 1.
C. Provide normal weight (150 P.C.F.) concrete to the following criteria, (see Section 3.13 for schedule where each is used);
    1. Compressive Strength (28 days): 3,000 psi
    2. Compressive Strength (28 days): 4,000 psi
    3. Slump: 3" to 5".
D. Use accelerating admixtures in cold weather only when approved by Architect/Engineer. Use of admixtures will not relax cold weather placement requirements.
E. The use of calcium chloride is not permitted.

F. Use set retarding admixtures during hot weather only when approved by Architect/Engineer.
G. Add air entraining agent to normal weight concrete mix for work exposed to exterior.
1. All concrete subject to exterior exposure with specified strength of 5000 psi or less, shall be air entrained 6%, with a tolerance of plus or minus 1.5%, as delivered.

2.7 CONCRETE SEALER / HARDENER
A. Concrete Sealer: Penetrating siliconate sealer, hardener, densifier, VOC compliant, USDA approved; Seal Hard as manufactured by L&M Construction Chemicals or approved equal.

2.8 CURING MATERIALS
A. Polyethylene Film: ASTM D2103, 6 mil thick, opaque color.
B. Curing Compound: VOC compliant, 42 Baume colorless solution of 100% active silicate chemicals with a non-acid penetrant.
1. Acceptable Manufacturers and Products:
a) L&M Construction Chemicals; L&M Cure
b) W.R. Meadows; Cure - Hard

2.9 WATER REPELLENT
A. Water Repellent : 100% reactive, deeply penetrating alkyl polymer silane sealer, VOC compliant formulation with 40% solids.
1. Acceptable Manufacturers and Products
a) L&M Construction Chemicals; Pentane 40 WB.
b) Hydrozzo, Inc. ; Enviroseal 40

PART 3 EXECUTION

3.1 EXAMINATION
A. Verify site conditions.
B. Verify requirements for concrete cover over reinforcement.
C. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not cause hardship in placing concrete.

3.2 PREPARATION
A. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent in accordance with manufacturer's instructions.
B. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.

3.3 PLACING CONCRETE
A. Place concrete in accordance with ACI 301 and ACI 318.
1. No structural concrete shall be poured until the concrete design mixes , the concrete placement procedure, the location of construction, joints and the setting of reinforcing steel is reviewed by the engineer.
B. Notify Architect/Engineer minimum 24 hours prior to commencement of operations.
C. Ensure reinforcement, inserts, embedded parts, formed expansion and contraction joints, and waterstops are not disturbed during concrete placement.
D. Install vapor barrier under interior slabs on grade. Lap joints minimum 9 inches and seal watertight by sealant applied between overlapping edges and ends.
E. Repair vapor barrier damaged during placement of concrete reinforcing. Repair with vapor barrier material; lap over damaged areas minimum 9 inches and seal watertight.
F. Separate slabs on grade from vertical surfaces with 1/2 inch thick joint filler.
G. Place joint filler in floor slab in strip (J6) pattern placement sequence. Set top to required elevations. Secure to resist movement by wet concrete.

H. Extend joint filler from bottom of slab to within 1/4 inch of finished slab surface. Conform to Section 07920 for finish joint sealer requirements.
I. Install joint devices in accordance with manufacturer's instructions.
J. Install construction joint devices in coordination with floor slab in strip (J6) pattern placement sequence. Set top to required elevations. Secure to resist movement by wet concrete.
K. Apply sealants in joint devices in accordance with Section 07920.
L. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
M. Place concrete continuously between predetermined expansion, control, and construction joints.
N. Do not interrupt successive placement; do not permit cold joints to occur.
O. All concrete shall be thoroughly consolidated by suitable means during placing. If vibrators are used, do not over-vibrate or transport concrete along the forms by vibrating.
P. Saw cut joints within 24 hours after placing. Use 3/16 inch thick blade, cut into 1/4 depth of slab thickness.
Q. Screed floors and slabs on grade level, maintaining surface flatness of maximum 1/8 inch deviation from level plane in 10 ft.
    1. Contractor shall be responsible for correcting concrete floor slabs as required to achieve surface flatness specified.

3.4 SEPARATE FLOOR TOPPINGS

A. Prior to placing floor topping, roughen substrate concrete surface and remove deleterious material. Broom and vacuum clean.
B. Place required dividers, edge strips, reinforcing, and other items to be cast in.
C. Apply bonding agent to substrate in accordance with manufacturer's instructions.
D. Place concrete floor toppings to required lines and levels. Place topping in strip (J6) panels, dimension not to exceed 20 ft.
E. Screed toppings level, maintaining surface flatness of maximum 1/8 inch maximum deviation from level plane in 10 ft.
    1. Contractor shall be responsible for correcting concrete floor slabs as required to achieve surface flatness specified.

3.5 CONCRETE FINISHING

A. For all formed concrete surfaces to be left exposed (concrete walls columns, etc.), grind all form joints, high spots, etc. smooth. Provide smooth rubbed finish where indicated in the contract documents.
B. Finish concrete floor surfaces in accordance with ACI 301.
C. Light broom surfaces which are scheduled to sealed.
D. Steel trowel surfaces which are scheduled to be exposed.
E. In areas with floor drains, maintain floor elevation at walls; pitch surfaces uniformly to drains 1/4 inch per foot nominal or as indicated on drawings.

3.6 FLOOR SURFACE TREATMENT

A. Apply slip resistant light broom finish as indicated on the contract documents on floor surfaces.
B. Apply two coats of concrete sealer in accordance with manufacturer's instructions as indicated on the contract documents on floor surfaces.
C. Apply two coats of water repellent in accordance with manufacturer's instructions as scheduled on the contract documents on floor surfaces.

3.7 TOLERANCES

A. Maximum Variation of Surface Flatness For Exposed Concrete Floors: 1/8 inch maximum deviation from level plane in 10 ft.
B. Measure tolerances for floors 72 hours after slab installation.
C. Correct defects in the floor by filling, grinding, or removal and replacement of the defective work. Re-measure corrected areas by the same process.
    1. Contractor is responsible for correcting concrete floor slabs to achieve tolerances specified.

3.8 CURING AND PROTECTION

A. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

C. Curing Horizontal Surfaces; Cure floor surfaces in accordance with ACI 308 utilizing one of the following methods:

1. Ponding: Maintain 100 percent coverage of water over floor slab areas, continuously for 7 days.
2. Spraying: Spray water over floor slab areas and maintain wet for 7 days.
3. Absorptive Mat: Spread cotton fabric over floor slab areas. Spray with water until mats are saturated, and maintain in saturated condition for 7 days.
4. Absorptive Mat: Saturate burlap-polyethylene and place burlap-side down over floor slab areas, lapping ends and sides; maintain in place for 7 days.
5. Membrane Curing Compound: Apply curing compound in accordance with manufacturer's instructions.
6. Polyethylene Film: Spread over floor slab areas, lap edges and sides, seal with pressure sensitive tape; maintain in place for 7 days.

D. Curing Vertical Surfaces; Cure surfaces in accordance with ACI 308 utilizing one of the following methods:

1. Spraying: Spray water over surfaces and maintain wet for 7 days.
2. Membrane Curing Compound: Apply compound in accordance with manufacturer's instructions.

3.9 PROTECTION OF FINISHED WORK

A. Protect finished Work under provisions of Section 01600.

B. Do not permit traffic over unprotected floor surface.

3.10 FIELD QUALITY CONTROL

A. Field testing will be performed in accordance with ACI 301.

B. Provide free access to Work and cooperate with appointed firm.

C. Submit proposed mix design of each class of concrete to testing firm for review prior to commencement of Work.

D. Tests of cement and aggregates may be performed to ensure conformance with specified requirements.

E. Three concrete test cylinders will be taken for every 50 or less cu yds of each class of concrete placed.

F. One additional test cylinder will be taken during cold weather concreting, cured on job site under same conditions as concrete it represents.

G. One slump test will be taken for each set of test cylinders taken.

3.11 PATCHING

A. Allow Architect/Engineer to inspect concrete surfaces immediately upon removal of forms.

B. Excessive honeycomb or embedded debris in concrete is not acceptable. Notify Architect/Engineer upon discovery.

C. Patch imperfections in accordance with ACI 301.

3.12 DEFECTIVE CONCRETE

A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.

B. Repair or replacement of defective concrete will be determined by the Architect/Engineer.

C. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Architect/Engineer for each individual area.

3.13 SCHEDULE - CONCRETE TYPES AND FINISHES (ALL MIX DESIGNS TO BE NORMAL WEIGHT)

A. Concrete Slabs on Fill: 4,000 psi 28 day concrete.

3.14 SCHEDULE - JOINT FILLERS

A. Floor Slab Perimeter and at expansion and contraction joints: Joint filler as specified, set 1/4 inch below floor slab elevation.

B. Control Joint Filler: As specified, provide at sawcut or tooled control joints install per manufacturers instructions.

END OF SECTION

SECTION 061000 - ROUGH CARPENTRY

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Rough carpentry as shown on the Drawings and specified herein, including but not limited to the following:
   1. Wood grounds, nailers, furring, and blocking.
   2. Rough hardware.
   3. All other items of rough and finished carpentry as required to complete all work of this section.

1.2 QUALITY ASSURANCE

A. Grading Rules:
   1. Lumber grading rules and wood species shall conform with Voluntary Product Standard PS 20. Grading rules of the following associations shall also apply to materials produced under their supervision:
      a. Lumber Manufacture's Association, Inc. (NELMA).
   2. Plywood shall conform to the following:
      a. Softwood Plywood - Construction Product Standard PS 1.
      b. Hardwood Plywood - Product Standard PS 51.

B. Grade Marks: Identify all lumber and plywood by official grade mark.
   1. Lumber: Grade stamp to contain symbol of grading agency, mill number or name, grade of lumber, species or species grouping or combination designation, rules under which graded, where applicable and condition of seasoning at time of manufacture.
      a. S-Dry: Maximum 19 percent moisture content.
      b. MC-5 or KD: Maximum 15 percent moisture content.
      c. Dense.
   2. Softwood Plywood: Appropriate grade trademark of the American Plywood Association.
      a. Type, grade, class and identification index.
      b. Inspection and testing agency mark.
   3. Hardwood Plywood: Appropriate grade mark of qualified inspection, testing, or grading agency.

C. Testing: ASTM E 84, maximum 25 Flame Spread Rating.

D. Requirements of Regulatory Agencies:
   1. Fire Hazard Classification: Underwriters Laboratory, Inc., for treated lumber and plywood.
   2. Preserve Treated Lumber and Plywood: American Wood Preservers Bureau, Quality Mark.
   3. Pressure Treated Material: American Wood Preservers Bureau Standards.
   4. Span Tables: National Forest Products Association.
   5. Working Stresses: Softwood Lumber, National Design Specification, National Forest Products Association.

1.3 REFERENCES

A. PS-1 - Construction and Industrial Plywood.
B. PS-20 - American Softwood Lumber Standard.
C. PS-58 - Basic Hardwood.
D. AWPB-LP-22 - American Wood Preservers Bureau Standard for Softwood lumber, timbers and plywood pressure treated with waterborne preservatives for ground contact use.

E. AWPB-C-20 - American Wood Preservers Association fire retardant pressure treatment - structural lumber.
F. AWPAC-27 - American Wood Preservers Association fire retardant pressure treatment - plywood.
G. S.D.I. 105 - Steel Door Institute recommended erection instruction for steel frames.
H. Underwriters Laboratory Building Material Directory.
I. FM-I-49 - Factory Mutual Loss Prevention data perimeter flashing.

1.4 SUBMITTALS
A. Submit the following to owner as required:
1. Submit certification by treating plant stating chemicals and process used, net amount of salts retained, and conformance with applicable standards.
2. Preservation Treated Wood: Submit certification for water-borne preservative that moisture content was reduced to 19 percent maximum, after treatment.
3. Fire-Retardant Treatment: Submit certification by treating plant that fire-retardant treatment materials comply with governing ordinances and that treatment will not bleed through finished surfaces.

1.5 DELIVERY, STORAGE, AND HANDLING
A. Immediately upon delivery to job site, place materials in area protected from weather.
B. Store materials a minimum of 6" above ground on framework or blocking and cover with protective water-proof covering, providing adequate air circulation or ventilation.
C. Seasoned materials shall not be stored in wet or damp areas.
D. Protect sheet materials from corners breaking and damaging surfaces, while unloading.
E. Do not deliver shop fabricated carpentry items until site conditions are adequate to receive the work. Protect items from weather while in transit.

PART 2 PRODUCTS

2.1 MATERIALS
A. Lumber: PS-20; graded in accordance with established Grading rules: maximum moisture content of 19 percent; surfaced four sides (S4S) unless otherwise shown or specified:
1. General Framing, Blocking and Plates: Douglas Fir-Larch or Southern Pine; Grade No. 2 or better.
2. Bracing and Nailers: Construction Grade 2.
B. Plywood Sheathing: APA Structured I, PSI-83.
C. Exterior Plywood: APA rated, B-B EXT-APA.
D. Preservative Treated Wood:
1. Exterior: Pressure treated in accordance with AWPB-LP 22, kiln dry after treatment. Each piece to have LP-22 and KDAT stamp affixed.
2. Interior: Pressure treated in accordance with AWPA-C 20, kiln dry after treatment. Each piece to have UL-FR-S and KDAT stamp affixed.
E. Fire Retardant Treated Wood: throughout
1. Lumber AWPA C20.
2. Plywood AWPA C27.
F. Rough Hardware: Zinc coated steel, unless otherwise shown or specified:
1. Bolts: FS FF-B-575C.
2. Nuts: FS FF-N-836C.
3. Expansion Shields: FS FF-B-561C.
4. Lag Screws and Bolts: FS FF-B-561C.
5. Toggle Bolts: FS FF-B-588C.
6. Wood Screws: S FF-S-111D.
7. Nails and Staples: FS FF-N-105B.

G. Other Materials: Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

PART 3 EXECUTION

3.1 SURFACE CONDITIONS

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

3.2 DELIVERIES

A. Stockpile materials sufficiently in advance of need to assure their availability in a timely manner for this Work.

B. Make as many trips to the job site as are needed to deliver materials of this Section in a timely manner to ensure orderly progress of the work.

C. Protect lumber against dampness before and after delivery. Store under cover in a well ventilated area and where not exposed to extreme changes of temperature or humidity until used. Stack materials loosely, not close together or in solid piles. Protect from mechanical injury, stain or splash, and from heavy and unnecessary traffic.

D. Do not store or install finished lumber in any part of the building until concrete, masonry and plaster are dry.

E. Receive, unload and store all related items to be installed by this contractor, but furnished by others.

3.3 COMPLIANCE

A. Do not permit materials not complying with the provisions of this Section to be brought onto or to be stored at the job site.

B. Promptly remove non-complying materials from the job site and replace with materials meeting the requirements of this Section.

3.4 WORKMANSHIP

A. Produce joints which are tight, true, and well nailed, with members assembled in accordance with the Drawings and with pertinent codes and regulations.

B. Selection of lumber pieces:

1. Carefully select the members.
2. Select individual pieces so that knots and obvious defects will not interfere with placing bolts or proper nailing, and will allow making of proper connections.
3. Cut out and discard defects which render a piece unable to serve its intended function.
4. Lumber may be rejected by the Architect, whether or not it has been installed, for excessive warp, twist, bow, crook, mildew, fungus, or mold, as well as for improper cutting and fitting.

C. Do not shim any framing component.

3.5 INSTALLATION

A. General:

1. In addition to framing operations normal to the fabrication and erection indicated on the Drawings, install wood blocking and backing required for the work of other trades.
2. Set horizontal and sloped members with crown up.
3. Do not notch, cut, or bore members for pipes, ducts, or conduits, or for other reasons except as shown on the Drawings or as specifically approved in advance by the Architect.

B. Bearings:

1. Make bearings full unless otherwise indicated on the Drawings.
2. Finish bearing surfaces on which structural members are to rest so as to give sure and even support.
3. Where framing members slope, cut or notch the ends as required to give uniform bearing surface.

3.6 BLOCKING

A. Install blocking as required to support items of finish and to cut off concealed draft openings, both vertical and horizontal, between ceiling and floor areas.
B. Wood blocking should allow for a snug fit and be level and plumb.

3.7 WOOD PRODUCTS

A. Provide pressure treated wood for all framing, blocking, furring, nailing strips built into exterior masonry walls, wood in contact with concrete and in conjunction with couplings and roofing membrane.
B. Provide fire-retardant treated lumber for all interior wood, lumber and plywood including but not limited to wood trusses, rafters, joists, studs, plates, blocking and plywood.
C. Apply two brush coats of same preservative used in original treatment to all sawed or cut surfaces of treated lumber.

3.8 ALIGNMENT

A. On framing members to receive a finished surface, align the finish subsurface to vary not more than 1/8" from the plane of surfaces of adjacent furring and framing members.

3.9 CLEAN-UP

A. Debris shall be swept up daily, placed in metal containers with metal covers and removed from premises at least weekly with all other rubbish and waste materials.
B. Contractor to remove all scrap materials and packaging materials created by his work, as work progresses and dispose of legally off-site.

END OF SECTION

SECTION 079200 - SEALANTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Sealant and backing as shown on the Drawings and specified herein, to provide barrier against passage of air and moisture infiltration for entire building and open joints, including but not limited to the following:
   1. Exterior joints in vertical surfaces and horizontal non-traffic surfaces.
   2. Exterior joints in horizontal traffic surfaces.
   3. Interior joints in vertical surfaces and horizontal non-traffic surfaces.
   4. Interior joints in horizontal traffic surfaces.

1.2 RELATED SECTIONS

B. Section 033000 – Cast-in-Place Concrete
C. Section 061000 – Rough Carpentry
D. Section 230000 – Special Conditions for Mechanical and Electrical Work

1.3 REFERENCES

A. ASTM C834 - Standard Specifications for Latex Sealing Compounds.
B. ASTM C920 - Standard Specifications for Elastomeric Joint Sealants.
C. ASTM D1056 - Flexible Cellular Materials - Sponge or Expanded Rubber.
D. ASTM D1667 - Closed-Cell PVC.
E. ASTM D1751 - Preformed Fiber Joint Filler, Asphalt Impregnated.
F. ASTM D3574 - Closed-Cell Polyurethane Foam.
G. SWI (Sealing and Waterproofers Institute) - Sealant and Caulking Guide Specification.

1.4 PERFORMANCE REQUIREMENTS

A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.
B. Provide joint sealants for interior applications that establish and maintain airtight and water-resistant continuous joint seals without staining or deteriorating joint substrates.

1.5 SUBMITTALS

A. Submit product data as required.
B. Submit product data indicating sealant chemical characteristics, performance criteria, limitations, and color availability.
C. Submit samples to owner as required..
D. Submit samples of each compound and filler.
E. Submit three copies of standard color chart for selection.
F. Submit manufacturer's certificate as required.
G. Submit manufacturer's installation instructions that products meet or exceed specified requirements.

1.6 QUALITY ASSURANCE

A. Manufacturer: Company specializing in manufacturing the products specified in this Section with minimum 5 years documented experience from this project’s bid date.
B. Applicator: Company specializing in applying the work of this Section with minimum 5 years documented experience from this projects bid date.
C. Conform to Sealant and Waterproofers Institute requirements for materials and installation.
D. Preconstruction Compatibility and Adhesion Testing: Submit samples of materials that will contact or affect joint sealants to joint-sealant manufacturers for testing according to

ASTM C 1087 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.

E. Preconstruction Field-Adhesion Testing: Before installing elastomeric sealants, field test their adhesion to Project joint substrates according to the method in ASTM C 1193 that is appropriate for the types of Project joints.

F. Mockups: Build mockups incorporating sealant joints, as follows, to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution:

1. Joints in mockups of assemblies specified in other Sections that are indicated to receive elastomeric joint sealants, which are specified by reference to this Section.

1.7 ENVIRONMENTAL REQUIREMENTS

A. Do not install solvent curing sealants in enclosed building spaces.

B. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

1.8 SEQUENCING AND SCHEDULING

A. Coordinate this work with the work of all trade contractors.

1.9 WARRANTY

A. Warranty: Include coverage of installed sealants and accessories which fail to achieve air tight and watertight seal, exhibit loss of adhesion or cohesion, or do not cure, in accordance with the Section 017000.

B. Warranty shall be for 2 years, shall be in writing, and signed by the Contractor, Subcontractor and the Manufacturer.

1.10 DELIVERY, STORAGE AND HANDLING

A. Handle and store sealant material at the job site in such a manner as to prevent damage. Packaged material shall be in original containers with seals unbroken and labels intact until time of use. Wrapped or bundled material shall bear the name of the manufacturer and the product. Damaged or other unsuitable material, when so ascertained, shall be immediately removed from the job site.

1.11 JOB CONDITIONS

A. Pre-Installation-Meeting: Meet with the Contractor, Installer, Architect, Sealant manufacturer's technical representative, and other trades involved in coordination with sealant work at the Project Site to review procedures and time schedule proposed for installation of sealants in coordination with other work. Review each major sealant application required on the Project.

B. Weather Conditions: Do not proceed with installation of sealants under adverse weather conditions, or when temperatures are below or above manufacturers recommended limitations for installation. Proceed with the Work only when forecasted weather conditions are favorable for proper cure and development by ambient temperature variations, install elastomeric sealants only when temperatures are in the lower third of the manufacturer's recommended installation temperature range, so that sealant will not be subjected to excessive elongation and bond stress at subsequent low temperatures. Coordinate time schedule with the Construction Manager to avoid delay.

PART 2 PRODUCTS

2.1 GENERAL

A. Colors:

1. Wherever sealant is not exposed to view, provide manufacturer's standard color which has the best overall performance characteristics for the application shown.

2. Provide manufacturer's standard colors or custom colors as selected by Owner for sealants exposed to view.

B. Hardness: Hardness's specified are intended to indicate the general range necessary for overall performance. Consult the Manufacturer's technical representative to determine the actual hardness recommended for the conditions of installation and use. Except as otherwise indicated or recommended, provide compounds within the following ranges of hardness (Shore A, fully cured, at 75 degrees F.):
1. 5 to 20 for high percentage of movement and minimum exposure to weather and abrasion (including no exposure to vandalism.)
2. 15 to 35 for moderate percentage of movement and moderate exposure to weather and abrasion.
3. 30 to 60 for low percentage of movement and maximum exposure to weather and abrasion (including foot traffic on horizontal joints.)

C. Modules of Elasticity: For joints subject to movement, either thermal expansion or dynamic movement, provide elastomeric sealants which have the lowest modules of elasticity which is consistent with the exposure to abrasion or vandalism. For horizontal joints subject to traffic, provide sealants with high modules of elasticity, as required to withstand indentation by stiletto heels. Comply with manufacturer's recommendations wherever no other requirements are indicated.

D. Compatibility: Investigate sealants compatibility with the joint surfaces, joint fillers and other materials in the joint system. Provide only materials (Manufacturer's recommended variation of the specified materials) which are known to be fully compatible with the actual installation condition, as shown by Manufacturer's published data or certification.

2.2 MATERIALS

A. Sealants
1. S-1: One component gun grade polyurethane. ASTM C-920, Type S, Grade NS, Class 25
2. S-2: Two component gun grade polyurethane. ASTM C-920, Type M, Grade NS, Class 25
3. S-3: Two component self-leveling polyurethane. ASTMC-920, Type M, Grade P, Class 25
4. S-4: One part acrylic gun grade. ASTM C-834
5. S-5: One part silicone. ASTM C-920, Type S, Grade NS, Class 25
6. S-6: Low modulus, high-performance, one-part neutral-curing, non-staining, construction-grade silicone sealant. ASTM C-679, ASTM C-661, ASTM D-412, ASTM D-624 "Tremco" Spectrem 3

B. Acceptable Manufacturers:
1. Dow Chemical Co.
2. Dow Corning Corp.
3. Mameco
4. Pecora Chemical Corp.
5. Sika
6. Tremco, Inc.

2.3 JOINT FILLERS

A. Closed-cell Expanded Polyethylene Rod.
B. Closed-Cell Expanded Neoprene ASTM D1056, Type S, Class SC.
C. Preformed Fiber Joint Filler, Asphalt Impregnated, ASTM C1751.
D. Preformed Asphalt Joint Filler, ASTM D994.
E. Closed-Cell Polyurethane Foam, ASTM D3574.
F. Closed-Cell PVC ASTM D1667, Soft or Semi-rigid.

G. Use only those back-up materials which are specifically recommended for the specific installation by the manufacturer of sealant used, which are non-absorbent and non-staining.
H. Select size to allow for a 30% compression of backing when inserted into joint. Use joint backing to control depth of joint within 1/2 inch.

2.4 ACCESSORIES
A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
C. Bond Breaker: Polyethylene Tape.

PART 3 EXECUTION

3.1 PREPARATION
A. Select only sealing compounds of manufacturers who agree to have a qualified representative at the site at the beginning of joint sealing work and periodically thereafter as necessary to ensure the proper installation of the sealing compounds.
B. Examine all surfaces to receive the parts of the Work specified herein. Application or installation of material constitutes acceptance of the substrate.
C. Clean surfaces and remove protective coatings which might fail in adhesion or interfere with bond compound so that surfaces are free of deleterious substances which might impair the work. Except as otherwise approved by the manufacturer, elastomeric sealants shall not be applied to joint surfaces previously treated with paint, lacquer, sealer, curing compound, water repellent or other coatings unless such coatings have been entirely removed.
D. Prime surfaces in accordance with the instructions of the sealant manufacturer.
E. Install bond breakers in locations and of type recommended by the sealant manufacturer to prevent bond of sealant to surfaces where such bond might impair the performance of the sealant.
1. In all joints to receive the sealant, install bond breaker specified over back-up, except over closed-cell polyethylene rod, unless otherwise recommended by sealant manufacturer.
F. Tool Joints Concave.

3.2 INSTALLATION
A. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
B. Acoustical Sealant Application Standard: Comply with recommendations in ASTM C 919 for use of joint sealants in acoustical applications as applicable to materials, applications, and conditions indicated.
C. Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
1. Do not leave gaps between ends of sealant backings.
2. Do not stretch, twist, puncture, or tear sealant backings.
3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Non-sag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
1. Remove excess sealant from surfaces adjacent to joints.
2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.

G. Installation of Preformed Silicone-Sealant System: Comply with manufacturer's written instructions.

H. Installation of Preformed Foam Sealants: Install each length of sealant immediately after removing protective wrapping, taking care not to pull or stretch material, producing seal continuity at ends, turns, and intersections of joints. For applications at low ambient temperatures where expansion of sealant requires acceleration to produce seal, apply heat to sealant in compliance with sealant manufacturer's written instructions.

I. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.3 SCHEDULES

A. Joint Sealant Schedule

Location	Type	Color
1. Concrete pavement/slab expansion joints	S-3	Gray
2. Masonry expansion joints & joints at dissimilar materials	S-2	As selected by Owner from manufacturer’s full color line
3. Concrete building expansion perimeter and construction joints	S-1	Gray
4. Perimeter joints around storefronts and aluminum frames	S-6	As selected by Owner from manufacturer’s full color line
5. Perimeter joints around metal door and window frames in exterior masonry	S-6	As selected by Owner from manufacturer’s full color line
6. Metal to metal	S-1	As selected by Owner from manufacturer’s full color line
7. Sheet metal to masonry	S-1	As selected by Owner from manufacturer’s full color line
8. Around surface applied exterior accessories, including light fixtures	S-1	As selected by Owner from manufacturer’s full color line

alarms, etc.

9.	Around interior door and borrowed light frames (wall surface to be painted)	S-4	White
10.	Around surface applied interior accessories (wall surface to be painted)	S-4	White
11.	Gypsum board to masonry joints	S-4	White
12.	Around plumbing fixtures	S-5	White
13.	Masonry to masonry applications	S-6	As selected by Owner from manufacturer's full color line

3.4 ADJUSTING

A. Repair or replace defaced or disfigured finishes caused by work of this section.

END OF SECTION

SECTION 211300 - FIRE PROTECTION

PART 1 - GENERAL

1.01 GENERAL

A. The Architect's General and Special Conditions, Division 1, and Section 230000 "Special Conditions for Mechanical & Electrical Work" are a part of this section.

1.02 QUALIFICATIONS OF CONTRACTORS

A. The contractor for the fire protection installation shall be a qualified Fire Protection Contractor, regularly engaged in the installation of automatic fire sprinkler systems and other fire protection equipment.

1.03 SCOPE OF WORK

A. This specification includes the furnishing of all labor, materials, equipment and service necessary or incidental to the complete installation, testing, adjusting and placing into service of the several systems of fire protection, all as hereinafter specified. In cases of conflicting information, the Architect and Engineer shall be notified at once in writing. Where incidental equipment or appurtenances are required, and are not listed, same shall be furnished as required for a complete fire protection system.

B. Work included in this specification shall consist of, but is not necessarily limited to, the following items:

1. Arrange for, obtain and bear the cost of necessary permits, bonds and fees for the automatic sprinkler work.
2. Make the connection to the water supply where furnished by the Plumbing Contractor.
3. Furnish and install sprinkler system to sprinkle the entire building. System to include all pipe, hangers, sprinkler heads, valves, controls, drains, alarms.
4. Provide a dry pipe valve and dry system throughout. Provide all necessary electrical wiring and conduit to circuit of ample capacity.
5. Furnish and install Fire Department connections as required by the local jurisdiction and/or Fire Prevention Bureau.
6. Furnish and install all alarms, flow switches and alarm bells on the inside and outside of building. Connect to fire alarm system as necessary for complete compliance.
7. Do the testing of all piping work and necessary cleaning of the fire protection work.
8. Furnish the shop drawings and certificates of inspection.
9. Periodically remove from the job site, all rubbish or debris resulting from the fire protection work.
10 Do all cutting and patching.
11. Miscellaneous items as hereinafter specified.

1.04 WORK NORMALLY BY OTHER, BUT INCLUDED UNDER THIS CONTRACT

A. Wire all water flow switches and tamper switches on valves to central alarm panel.

B. The Fire Protection Contractor shall connect to the valved outlet and install an approved backflow device as required by the local water department or governing ordinance or codes. Verify existing conditions and equipment in field prior to submitting bid.

C. Include all required electrical power wiring, conduit, devices, etc., for a complete turn-key sprinkler system installation.

1.05 SUBMITTAL (SHOP) DRAWINGS AND DATA

A. Before commencing any work or providing any materials at the job site for this project, the Fire Protection Contractor shall submit to the Architect, for his approval, four copies of catalog cuts and descriptive matter regarding materials and equipment which he intends to furnish and install. Shop drawings and data shall be submitted specifically for, but not limited to, the following items: Sprinkler heads, valves, pipe, pipe hangers and couplings, hose valves and accessories, and fire department connections.

B. The Fire Protection Contractor shall prepare construction (shop) drawings for automatic sprinkler work showing the arrangement of all automatic sprinkler piping and equipment, spacing of sprinkler heads, elevations of lines and details necessary for the conduct of work. The Contractor shall submit to the Architect, for approval, four (4) "Blue Line" prints of his construction drawings which have been examined and approved by the Local Fire Prevention Bureau and the Owner's Insurance Underwriter where applicable.

C. The Fire Protection Contractor shall not proceed with the installation of the work until he has received the Architect's approval of his shop drawings.

D. The Architect's approval of shop drawings, catalog cuts, etc., shall not relieve the Fire Protection Contractor of the responsibility for any errors which may exist in the items submitted nor shall it relieve him from responsibility for deviations from the contract specifications. The stamped approval of the shop drawings, catalog cuts, etc., shall not be construed as a complete check, but will indicate only that the general design and method of construction is satisfactory.

E. In the event additional clarifying details are required by inspection authorities, the details shall be prepared and approval of same secured by the Fire Protection Contractor at his expense.

1.06 CONDUCT OF WORK

A. The Fire Protection Contractor shall employ on the job at all times, a competent superintendent who shall be responsible for the progress and execution of the work. Workmanship shall be of high quality conforming to standard practice as stipulated by NFPA, ASTM and ASA recommendations, by skilled workmen during regular working hours.

1.07 SELECTION OF MATERIALS AND EQUIPMENT

A. The proposal submitted shall include all materials and equipment as specified. Proposed substitutions with difference in price, if any, shall be made known to the Architect and the contract sum adjusted accordingly before the contract is signed.

B. All materials and equipment furnished shall be new and shall conform to the latest standard practices of recognized manufacturers of such items. Materials and equipment shall bear the UL/FM approval stamp or label where applicable.

PART 2 - PRODUCTS

2.01 SPRINKLER HEADS

A. The sprinkler heads shall be of approved standard design, with nominal 1/2" discharge orifice, upright, sidewall, or pendant type as required. Sprinkler heads in finished areas shall be chrome plated unless otherwise specified by Architect.

B. At the Contractor's option, listed quick response extended coverage automatic sprinkler heads may also be used on this project.

C. Furnish to the Owner a steel enameled box housing 12 spare heads and sprinkler wrench.

D. In general, heads in finished ceilings with acoustical panels shall be located within 6" of the panel center.

E. Acceptable manufacturer's shall be Viking, Grinnell, Globe, Star, or Reliable.

2.02 BALL DRIP DRAINS

A. Ball drips shall be 1/2" automatic with both ends threaded, U.L. Listed, as manufactured by Potter-Roemer, Elkhart Brass, Viking, or equal. Furnish and install metal plaque identifying test connection and attach permanently to wall adjacent to valve.

B. Install ball drips at lowest point in piping and elsewhere as required to meet rules of local governing bodies.

2.03 SPRINKLER FLOW ALARMS AND BELLS

A. At each location where required, provide an Underwriters' approved retard-type electric flow alarm switch. Provide alarm bells as required by governing code. Flow alarm switch shall have extra set of contacts for extension by others to central alarm panel.

B. Waterflow indicators shall be Viking Model C-1, Autocall WF-4, or equal. Electric alarm bells shall be Viking Series BH-1003-6 and BH-1003-10, or equal, with the 6" bell inside the building near the main valve assembly, and the 10" bell at the Fire Department connection with weatherproof kit.

C. This contractor shall be responsible for wiring of the alarm bells to the water flow switches in the risers. This contractor shall also be responsible for co-ordination with the existing fire alarm for proper voltages and location of electrical power supply source for the alarm bells.

2.04 PIPING

A. Pipe shall be new and designed for 175 lb. working pressure, conforming to ANSI specifications, complying with the latest NFPA 13 edition, manufactured in the United States. The manufacturer's name or brand shall be on each length of pipe.

B. Fittings shall be new, 175 lb. cast iron screwed, conforming to ANSI B16.4, manufactured in the United States and specifically approved for use in automatic sprinkler system, listed by U.L. and approved by F.M., conforming to NFPA 13.

C. Mechanical pipe couplings used in the assembly of the overhead sprinkler piping, shall have malleable iron body, molded synthetic gasket and steel nuts and bolts. Pipe grooving for assembly with the couplings shall be done in accordance with the manufacturer's recommendations. Couplings to be Victaulic Style 75 with "H" gasket, Gustin-Bacon, or equal.

2.05 VALVES

A. All valves shall be U.L. and F.M. listed, as manufactured by Stockham, Milwaukee, American Valve Corporation or approved equal for 175 psi W.W.P., iron body and bronze fitted.

B. Valves shall be as follows: (Stockham numbers):

	2" & Smaller	Over 2-1/2"
Gate Valves (O.S. & Y.)	B-133	G-634
Check Valves	B-319	G-940
Angle Valves	B-216	-
Globe Valves	B-16	-

2.06 PIPE SUPPORT

A. Hangers to be of the adjustable swivel ring type M-Co. Model 100 or of the clevis type M-Co. Model 400. Hangers to be U.L. listed and F.M. approved as manufactured by Michigan Hanger Co., Inc., Elcen, Grinnell, or equal.

B. In general, pipe support spacing, rods, and hangers, shall conform to standards specified in NFPA 13 "Installation of Sprinkler Systems" latest edition. All risers passing thru floors shall be

individually supported at each floor with pipe clamps.

C. Where building space limitations prohibit use of adjustable swivel or clevis hangers, contractor to provide angle bar or slotted channel strut type support where specifically called for on drawings, or as required by construction conditions. Slotted channel hangers to be as manufactured by Michigan Hanger Co., Inc., Unistrut or equal.

2.07 SUPERVISORY SWITCH

A. Each riser and sprinkler control valve, as well as valves on fire pump assembly, shall have a "Notifier" type NGV, or equal, contact unit with tamper switch mounted on yoke of valve.

B. Wiring to panel shall be by the Fire Alarm Contractor. This contractor shall be responsible for coordinating all such locations with the Fire Alarm Contractor.

2.08 REDUCED PRESSURE BACKFLOW PREVENTER

A. "AMES" reduced pressure backflow preventer with bypass meter, Model #5000 RPDA, U.L. listed, 175 PSIG rating. Main line unit shall consist of two internally spring loaded check valves with a hydraulically operated differential pressure relief valve. Valves shall have cast iron bodies, replaceable bronze seat rings, and stainless steel stems. All main body parts with internal cast iron parts shall be epoxy coated.

B. Assembly to include bypass line of bronze materials including small diameter reduced pressure backflow assembly, meter, and shutoff valves.

C. Acceptable manufacturer's shall be Febco, Watts, Hersey, or Wilkins.

2.09 FIRE DEPARTMENT CONNECTIONS

A. Connections shall be of cast brass, 2-1/2" x 2-1/2" x 4", with pin lug swivel caps and chains, all chrome plated. Furnish at each connection an identifying escutcheon or wall plate having lettering identifying the system, as "Standpipe", "Auto-Spkr.", etc. Threading to comply with Local Fire Department standards.

B. Connections shall be as manufactured by Potter-Roemer, Elkhart Brass, Standard Fire Equipment, or equal of type as follows:

SIDEWALK TYPE	-	POTTER ROEMER	#5760
FLUSH WALL TYPE	-	" "	#5020
EXPOSED WALL TYPE	-	" "	#5750

2.10 DRY PIPE VALVES

A. Furnish and install a dry pipe valve for the entire system. Valve shall be Viking model "E" or equal cast iron housing with stainless steel and bronze/brass trim. Valve shall be 175 psig rated and factory tested at 350 psig, U.L. listed and F.M. approved, Viking, Reliable, or Grinnell.

B. At each location where required by NFPA and local code, install a Viking model D-1 accelerator with all trim and drains. Valve to be U.L. listed, F.M. approved.

C. Furnish and install all necessary piping, drains, controls, and control air piping for proper operating conditions of all dry pipe systems.

2.11 AIR COMPRESSOR

A. Furnish and install a single stage, pressure oil lubricated air compressor with ASME rated receiver tank for the dry pipe systems. Install a pressure regulating valve to limit air pressure to 50-55 psig entering air to dry pipe valves.

B. Compressor capacity to be capable of filling the entire system in 30 minutes or less. Adjust size of compressor to comply with contractor's final piping layout and calculations.

C. Install all air piping, valves and controls as per NFPA and local fire prevention bureau

requirements and regulations.

PART 3 - EXECUTION

3.01 IDENTIFICATION SIGNS AND CHARTS

A. The drain, alarm test valves, etc., shall have standard identification signs, painted fire red with white lettering. The signs shall be attached to the valves in a conspicuous position.

3.02 INSTALLATION, TESTS AND INSPECTION

A. All piping shall be installed in a uniform manner, direct as possible. The piping shall be arranged and with drain plugs or valves, and plugs at all low points as required to provide means for drainage of trapped piping. Trapping of piping shall be avoided whenever possible.

B. Screwed pipes shall have threads cut to American Standard pipe thread and shall be clean and free from burrs and fins. Pipe shall be reamed and cleaned internally after cutting. Thread lubricant, white lead in oil or approved equal, shall be applied to male threads immediately prior to assembly. Complete joints shall be wiped clean of excess lubricant.

C. In general, automatic sprinkler heads in finished ceilings with acoustical panels shall be located within 6" of the panel center unless otherwise noted.

D. The Fire Protection Contractor shall conduct and bear the costs of all necessary tests of the fire protection work, furnishing all labor, power and equipment. All piping shall be tested with water, the tests witnessed by representatives of the Architect.

E. The fire protection piping shall be tested under a hydrostatic pressure of not less than 200 lbs. psig, for a duration of not less than 2 hours.

F. The piping subjected to the hydrostatic test shall be filled with water and thoroughly checked for the elimination of all air. All joints shall be proven tight or acceptable by the test. Defective work or materials shall be corrected or replaced in an approved manner. If necessary, piping shall be dismantled and reassembled with the use of new pipe or fittings as no caulking or makeshift method of temporary repair of defective work will be permitted. Tests shall be repeated until the particular line or system receives the approval of the representatives of the Architect.

G. Acceptance of the automatic sprinkler work shall be based upon the inspection and tests of the completed installation by representatives of the local Fire Department and Architect.

3.03 INSPECTOR'S TEST CONNECTION

A. A 1" connection shall be provided to allow the flow- testing of the water flow indicator switch in the sprinkler risers. The test connection shall have a 1" globe valve located at 7'-0" above the floor and shall be arranged to discharge through a 1/2" smooth bare brass bushing.

B. The contractor shall install the main drain line from the risers to the exterior of the building to enable water flow testing by the Fire Department.

3.04 WATER DAMAGE

A. The Fire Protection Contractor shall be responsible for any damage to the work of others, to building and property/materials of others caused by leaks in automatic sprinkler equipment, unplugged or disconnected pipes or fittings, and shall pay for necessary replacement or repair of work or items so damaged during the installation and testing periods of the automatic sprinkler work.

3.05 HYDRAULIC CALCULATIONS

A. Contractor shall prepare hydraulic calculations and submit them along with his shop drawings for approval to the aforementioned agencies. Contractor to obtain flow data from recent Fire

Department tests or shall conduct his own field flow tests to ascertain accuracy.

B. The following data shall be submitted for purposes of hydraulic calculations:
   1. Static city main water pressure
   2. Residual main pressure and flow in GPM
   3. Sprinkler design density and hazard classifications
   4. Automatic sprinkler head "K" factors used

3.06 DESIGN CRITERIA:

A. The automatic building sprinkler system shall be designed by the Sprinkler Contractor in accordance with NFPA 13. Sprinklers shall be installed throughout the building without exceptions.

B. The sprinkler contractor shall refer to architectural plans for reflected ceiling plans for his sprinkler design. He shall also co-ordinate his final shop drawings with the other features of the building to avoid conflict with his piping and the piping, conduits, and ductwork existing within the building.

C. For bidding purposes, sprinkler spacing shall be based on a light hazard occupancy throughout the facility. Head spacing based on the following:
   1. Head spacing based on 130 square feet per head maximum.
   2. Hydraulically calculated systems based on a density of 0.15 gpm in place of .10 over the most remote 1500 square feet (dry pipe systems are increased by 30% over standard 0.10)

3.07 BIDDING

A. Contractors shall submit their bids based upon the items called for in specifications and furnish all labor and material as required to make a complete fire protection installation approved by the aforementioned agencies.

B. In addition, furnish and install at no extra cost to the Owner, such additional sprinkler heads and piping as are required by City and/or local state rules, by the Owner's underwriter and by other bodies having jurisdiction.

3.08 FINALLY

A. All superfluous materials, debris, tools, etc., shall be removed from the premises and all damages to other work shall be rectified.

3.09 GENERAL CLARIFICATIONS

A. The following information represents readings taken in the general vicinity of the project site and are provided for information only. Fire Protection Contractor must perform a pressure test per the Specifications. Fire Protection Contractor must perform a pressure test per the Specifications.

Date of Test:	10/09/02
Static Pressure:	50 PSI
Residual Pressure:	40 PSI
Flow:	1,325 GPM
Source of information:	Mount Prospect Fire Department

END OF SECTION

SECTION 220000 - PLUMBING

PART 1: GENERAL

1.1 GENERAL

A. The Architect's General and Special Conditions, Division 1, and Section 230000 "Special Conditions for Mechanical & Electrical Work" are part of this section.

1.2 SCOPE OF WORK

A. This specification includes the furnishing of all labor, materials, equipment and service necessary or incidental to the complete installation, testing, adjusting and placing into service of the several systems of plumbing and drainage as shown on the drawings and as hereinafter specified. Drawings and specifications are considered as mutually explanatory and all work called for by one and not the other shall be performed as though called for by both. In cases of conflicting information, the Architect/Engineer shall be notified at once in writing. Where incidental equipment or appurtenances are required, and are not listed or shown, same shall be furnished as required for a complete plumbing and drainage system.

B. Work included in this specification shall consist of but is not necessarily limited to furnishing and installing the following:

1. Complete system of soil, waste, vent and water piping to each and every fixture, device or appliance.
2. Connection to existing sanitary and water outlets in the basement.
3. Water heaters, equipment, piping and controls as shown on drawings and as specified.
4. All pipe coverings and insulation.
5. All excavation, backfill and restoration of surfaces as required.
6. All plumbing fixtures and equipment, complete with trim.
7. All cutting and patching.
8. All roof and floor openings, wall chases and openings, curbs, cant strips and structural steel supports where and as required, including wall openings in foundation walls.
9. Miscellaneous items as hereinafter specified.

1.3 WORK BY OTHERS

A. Electrical Contractor: Power wiring to disconnect switches, motor starters, motors and interlock wiring as specified. The Plumbing Contractor shall confirm voltages for all equipment with the project Electrician prior to ordering his equipment.

1.4 RELATED WORK SPECIFIED ELSEWHERE

A. Shop drawings, "As-Built" drawings, cutting and patching, access panels, motor starters, hangers, tests, instructions and guarantee are specified in the "Special Conditions for Mechanical & Electrical Work".

1.5 GROUNDS

A. All carpentry work required or necessary for grounds, supports, etc., for setting fixtures shall be done by the Carpenter Contractor under this Contractor's directions. Any expense due to this connection shall be paid for by the Plumbing Contractor.

1.6 SUBSTITUTIONS

A. The plumbing estimate of work under this contract shall be prepared without substitution. Each and every item shall be adhered to and for purposes of original estimate, contractors desiring to

submit for the consideration of the Architect/Engineer items of materials, or equipment other than specified, which they consider equal, may do so but all substitutions must be approved by the Architect/Engineer at least 10 days prior to bid due date.

B. Contract drawings were prepared on dimensional data and physical requirements provided by the manufacturer specified. Where the contractor elects to substitute equipment with that of a different manufacturer, it is the intent of these documents that the contractor shall be culpable for all changes to physical dimensioning, weights, inlet outlet arrangements, pressure requirements, flues, etc. The contractor shall be solely responsible to make all required adjustments to plans and to follow the manufacturer's recommendations and mandatory requirements to ensure that the equipment shall fit the given spatial allotments and shall be in compliance with the manufacturer's performance criteria. Failure to meet the above shall be the contractor's responsibility, and it shall not entitle the contractor to request compensatory re-imbursement brought about by his substitutions.

1.7 APPROVALS

A. Approval of materials shall be obtained before ordering such materials. Request for approval of materials, layouts, shop drawings and etc., shall be made in writing at least three (3) weeks before approval is required. A sufficient number of copies shall be submitted so as to allow three (3) copies for the files of the Architect/Engineer. The following items must be submitted for approval:
   1. Hot water heater and expansion tank
   2. Plumbing fixtures
   3. Piping and pipe insulation
   4. Valves
   5. Brass goods
   6. Floor drains and cleanouts
   7. Hose bibbs and wall hydrants

PART 2: PRODUCTS

2.1 DRAIN, WASTE, AND VENT PIPING MATERIALS

A. All underground lines shall be centrifugally spun cast iron service weight soil pipe and fittings as per ASTM A74-66 with rubber gasketed joints in compliance with ASTM C-564-68.

B. Underground piping may also be PVC type, Schedule 40, complying with ASTM D2665 and NSF 14 with solvent welded joints as approved for use by Mount Prospect with local amendments. Pipe shall be laid atop a 4" granular bedding of rounded pea gravel or sand with no jagged or sharp edges throughout bedding length.

C. Above Grade Piping: PVC type, Schedule 40, complying with ASTM D2665-88 and NSF 14 with solvent welded joints, D2564-88.

D. Soil, waste, and vent piping above excavated floors may also be type "M", ASTM B88-83 as per Gurnee requirements. Drainage fittings shall comply with ASTM B16.29, and with 50-50 soldered joints.

E. Piping shall be as manufactured by Charlotte Pipe and Foundry Company, Tyler, or approved equivalent.

2.2 DOMESTIC WATER SYSTEMS

A. All inside hot water, cold water, and recirculation lines shall be type "L" hard drawn copper pipe ASTM B-88 with wrought copper solder fittings. A 95-5 tin-antimony solder, "Stay-Brite" or "Silvabrite" tin-silver solder shall be used for working pressures to 275 psig, complying with ASTM B32. Piping over 4" shall be silver soldered. All materials to be lead and cadmium free.

B. Only one type of piping material shall be used. No dissimilar piping materials shall be approved for this project under any circumstance.

2.3 FLOOR DRAINS

A. Drains shall have cast iron body with flashing collar, adjustable strainer head with secured grate to prevent tilting, finished with manufacturer's protective coating on cast iron parts.

B. Drains shall be as manufactured by J.R. Smith, Wade or Zurn. Refer to contract drawings for schedule of floor drains.

2.4 CLEANOUTS

A. Cleanouts shall have an adjustable cast iron body with flashing collar, where required by construction, finished with nickel bronze or cast iron top. Assembly to have manufacturer's protective coating on cast iron parts.

B. Cleanouts shall be as manufactured by J.R. Smith, Wade or Zurn. Refer to contract drawings for schedule of cleanouts.

C. Install cleanouts on all sanitary and storm building sewers on the exterior of the building foundation wall as per the Palatine amended plumbing code requirements.

2.5 VALVES

A. Figure numbers listed below are Stockham except as noted:

VALVE TYPE	3" & SMALLER
Gate	B-103/B-104
Swing Check	B-309/B-319
Drain Valves (Nibco)	710
Ball Valves	S-217/S-227

B. Valves shall be as manufactured by Stockham, Conbraco "Apollo" series, Milwaukee, or Crane.

2.6 UNIONS

A. Unions to be installed at all connections to equipment and at all valves. Unions shall be Stockham No. 694 or equal, railroad type for galvanized piping. Copper piping unions shall be Nibco No. 633 or equivalent.

2.7 PLUMBING FIXTURES

A. The list of fixtures on the contract drawings indicates the type and accessories which shall be furnished, and the design and quality of fixtures required.

B. All fixtures to be furnished with individual wall supply stops with wheel or loose key stops as called for on drawings. Stops shall have 1/2" ips female inlet with 3/8" O.D. riser flexible tubing. Valve and tubing to be all chrome plated brass with wall escutcheon covers.

C. All lavatories and sinks to be provided with minimum 17 gauge traps, chrome plated, with wall escutcheon plate. All faucets in public areas shall have vandal resistant aerators.

D. Color of fixtures shall be white unless specifically noted on the plans for alternate color selections by the Architect.

E. Where fixtures are for handicapped use, the manufacturer shall submit verification that fixture complies with the latest "Americans with Disabilities Act" (A.D.A.) Standards.

F. Insulation kit: A.D.A. lavatory p-traps and hot water supply stops shall be insulated with the fully molded "Truebro" insulation kit #101 with accessory #105 offset tailpiece if required, or approved equal manufacturer. Trap assembly to include weep hole.

2.08 ELECTRIC HOT WATER HEATERS

A. Water heaters shall be of the size, capacity and input called for on plans. Tank to be fiberglass insulated and glass lined rated for 150 psi working pressure, with anode rod, N.P.T. inlet and outlet connections, drain valve and P. & T. relief valve tapping.
B. Electrical elements to be of the immersion "screw-in" type (flange type), immersion (surface) type thermostats, manual reset high temperature limit controls, and all necessary terminal blocks, contactors and transformers. Heater shall be prewired and factory tested, and shall be U.L. listed.
C. Heater to be as manufactured by State Industries, A.O. Smith, or equal, and shall be warranted for a period of THREE years. Heaters must comply with the latest ASHRAE 901b requirements for thermal efficiency.

2.09 POTABLE WATER EXPANSION TANKS

A. Furnish and install a potable water expansion tank where indicated on the contract drawings. Tank shall be constructed of steel in accordance with A.S.M.E. Code requirements, Section VIII, where required by state or local code authority. The tank shall include a rigid polypropylene liner and an internal heavy duty butyl diaphragm bladder.
B. The tank shall be pre-charged at the factory to 40 psig. Tank shall include a 3/4" or 1 1/4" NPT piping connection and base ring for level floor mounting.
C. Tank shall be approved for installation in domestic potable water systems by the F.D.A., and shall be as manufactured by Amtrol, State Industries, or Watts.

2.10 TEMPERATURE AND PRESSURE RELIEF VALVES

A. Furnish and install combination temperature and pressure relief valves of size and capacity to relieve at a temperature of 210 degrees F and a pressure of 125 psi, unless otherwise noted. Valves to be in compliance with ANSI Z21.22-86, Watts or equal. Run discharge to floor or drain as dictated by conditions and codes.

2.11 VACUUM BREAKERS

A. Vacuum breakers, where shown on plans or where required by codes, shall be of bronze body with full size orifice and tight seating contact, Watts #288A, Chicago Faucets, Sloan, or T. & S. Brass. Elevation of vacuum breaker to comply with governing code requirements, but not less than 6" above critical flow dimension. Breakers to be designed for a 125 psig pressure, 212^{o} F. temperature rating.
B. All pressure type vacuum breakers shall comply with ANSI/ASSE 1020. All hose connection types shall comply with ANSI/ASSE 1011, and anti-siphon units with ANSI/ASSE 1001.

PART 3: EXECUTION

3.1 PLUMBING FIXTURES

A. All fixtures shall be set plumb and true to wall lines and securely held in place. Where a fixture comes in contact with the wall, floor, or ceiling, the joint between the fixture and building surface shall be made watertight with silicon caulking or other material as deemed necessary by the Architect. Color of caulk shall match fixture color unless otherwise required by the project Architect.
B. All concealed lavatory and water closet supports shall be secured to the floor by means of steel bolts so as not to impose any loads to the partitions. Also, all water closet supports shall include an adjustable anchor foot with threaded bolt secured to the floor for additional chair carrier stability.
C. Where fixtures are installed for A.D.A. use, the following mounting heights shall be used for roughing in:

1. Water closets: 17" to 19" above finished floor to seat
3. Lavatories: 34" above finished floor to rim (insulate drain and hot water piping)

D. Nothing in these specifications shall preclude normal industry standards nor code requirements for the specific installation of all plumbing fixtures as to heights, clearances, materials, air gaps or backflow devices, and spacing.

3.2 INSTALLATION OF DRAINS AND CLEANOUTS

A. Floor drains:
1. All floor drains shall be provided with deep seal "P" traps, and floors to be pitched 1/2" to each drain at least for a radius of 5'-0" where applicable.

B. Cleanouts:
1. All cleanouts shall be full size of pipe but not larger than 6". They shall be caulked into proper branches provided at base of all downspouts, waste or soil risers and at ends of horizontal mains and wherever changes in the direction of sewers are greater than 45 degrees.
2. Cleanouts to be installed 50' o.c. in sewers 4" and smaller and at 100' o.c. in sewers 5" to 10" in size. Larger sewers to have manholes installed at intervals not to exceed 150 feet.
3. Cleanout extensions to floors inside building walls shall be terminated in standard brass cleanout plugs set below the floor and provided with a C.I. cleanout frame and cover held in place with brass screws and set flush with the finished floor. Cleanouts installed in carpeted floors to be provided with carpet markers.

3.3 PIPING AND PIPE INSTALLATION

A. All changes in direction of soil and waste piping shall be made with sweep wye fittings or combinations of bends and fittings.

B. Horizontal lines 3" and smaller shall pitch a minimum of 1/4" per foot. Horizontal piping 4" and larger shall pitch a minimum of 1/8" per foot unless otherwise noted on the contract drawings.

C. Non-insulated copper piping systems shall be supported from steel clevis hangers with copper coating or with plastic coating, B-Line B3174CT, B317CTC, B3174C, or their equivalent.

D. Joints in cast iron pipe shall be made by packing a ring of oakum and pouring remainder of joint with molten lead. Lead to be caulked tight and flush with top bell. Minimum 1 lb. lead per inch diameter of pipe.

E. Threaded pipe shall be made up with Dixon's pipe compound applied to the male thread only. Threads exposed after joints are made shall be mopped with compound. All threads shall be made up tight with not over two full threads showing. Threads shall be clean cut, tapered threads, and the ends of all pipes shall be reamed out after cutting of threads.

F. In general, piping systems shall be installed to avoid any touching between metal to metal piping, plastic to metal piping, or between piping and building structural components. Where required, due to close proximity between materials, install insulating materials around the piping to prevent noise transmission due to vibrations, rubbing, movements, and to prevent erosion and/or corrosion of the piping materials.

3.4 VENT LINES AND FLASHING

A. All vents to extend 12" above the roof line and be provided with regular roof connection to receive flashing made for this purpose. Flash properly down on roof using 2.5 pound density sheet lead 24" square and make the connection watertight.

B. Offset pipes away from parapet wall to permit flashing 12" from wall. Also, offset vent a minimum of 15'-0" from any fresh air intake opening or window.

3.5 WATER DISTRIBUTION SYSTEM

A. Water distribution system shall extend new piping to each and every fixture or other piece of equipment requiring same in building, including all pipe, fittings, hangers, valves, insulation and all other necessary appurtenances.

B. Gate or ball valves shall be installed in all branch connections from the hot and cold water mains.

C. Each hot water return branch, unless shown otherwise on the contract drawings, to have a gate or ball valve for shut-off, check valve, balancing valve, strainer, and ball valve for flow balancing. The Contractor shall adjust and balance each branch, sub-main, and main hot water return to ensure an even hot water supply temperature throughout the building.

D. All underground water runs shall be arranged to limit number of joints to as few as possible.

E. All connections between steel tappings on equipment and copper piping shall be made with dielectric unions or plastic lined fittings intended for this purpose.

F. Each fixture supply, including both hot and cold water, shall have a separate air chamber not less than 12" long and the same size as fixture supply. Main risers to be provided with minimum 24" long chambers.

3.6 HOT WATER PIPING

A. Each hot water branch line and riser shall be provided with a swing section which shall be located as near as practicable to its connection with the hot water main, riser or branch distributing pipe.

3.7 PIPE COVERING

A. Cover all cold water and hot water piping, with specified 1/2" thick insulation.

3.8 TESTING

A. All plumbing shall be thoroughly tested upon completion and before final acceptance, and shall be free from all imperfections. The Plumbing Contractor shall furnish and install all additional cleanout plugs, tees, caps, etc., as required to perform testing.

B. All water piping shall be tested to 100 psi for a period of four hours, and made tight at that pressure. Chlorination to comply with state and local requirements.

C. All concealed piping shall be tested before being covered or concealed by construction. All soil, waste and vent piping shall be tested in accordance with test procedure adopted as standard of governing body.

3.9 VIDEO CAMERA - BUILDING DRAINAGE CONSTRUCTION

A. Contractor to furnish all video camera equipment as necessary to record the interior condition and integrity of newly installed underground sanitary and storm drainage piping. As a minimum, he shall furnish one copy to the field inspector having jurisdiction, where applicable, and one copy for the Owner's records.

B. It is suggested that the Contractor do the video recording of the initial pipe installation and a second recording after backfill and concrete floor pour is completed. This is for the protection of the Contractor to indicate any damage or misalignment caused by subsequent work by other trades.

3.10 FINALLY

A. Upon completion of the plumbing and fixtures, all drains, waste, piping and fixtures shall be thoroughly tested and proven perfect.

B. All superfluous material, debris, tools, etc., shall be removed from the premises, and all damages to other work shall be made good.

C. Remove all trade labels and make all fixtures free from dirt, plaster, paint, etc.

END OF SECTION

SECTION 230000 - SPECIAL CONDITIONS FOR MECHANICAL & ELECTRICAL WORK

1.1 GENERAL

A. Bidding Requirements, General and Supplementary Conditions, the entire Division 1 and General Requirements are a part of these Specifications.

B. This Section 230000 shall be a part of each of the Sections under Division 23 - Mechanical, and Division 26 - Electrical of these Specifications.

1.2 STANDARDS & REGULATIONS

A. Include labor, material, equipment and service necessary to comply with the following current editions of applicable codes and standards.

1. ASME - American Society of Mechanical Engineers
2. ASHRAE - American Society of Heating, Refrigeration and Air Conditioning Engineers
3. ASTM - American Society for Testing Materials
4. ANSI - American National Standards Institute
5. AWWA - American Water Works Association
6. AIA - American Insurance Association (Formerly NBFU)
7. AMCA - Air Moving Conditioning Association
8. UL - Underwriters' Laboratories, Inc.
9. NEMA - National Electric Manufacturer's Association
10. NFPA - National Fire Protection Association
11. SMACNA - Sheet Metal & Air Conditioning Contractors National Association, Inc.
13. - Mount Prospect and State Building Codes
14. 2012 International Building Code (All other construction)
15. 2012 International Energy Conservation Code
16. 2012 International Mechanical Code
17. 2004 Illinois Plumbing Code (with local amendments)
18. 2011 National Electrical Code
19. 2012 International Fire Code
20. Illinois Fire Protection Association, Current Edition
21. Illinois Accessibility Code - 71 Ill. Adm. Code 400 (4/24/97)
22. ANSI A17.1 Current Edition
23. ADA - Americans with Disabilities Act

B. Specifications and drawings govern where their quantities, sizes and other requirements are in excess of above "Standards and Regulations".

C. "Standards and Regulations" govern where their quantities, sizes and requirements are in excess of specifications and drawings.

D. Remove and replace defective and non-complying work found during construction or guarantee periods at no cost to the Owner.

1.3 SHOP DRAWINGS AND SAMPLES

A. The contractor shall review, approve and submit, with reasonable promptness and in such sequence as to cause no delay in the work or in the work of the owner or any separate contractor, all shop drawings, product data and samples required by the contract documents.

B. By approving and submitting shop drawings, product data and samples, the contractor represents that he has determined and verified all materials, field measurements, and field construction criteria related thereto or will do so, and that he has checked and coordinated the information contained

within such submittal with the requirements of the work and of the contract documents.

C. The contractor shall not be relieved of responsibility for any deviation from the requirements of the contract documents by the owner's approval of shop drawings, product data or samples unless the contractor has specifically informed the owner in writing of such deviation at the time of submission and the owner has given written approval to the specific deviation.
   1. The contractor shall not be relieved from responsibility for errors or omissions in the shop drawings, product data or samples by the owner's approval thereof.

D. Each Contractor shall submit the following shop drawings and data sheets to the Architect for approval:
   1. Manufacturer's drawings and performance data on all equipment.
   2. Equipment wiring diagrams.
   3. Dimensioned field installation drawings, minimum scale 1/4" = 1'-0", indicating the following:
      a. Electrical drawings shall show lighting and switches, power connections, telephones, panels, alarms, switchgear and major conduit routings with junction/pull box locations.
      b. Mechanical drawings shall show all equipment, ductwork distribution, and all related information for system installation.
      c. Plumbing drawings shall show all underground sewers, all overhead piping for water and sanitary drain distribution as per applicable codes.
      d. The above drawings shall also show all required wall, floor, and roof openings with all exact equipment locations, by each respective trade.
   4. Contractors shall not use a shop drawing to obtain approval for variations. Contractors to review and approve shop drawings before they are submitted to Architect/Engineer.

E. Contractor shall be responsible for all equipment fitting into the spaces allocated on the plans for such equipment.

F. When shop drawings are resubmitted after having been returned for corrections, only the changes noted on the previously rejected drawings will be checked by the Architect on the resubmitted shop drawings. If additional changes other than those previously noted are made on the resubmitted drawings, this Contractor shall correct at his own expense all such errors due to his failure to notify the Architect in writing of such additional changes.

G. Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with requirements of the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with the information given in the contract documents. The contractor is responsible for confirming and correlating all voltage requirements, equipment capacities, quantities and dimensions: selecting fabrication processes and techniques of construction, coordinating his work with that of all other trades and performing his work in a safe and satisfactory manner.

1.4 PERMITS

A. Obtain all permits and inspections for the installation of this work and pay all charges incident thereto. Deliver to the Owner all certificates of said inspection issued by authorities having jurisdiction.

1.5 WORKMANSHIP AND MATERIALS

A. The workmanship and materials covered by these specifications shall conform to all ordinances and regulations of the city, county and/or other authorities having jurisdiction.

1.6 COOPERATION BETWEEN TRADES

A. Each Contractor shall cooperate with all other Contractors. Check, prior to commencement of work,

for space requirements with all other trades. Relocation of ducts, piping, etc., which may alter the architectural or structural construction must be approved by the Architect prior to relocation. No extra payment will be allowed for work resulting from these changes.

1.7 CARTING AND HANDLING

A. Each Contractor shall furnish his own carting, handling and erecting of equipment and/or material included in his contract.

1.8 DRAWINGS

A. The drawings shall be taken in a sense as diagrammatic. Sizes and means of running piping, ducts, conduits, etc., are shown, but it is not intended to show every fitting and offset, nor every structural difficulty that can be encountered during the installation of the work.

B. Consult Architectural, Structural, Mechanical and Electrical drawings. The plans show the general arrangement of all piping, conduit and equipment. Examine drawings and specifications very carefully and notify the Architect by letter of any discrepancies so same can be rectified at an early date. Contractor shall follow the intent of the plans as closely as possible.

C. Final ductwork and pipe routing as well as final equipment locations shall be coordinated with architectural and structural features, with all other trades, and is the responsibility of the installing contractor. Should any installation conflict with the above mentioned criteria, re-location shall be borne by the installing contractor at no additional cost.

D. This Contractor shall coordinate his work with all Architectural, Structural, Electrical and Mechanical features of the building.

E. Should conditions necessitate any rearrangement, or if piping or conduit can be run to better advantage, the Contractor shall prepare and submit drawings showing the changes before proceeding with the work. If such changes are approved, they shall become a part of this contract after their approval.

F. Due to the small scale of the drawings, it is not possible to show all offsets and detail every point at which exigencies of construction may require special attention. Additional fittings, valves, traps, vacuum breakers, ducts and other appurtenances necessary due to field conditions or code requirements shall be furnished and installed by this Contractor at no extra cost to the Owner.

1.9 SITE AND JOB CONDITIONS

A. Contractor shall visit site or premises and become familiar with job conditions prior to submitting bid. Contractor shall adjust his work to meet actual conditions existing at the job. No extra charges shall be allowed for change to adapt work to actual job conditions.

B. All dimensions, locations of equipment and connections to external utilities shall be certified in field prior to construction. Architectural plans will hold precedence over mechanical plans as to location of partitions, etc. All roughing in construction dimensions shall be made from Architectural plans where discrepancies may exist.

1.10 CUTTING AND PATCHING

A. Each contractor shall be responsible for his own cutting and rough patching unless otherwise specified. Detail drawings for all necessary openings shall be provided by this contractor in ample time. Expense of cutting and patching caused by failure to provide drawings in time to be borne by contractor necessitating cutting and patching. Work under this contract shall progress so that cutting of constructed or finished work shall be avoided. Patching of finished work damaged by this subcontractor will be done by others at the expense of this contractor.

B. Roof openings, roof curbs, cant strips, flashing and counter-flashing will be done by this contractor, all as required to install his equipment. Repair and patch roof to make water tight, all to the

Architect's satisfaction. Verify roof warranty with Architect & Owner prior to cutting existing roof membrane.

1.11 SLEEVES AND FIRE STOPPING

A. All pipes, conduits, and ducts passing through construction shall be provided with sleeves. Sleeves shall be Schedule 40 black steel pipe full depth of construction.

B. Sleeves extending through wall construction shall be furnished flush to wall. Sleeves extending through floor construction shall extend 1 inch above finished floor. Sleeves shall be large enough to allow both pipe and insulation to pass through. Insulation shall be continuous through sleeve.

1.12 PROTECTION

A. Contractor shall keep all pipe openings closed by means of plugs or caps to prevent entrance of foreign matter, and cover all fixtures, equipment and apparatus as required to protect them against dirt, water, chemical or mechanical damage, both before and after installation. Any such fixtures, equipment or apparatus damaged prior to final acceptance of the work shall be restored to its' original condition or replaced by the Contractor.

1.13 PLATES

A. Where pipes of conduits pass exposed through finished walls, floors or ceilings, cover sleeve with a Crane Company, No. 20 chrome plated coverplate.

1.14 MOTORS

A. Each Contractor shall furnish and install all motors required for his equipment.

B. Motors shall be NEMA standard design unless otherwise specified and nameplate rated for the required horsepower and for the voltage provided by the utility furnishing electricity. Motors shall have starting current characteristics as required by the utility providing electricity. Unless otherwise specified, motors less than 1/2 HP shall be designed for 120 volts, single phase, 60 cycle operation and shall be capacitor start type, 40 degrees C. continuous use, open drip-proof type and shall be equipped with ball bearings.

C. Unless otherwise specified, motors 1/2 HP and larger shall be designed for voltage as shown on plans, three phase or single phase, 60 cycle operation and shall be single speed, squirrel cage type NEMA design B, low current inrush and normal starting torque, open drip-proof type, quiet operating, 40 degrees C. continuous rise and shall be equipped with ball bearings. Seal ball bearings shall be supplied on all motors 1 HP and larger. Provide belted motors with slide rails, adjusting screws, anchor bolts and bed plates. Motors shall be General Electric, Westinghouse or Louis Allis.

D. Contractors for the respective trades shall arrange for and include in his bid, the furnishing, setting of all motors, unless otherwise specified with equipment.

E. All motors shall be of high efficiency design, and shall qualify as "energy efficient" by the most current NEMA rating standards.

1.15 ELECTRIC STARTERS

A. Unless otherwise indicated, starters are provided by individual mechanical sub-contractors furnishing mechanical equipment. Obtain electric power characteristics from Electrical Contractor before purchasing equipment.

B. Furnish for each fractional horsepower single phase motor, a manual starter having thermal overload protection, as manufactured by Cutler Hammer, or approved equal.

1.16 CLEANING

A. Each Contractor shall clean premises of all excess construction material and debris caused by his

work at completion of work or at direction of Construction Manager during course of construction. All equipment furnished and/or installed by each Contractor shall be thoroughly cleaned prior to turning over to Owner.

1.17 INSTRUCTIONS

A. Each Contractor shall instruct Owner's personnel in the operation and maintenance of equipment installed by him. In addition, each Contractor shall furnish to Owner, three (3) sets of typewritten instructions with one set in glass frame to be hung in equipment room. Each Contractor shall also furnish to Owner three (3) sets of equipment maintenance and operating manuals, technical service manuals, parts lists, for each item of equipment. For additional information refer to General and Supplementary Conditions. (Each contractor is to allow 8 hours of instruction to the owner's personnel).

1.18 JURISDICTION OF WORK

A. Whenever it becomes necessary for the complete fulfillment of a specific specification for this Contractor to furnish labor and materials other than that which is generally accepted by trade agreement or general practices to belong to this particular trade or branch of work, he shall sublet such work or branch of work involved, and inform the Architect of such changes.

B. However, if there is an overlapping of trades, practices or trade agreements and a jurisdictional dispute arises to claims of tradesmen of another primary contractor, and a trade union settlement is made in favor of these tradesmen who claimed the work, he shall perform it at his own expense as if it has been included in his specification. All such work shall be executed in such a manner that there will be no delay or stoppage of work, due to infringement or alleged infringement of trade agreements as to jurisdiction.

1.19 PIPE HANGERS, SUPPORTS AND EMBEDDED FASTENERS

A. Provide adjustable hangers, inserts, brackets, rolls, clamps, supplementary steel, etc., as required for proper support of all pipe lines and mechanical equipment. Hangers shall be designed to allow for expansion and contraction of pipe lines, and shall be of adequate size to permit covering to run continuously through hanger.

Piping at tanks, etc., shall be supported independently so that no weight will be supported by the equipment, and no vibration will be caused and/or sent through the structure.

B. Insulation protectors at hangers: Insulation protectors shall be provided at hangers on all sizes of hot or cold piping. Protectors shall be full half round galvanized steel, 12" long and of gauge to prevent distortion. Molded high density insulation shall be provided and installed in an approved manner for support of pipe and insulation protectors. Shields shall be similar and equal to those manufactured by Pipe Shields, Inc., or Insulshields.

E. Supplementary Steel: Provide all necessary supplementary steel for proper supports or attachment for hangers, tanks, or other equipment. Steel shall be painted with one (1) coat of rust inhibiting primer.

1.20 PIPING INSTALLATION

A. Give careful consideration to clearances under beams, over windows, etc., to provide maximum headroom in all cases, and to locations of lines and type of fitting used to obtain these clearances. Ascertain from the drawings, the heights of all suspended ceilings and the size of all pipe shafts in which piping is to be concealed, and location and size of structural members in and adjacent to all pipe shafts. Coordinate piping, ductwork and lighting trades with each other and with all other equipment. In case where insufficient room is provided for piping above suspended ceilings or in vertical shafts, obtain clarification from the General Contractor before any work is installed. Work installed without co-ordination of all contractors affected by this work will be relocated at the expense

of this contractor.

B. Cut pipe accurately to measurements established at the building, work into place without springing or forcing, and properly clear all windows, doors and other openings. Cutting or other weakening of the building structure to facilitate piping installation will not be permitted unless approved by the General Contractor. Ream all piping to remove burrs and install so as to permit free expansion and contraction without causing damage. Make all changes in directions with fittings and changes in main sizes through eccentric reducing fittings. Piping at hot water heaters, pumps, etc., shall be supported independently so that no weight will be supported by the equipment. The following shall be provided:
   1. Swing joints at runouts to equipment as well as sufficient swing connections, expansion loops and/or devices at all other points for flexible piping system.
   2. Shut-off valves and unions or flanges in supply and return to each item of equipment such as pumps, heaters, automatic valves, etc. Valves and unions or flanges shall be suitably located to isolate each unit and facilitate maintenance and/or removal of all equipment and apparatus.
   3. Drain valves at low points of each system as required to enable complete drainage. Install vents at all high points as required to properly vent the system.

1.21 PRESSURE TESTS

A. Each system of ductwork and piping shall be tested by the trade responsible for the work, under the superintendent of the Contractor.

B. After mechanical work is completed, the pressure tests shall be made in the presence of the Construction Manager. Five days' advance written notice of test shall be given to the Construction Manager, who, in turn, will notify other parties interested. Furnish all pumps, gauges, blowers, instruments, test equipment and personnel required for tests and make all provisions for removal of test and equipment and draining of pipes after tests have been made.

C. Piping: Subject all piping and connections to a pressure test prior to painting, installation of, or concealment within the building.
   1. Tests may be of isolated portions of such piping as will facilitate general progress of the installation. Any revision made in the piping system will subsequently necessitate retesting of such affected portions of the piping system.
   2. All defective material or defects in workmanship that develop during the tests shall be corrected in an approved manner and the subject piping retested.

D. Soil, waste and vent systems: These systems shall be tested after the roughing-in is completed and before fixtures are set and shall also be given a final test after fixtures are set.

1.22 CLEANING

A. Domestic water piping: Before being placed in service, all domestic water distribution systems, including those of cold water and the hot water systems, shall be flushed and chlorinated. Method to be used shall be any method set forth by local code jurisdiction. Submit water samples to the Illinois Department of Public Health for testing. Test results to be provided to owner prior to occupancy of the building.

B. Ductwork: Remove debris and trash from ductwork and vacuum clean ducts before grilles, registers and fans are installed.

C. Filters: All air handling equipment shall have temporary filters during the construction phase of the project. Prior to turning over the equipment to the owner, and after cleaning the equipment as described in "B" above, the contractor shall furnish and install new air filters in all cabinet heaters, etc., requiring filters as called for on plans and mechanical specifications.

1.23 PAINTING

A. All shop fabricated and factory built equipment not galvanized or protected by plating shall be cleaned and given one shop coat of red lead or zinc-chromate primer before delivery to the site; this includes all bare metal surfaces of hangers, brackets, etc. Any portions of coat damaged in delivery or during construction shall be recoated. Finish painting is specified in section "PAINTING". Do not paint nameplates, labels, tags. stainless steel or chromium-plated items such as valve stems, motor shafts, levers, handles, trim strips, etc.

1.24 PRODUCTS

A. Whenever a specific product or a specific manufacturer has been specified it is intended that the product or manufacturer is a standard for quality and performance expected. The Contractor must have written approval from the Architect & Engineer prior to substitution of any product or manufacturer.

1.25 OPERATING TESTS

A. Each piping and air handling system shall be tested by trade installing the work, under superintendent or the Contractor.

B Operate the plumbing, heating and ventilating systems and make all adjustments in controls and equipment, and complete necessary balancing to deliver not less than water or air quantities shown on the drawing at each coil and equipment item. Work shall include the adjustment of diffusers and registers for air patterns which will eliminate or minimize drafts as much as possible to the Owner's satisfaction. Refer to the Testing & Balancing Section of this specification.

1.26 "AS-BUILT" DRAWINGS

A. At the completion of the work, each Contractor shall furnish to the Architect complete drawings pertaining to his work, showing all equipment, pipe, ducts, outlets, etc., as actually installed with accurate dimensions locating all runs and branches. Drawings have to be reproducible and can be made on sepias of the original plumbing, mechanical, and electrical drawings.

1.27 MECHANICAL AND ELECTRICAL EQUIPMENT OPERATION PROBLEMS

A. Architect's, Engineer's and Owner's time to resolve equipment operation problems, temperature control problems and electrical problems that occur more than four weeks after the completion of the Test and Balance work will be paid by respective contractor. The time spent to resolve mechanical deficiencies will be paid by the Mechanical Contractor. The time spent to resolve electrical deficiencies will be paid by the Electrical Contractor.

1.28 METHOD OF PURCHASE OF ENGINEER'S DRAWINGS

A. Description: The Engineer's Drawings are available for purchase in whole or in part by a Contractor or Sub-Contractor for the purpose of facilitating preparation of submittals to be submitted to the Engineer as requested in the Specifications for the Engineer's cost of transferring the data, the direct cost, postage and handling are set to be $100.00 per drawing (.dwg file).

B. The party desiring electronic media of the Engineer's Drawings shall contact the Engineer's Project Manager with the request.

C. The Engineer shall inform the party desiring the electronic media of the costs involved.

D. If the party making the request so decides, such party shall transmit a two (2) fully executed copies of the "Electronic Transfer of Data from Engineer" attached hereto along with a check for the amount required.

E. Upon receipt of the signed "Electronic Transfer of Data from Engineer" and payment in full, the Engineer will transfer the data in the form compatible with the Engineer's standard practice and

transmit it to the party.

1.29 GUARANTEE

A. All work shall be guaranteed for one (1) year after completion and final acceptance against all defects of material, equipment and workmanship. All defects appearing within one year after completion and final acceptance shall be promptly remedied without further cost to the Owner. All air conditioning compressors shall have five (5) year extended warranty. All contractors are to provide a written one year guaranty with dates for the guaranty.

B. All equipment shall be guaranteed to meet specified capacities and to operate within limits of noise level and vibration recommended in the current issue of ASHRAE Guide and Data Book.

END OF SECTION

SECTION 230500 - HEATING, VENTILATING & AIR CONDITIONING

1.01 GENERAL

A. The Architect's General and Special Conditions, Division 1, and Section 15000 "Special Conditions for Mechanical & Electrical Work" are part of this section.

1.02 SCOPE OF WORK

A. This specification and accompanying drawings provide for and shall govern the furnishing of all labor and the furnishing and complete installation ready for satisfactory service of all material, equipment and apparatus necessary to complete the mechanical work for the building as covered by drawings, specifications and as hereinafter listed.

B. Work included in this specification shall consist generally of, but is not necessarily limited to, the following major items:

1. All ductwork including specified insulation, as well as control dampers, and access doors.
2. Exhaust fans, fan coil heaters and condensing units with all controls.
3. All grilles and louvers.
4. Do all cutting and patching.
5. Do all temperature control work.
6. Furnish all starters.
7. Testing and balancing.
8. Shop drawings.
9. Miscellaneous items as shown on drawings and hereinafter specified.

1.03 WORK BY OTHERS

A. Electrical Contractor:

1. Electrical Contractor will wire all electric motors, motor starters and electric heating coils furnished by Heating Contractor, except as specified otherwise under "Temperature Controls" in this section of the specifications.

B. Painting Contractor:

1. All finish painting will be by Painting Contractor except as specified.

1.04 RELATED WORK SPECIFIED UNDER OTHER SECTION

A. Shop drawings, "As-Built" drawings, cutting and patching, belt and coupling guards, motor starters, pipe hangers, tests, instructions and guarantee are specified in "Special Conditions for Mechanical & Electrical Work".

1.05 APPROVAL OF MATERIAL

A. Approval of materials shall be obtained before ordering such materials. Request for approval of materials, layouts, shop drawings, etc., shall be made in writing at least three (3) weeks before approval is required. The sub-contractor shall make request for approval thru the prime contractor and receive approval from the prime contractor. This contractor and/or his sub-contractor shall submit to the Architect/Engineer, shop drawings. A sufficient number of copies shall be submitted so as to allow three (3) copies for the files of the Architect/Engineer.

B. Shop drawings shall be submitted on the following:

1. Exhaust fans and heating equipment
2. Registers and grilles
3. Access doors
4. Temperature controls and control wiring diagrams
5. Duct insulation

6. Starters
7. Miscellaneous drawings as called for in "Special Conditions for Mechanical & Electrical Work".

1.06 PROPOSALS

A. Bidders shall submit a lump sum price for all work included using only materials as specified. Contractors desiring to submit for the consideration of the Architect, items of equipment or materials other than that specified which they consider equal, may do so but only in the form of an alternate proposal indicating the amount of additions to or deductions from the main proposal in each separate case.

B. The phrase "or equal" means the substitution must be approved by the Owner's representative.

C. Contractor shall use price of material specified for his base bid if same is more expensive than that which he considers an "or equal", except as an alternate bid as specified hereinbefore.

D. Contract drawings were prepared on dimensional data and physical requirements provided by the manufacturer specified. Where the contractor elects to substitute equipment with that of a different manufacturer, it is the intent of these documents that the contractor shall be culpable for all changes to physical dimensioning, weights, inlet outlet arrangements, pressure requirements, flues, etc. The contractor shall be solely responsible to make all required adjustments to plans and to follow the manufacturer's recommendations and mandatory requirements to ensure that the equipment shall fit the given spatial allotments and shall be in compliance with the manufacturer's performance criteria. Failure to meet the above shall be the contractor's responsibility, and it shall not entitle the contractor to request compensatory reimbursement brought about by his substitutions.

1.07 EXHAUST FANS

A. Toilet exhaust fans shall be of the centrifugal type as called for on plans.

B. Fans shall be wired to the room light circuit.

C. Fans shall be as manufactured by Broan or Loren Cook Company.

1.08 FAN COIL UNITS

A. All such units shall be Trane, Carrier, or McQuay of the size and capacity as scheduled on the contract drawings.

B. The cabinets shall be constructed of 16 gauge furniture steel with access doors to valves and controls. The cabinet shall have factory baked on enamel finish in a decorator color as selected by the Architect.

C. The units shall be furnished and wired with multi-position fan switch, OFF-HIGH-LOW, mounted inside the cabinet. Access doors shall have Allen head operators. Each unit to be furnished with filter rack and filter. Unit to be supplied with a DX cooling coil and electric heating element of size and capacity specified on the construction documents.

D. Units to include an insulated drain pan. Run condensate drain line to drain manifold as shown on drawings or to nearest floor drain and spill over drain through an air gap.

1.09 AIR COOLED CONDENSING UNITS

A. General:

1. Furnish and install air cooled condensing unit as detailed and scheduled on the plans. Capacity ratings shall be based on tests in accordance with ARI Standard 210-66. Condensing unit shall consist of casing, compressor, condenser coil, condenser fans and motors and unit controls.
2. Condensing unit shall be shipped from factory complete as one unit with all internal piping and wiring completed at the factory. Unit shall be as manufactured by Trane, or approved

equal.

B. Controls:
   1. Condensing unit operating and safety controls shall include high pressure cutout, low pressure cutout, oil pressure cutout and compressor winding thermostat cutout. Refrigerant shall be R-410A.
   2. Compressor overload protection shall be provided.
   3. Condenser fan motors shall be protected by inherent devices providing both thermal and overload protection.
   4. Control panel shall include magnetic contactors for compressor and condenser fan motors.
   5. Control power shall be provided by a unit mounted control transformer.

C. Condensing Section:
   1. A liquid accumulator and sub-cooling circuit shall be included as a standard part of the condensing section.
   2. Unit shall be equipped with backseating liquid line service access valve.
   3. Condenser coils should be factory tested at 425 psig air pressure under water and vacuum dehydrated at 175 degrees Fahrenheit.

D. The Mechanical Contractor Shall:
   1. Set and install unit so it is level and properly supported on spring type vibration eliminators.

1.10 SHEET METAL WORK

A. Provide sheet metal ducts, supports, grilles, outlets, manual dampers, splitters, dampers, etc., required for the ventilating systems. Install automatic dampers where shown and required.

B. Ductwork shall be securely supported as high as possible over ceiling and under beams, except as otherwise indicated, and shall not interfere with piping and electric light outlets.

C. All sheet metal ducts shall be erected in a first class and workmanlike manner, true to the dimensions indicated on the drawings, unless otherwise approved, straight and smooth on the inside with neatly finished air-tight joints. The ducts shall be securely anchored to the building in an approved manner and shall be so installed as to be completely free from vibration under all conditions of operation. The ducts shall be properly braced and reinforced with steel angles or other structural members spaced as hereinafter specified.

D. Duct Manuals: All ductwork installation shall comply with the latest edition of the "HVAC Duct Construction Standards" as published by the Sheet Metal and Air Conditioning Contractors National Association, Inc. General supply return and exhaust ducts shall be fabricated from galvanized sheet steel, lock forming quality ASTM a 257, coating designation G 90.

1.11 DUCT INSULATION

A. All duct insulation shall be as manufactured by Owens-Corning or Johns-Manville. Insulate all heating, air conditioning supply ductwork with 1" thick, 3/4 lb. density fiberglass insulation having reinforced foil-faced jacket installed as per manufacturer's recommendations. Where duct is lined no external insulation is required.

1.12 LOCATING AIR OUTLETS

A. Consult Mechanical, Electrical and Architectural plans and elevations for exact locations of all air outlets. Verify exact location of all outlets in field with Architect.

1.13 GRILLES

A. Grilles shall be Kees or Titus of the type listed on the contract drawings in the schedules on the plan general notes and specifications headings. The quantity of each terminal air outlet shall be as indicated on the contract drawings.

1.14 TESTING AND BALANCING

A. The Contractor shall make all necessary adjustments of supply and exhaust system to insure handling the specified air at each intake, and supplying and exhausting specified CFM at each opening as shown on the plans. When the system is completely balanced, he shall inform the Architect and Engineer and make arrangements to spot-test and inspect the above system.

B. After all tests have been accepted to the satisfaction of the Architect, this contractor shall make and attach to each fan housing, a brass plate stating the portion of the building served, CFM, static pressure, RPM and load on motor for each fan and/or pump, water flows in GPM at each new coil.

1.15 TEMPERATURE CONTROLS

A. General:

1. The work under this section is subject to the requirements of the contract documents including the General Conditions, Supplementary General Conditions, and all sections under Division 1.
2. The Temperature Control system as herein specified and as indicated on the drawings shall be included in the heating, ventilating, and air conditioning base bid as part of this contract.
3. The intent of the specification is to include all electrical work necessary for the complete automatic system.

B. Service and Guarantee:

1. The Contractor shall guarantee the control system installed under this section of the specification to be free from defects in workmanship and material under normal use and provide service for a period of one year after acceptance by the Engineer or beneficial occupancy of the building. Any defects in workmanship or material during this time shall be corrected by the control manufacturer at no charge to the Owner.
2. After completion of the installation, the Contractor shall completely adjust all equipment provided under this contract, place the system in operation, subject to the Engineer's approval, and instruct the operation personnel in the operation of the control system.

C. Temperature Control Wiring:

1. All control wiring (line voltage or low voltage) required to complete the temperature control system (by interconnecting starters, thermostats, low temperature protection thermostats, and like devices) shall be installed by the Contractor in accordance with the general electrical specification. All new control wiring in finished spaces to be run concealed within finished floor, wall, or ceiling space.

D. Installation:

1. The control equipment and connecting wiring shall be installed in a neat and workmanlike manner. All control wiring shall be in EMT conduit. All conduit shall be run parallel to or at right angles to the building structure, and shall be concealed in all finished spaces. Conduit may be run exposed in mechanical rooms or areas where permitted by the Architect. The conduit and all electrical work is not to be attached to ductwork or supported by any other piping.

E. Room Thermostats:

1. All room thermostats shall be as provided by the equipment manufacturer, and shall be fully proportional with adjustable range and tamper-proof locking settings. Thermostats shall be single or dual temperature, direct acting or reverse acting as required by the equipment.
2. Thermostats in areas open to the public shall be vandal resistant or with a lexan protective cover. Covers shall be high impact satisfactory for institutional use, vandalproof locking type.

END OF SECTION

PROJECT :

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
PHASE 2B-2: BUILDING SYSTEMS

Mount Prospect Historical Society
103 S. Maple Street
Mount Prospect, IL 60056

OWNER :

MOUNT PROSPECT HISTORICAL SOCIETY

101 S. Maple Street
Mount Prospect, IL 60056

ISSUANCE :

ISSUE FOR BID AUGUST 28, 2013

ARCHITECTURAL
FGM Architects, Inc.
1211 West 22nd Street, Suite 705
Oak Brook, Illinois 60523
Phone: 630.574.8300
Fax: 630.574.9292

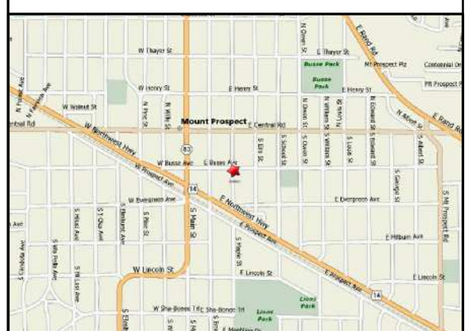
STRUCTURAL ENGINEER
McCluskey Engineering Corp.
1684 Quincy Avenue, Suite 200
Naperville, Illinois 60540
Phone: 630.717.5399
Fax: 630.717.5397

MEP ENGINEERS
Consolidated Consulting Engineers
212 S. Milwaukee Avenue
Wheeling, Illinois 60090
Phone: 847.215.0690
Fax: 847.215.8220

1 PROJECT TEAM
NTS

2012 INTERNATIONAL BUILDING CODE, AS AMENDED
2012 INTERNATIONAL MECHANICAL CODE, AS AMENDED
2012 INTERNATIONAL FUEL GAS CODE
2012 INTERNATIONAL FIRE CODE
2012 INTERNATIONAL PROPERTY MAINTENANCE CODE
2011 NATIONAL ELECTRIC CODE
2004 ILLINOIS STATE PLUMBING CODE
2012 INTERNATIONAL ENERGY CONSERVATION CODE
2009 ANSI ICC A117.1
CURRENT ILLINOIS ACCESSIBILITY CODE (71 ILL ADM. CODE 400)

2 CODES AND DATA
NTS



3 LOCATION MAP
NTS

FGM ARCHITECTS
OAKBROOK
CHICAGO
OFALLON

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

GENERAL NOTES AND ABBREVIATIONS

DRAWN: AO

APPROVED: RL

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
G- 0

JOB NO. #13-1641.01

1. THE OWNER RESERVES THE RIGHT TO REMOVE & SAVE SALVAGEABLE MATERIALS, EQUIPMENT & PARTS OF BUILDING PRIOR TO OR DURING DEMO., CONTRACTOR TO VERIFY & TAG ALL ITEMS TO BE SAVED.
2. MECH., PLUMB., ELEC., GAS, WATER & OTHER UTILITY LINES & EQUIP. AFFECTED SHALL BE SHUTOFF, CAPPED, DISCONNECTED &/OR REROUTED PRIOR TO COMMENCING DEMO. WORK AS NECESSARY TO ACCOMMODATE THE WORK & DESIGN U.N.O.
3. CONTRACTOR IS TO REMOVE ALL ITEMS REQUIRED FOR INSTALLATION OF NEW WORK, WHETHER INDICATED OR NOT, VERIFY ALL CONDITIONS IN FIELD AS NECESSARY TO ACCOMMODATE THE WORK & DESIGN PRIOR TO BIDDING.
4. CONTACT ARCHITECT SHOULD EXISTING CONDITIONS VARY FROM PLANS.
5. PROTECT BUILDING PARTS & AREAS DESIGNATED TO REMAIN FROM DAMAGE DURING CONSTRUCTION.
6. REMOVE UNSALVAGABLE OR UNUSED DEMOLISHED MATERIALS, EXCESS, WASTE MATERIALS & DEBRIS FROM SITE & DISPOSE OF PROPERLY IN ACCORDANCE W/ GOVERNING CODES. REMOVE & PROMPTLY DISPOSE OF CONTAMINATED OR DANGEROUS MATERIALS ENCOUNTERED. ALL HAZARDOUS MATERIALS SHALL BE DISPOSED OF AT APPROVED FACILITIES AND SHALL COMPLY WITH ALL ENVIRONMENTAL AND OTHER CODES.
7. CONDUCT OPERATIONS W/ MINIMUM INTERFERENCE TO PUBLIC & PRIVATE ACCESSES. MAINTAIN PROTECTED EGRESS AND ACCESS AT ALL TIMES.
8. PROVIDE BARRIERS TO CONTROL DUST BETWEEN AREAS OF WORK & OCCUPIED AREAS, AS REQUIRED.
9. CONTRACTOR IS TO VERIFY IN FIELD ALL DIMENSIONS & COORDINATE AS NECESSARY TO ACCOMMODATE THE WORK & DESIGN. CONTRACTOR IS RESPONSIBLE FOR ALL FIELD MEASUREMENTS AND MATERIAL CALCULATIONS.

1 GENERAL NOTES

SCALE: NTS

DRAWINGS ISSUED FOR BID

GENERAL
- G-0 COVER SHEET
- G-1 GENERAL NOTES AND ABBREVIATIONS

ARCHITECTURAL DRAWINGS
- A-1 PROJECT KEYNOTES
- A-2 EXISTING BASEMENT FLOOR DEMOLITION PLAN AND EXISTING CONDITIONS
- A-3 PROPOSED BASEMENT FLOOR PLAN
- A-4 PROPOSED FIRST FLOOR PLAN
- A-5 PROPOSED BASEMENT RCP
- A-6 PROPOSED FIRST FLOOR RCP
- A-7 PARTITION TYPES

MECHANICAL DRAWINGS
- M-1 MECHANICAL BASEMENT PLAN
- M-2 MECHANICAL FIRST FLOOR PLAN
- M-3 MECHANICAL SCHEDULES AND NOTES

PLUMBING DRAWINGS
- P-1 BASEMENT PLAN
- P-2 FIRST FLOOR PLAN
- P-3 PLUMBING SCHEDULES
- P-4 PLUMBING DIAGRAMS

ELECTRICAL DRAWINGS
- E-0 ELECTRICAL SYMBOL LIST, GENERAL NOTES AND SPECIFICATIONS
- E-1 BASEMENT ELECTRICAL PLAN
- E-2 FIRST FLOOR ELECTRICAL PLAN
- E-3 ELECTRICAL SCHEDULES

REFERENCE DRAWINGS (FUTURE SCOPE OF WORK)

ARCHITECTURAL DRAWINGS (ISSUED FOR REFERENCE ONLY)
- AR-1 PROJECT KEYNOTES
- AR-2 FIRST FLOOR DEMOLITION PLAN
- AR-3 BASEMENT FLOOR PLAN
- AR-4 FIRST FLOOR PLAN
- AR-5 FIRST FLOOR REFLECTED CEILING PLAN
- AR-6 EXTERIOR ELEVATIONS
- AR-7 EXTERIOR ELEVATIONS
- AR-8 EXTERIOR ELEVATIONS
- AR-9 INTERIOR ELEVATIONS
- AR-10 PARTITION TYPES
- AR-11 PARTITION TYPES
- AR-12 DETAILS
- AR-13 REFERENCE PHOTOS

2 INDEX OF DRAWINGS

SCALE: NTS

GENERAL
- PARTIAL DEMOLITION OF SELECTED EXISTING INTERIOR COMPONENTS, AS NOTED

CARPENTRY
- ROUGH CARPENTRY AND FRAMING FOR NEW INTERIOR WALL PARTITIONS, AS NOTED

MECHANICAL / PLUMBING / ELECTRICAL
- REFER TO ATTACHED MEP DRAWINGS FOR DETAILED INFORMATION

3 GENERAL SCOPE OF WORK

SCALE: NTS

DETAIL/ SECTION/ ELEVATION/ IDENTIFICATION	DETAIL/ DRAWING NUMBER SHEET NUMBER
INTERIOR ELEVATION IDENTIFICATION	ELEVATION NUMBER/ SHEET NUMBER
ELEVATION MARK	LOCATION ELEVATION
ROOM NUMBER IDENTIFICATION	REFER TO ROOM FINISH SCHEDULE
DOOR NUMBER IDENTIFICATION	REFER TO DOOR SCHEDULE
WALL TYPE IDENTIFICATION	REFER TO PARTITION TYPE DETAILS
TOILET ACCESSORY IDENTIFICATION	REFER TO ACCESSORY SCHEDULE
WALL SECTION	SECTION NUMBER/ LETTER/ SHEET NUMBER
NOTE TAG IDENTIFICATION	REFER TO KEY NOTES

4 DRAFTING SYMBOLS

SCALE: NTS

∠	ANGLE	DEMO.	DEMOLITION	GRT.	GROUT	MIN.	MINIMUM
ACT.	ACTUAL	DIA., Ø	DIAMETER	GYP.	GYPSUM	MISC.	MISCELLANEOUS
A/C	AIR CONDITIONING	DIAG.	DIAGONAL	GYP. BD.	GYPSUM BOARD	M'WORK	MILLWORK
A.F.F.	ABOVE FINISHED FLOOR	DIM.	DIMENSION	H.M.	HOLLOW METAL	M.O.	MASONRY OPENING
ADJ.	ADJUSTABLE	DN.	DOWN	HD.	HEAD	MTD.	MOUNTED
ADJA.	ADJACENT	DR.	DOOR	HDWD.	HARDWOOD	N.I.C.	NOT IN CONTRACT
ALT.	ALTERNATE	DWG.	DRAWING	HORIZ.	HORIZONTAL	NO., #	NUMBER
ALUM.	ALUMINUM	E.J.	EXPANSION JOINT	HT.	HEIGHT	NOM.	NOMINAL
APPROX.	APPROXIMATELY	E.W.	EACH WAY	HR.	HOUR	N.T.S.	NOT TO SCALE
ARCH.	ARCHITECTURAL	E.W.C.	ELECTRIC WATER COOLER	I.D.	INSIDE DIAMETER	OPG.	OPENING
@	AT	EA.	EACH	IN.	INCH	O.C.	ON CENTER
BD.	BOARD	EL.	ELEVATION	INCL.	INCLUDED	OPP.	OPPOSITE
BLDG.	BUILDING	ELEV.	ELEVATOR	INSUL.	INSULATION	O.D.	OUTSIDE DIAMETER
BLK	BLOCK	ELECT.	ELECTRICAL	INT.	INTERIOR	PARTN.	PARTITION
BLKG.	BLOCKING	EQ.	EQUAL	INV.	INVERT	P. LAM.	PLASTIC LAMINATE
BTW.	BETWEEN	EXIST.	EXISTING	JT	JOINT	PLUMB.	PLUMBING
B/	BOTTOM OF	EXP.	EXPOSED	JAN.	JANITOR'S	PLWD.	PLYWOOD
BRK.	BRICK	EXT.	EXTERIOR	J. BOX	JUNCTION BOX	P.T.	PORCELAIN TILE
BOT.	BOTTOM	F.A.	FIRE ALARM	KIT.	KITCHEN	PTD.	PAINTED
CAP.	CAPACITY	F.B.	FACE BRICK	LAV.	LAVATORY	PREFIN.	PREFINISHED
℄	CENTER LINE	F.D.	FLOOR DRAIN	LEV.	LEVEL	PNL.	PANEL
C.J.	CONTROL JOINT	F.E.	FIRE EXTINGUISHER	LT	LIGHT	R.O.	ROUGH OPENING
C.M.U.	CONCRETE MASONRY UNIT	F.E.C.	FIRE EXTINGUISHER CABINET	LTG.	LIGHTING	REC.	RECESSED
CEM.	CEMENT	FDN.	FOUNDATION	LT. WT.	LIGHT WEIGHT	REINF.	REINFORCED
C.T.	CERAMIC TILE	FIN.	FINISH	M	METER	REQD.	REQUIRED
CLO.	CLOSET	FLR.	FLOOR	MAINT.	MAINTENANCE	RES.	RESISTANT
CLG.	CEILING	FLUOR.	FLUORESCENT	MACH.	MACHINE	RESIL.	RESILIENT
COL.	COLUMN	FT.	FOOT	MAS.	MASONRY	RM.	ROOM
CONC.	CONCRETE	FTG.	FOOTING	MATL.	MATERIAL	S.C.	SOLID CORE
CONSTR.	CONSTRUCTION	GA.	GAUGE	MAX.	MAXIMUM	S.S.	STAINLESS STEEL
CONT.	CONTINUOUS	GALV.	GALVANIZED	M.E.	MATCH EXISTING	SCHED.	SCHEDULE
CONTR.	CONTRACTOR	G.C.	GENERAL CONTRACTOR	MED.	MEDIUM	SECT.	SECTION
COR.	CORRIDOR	GEN.	GENERAL	MECH.	MECHANICAL	S.F.	SQUARE FEET (FOOT)
DBL.	DOUBLE	GL.	GLASS	MFR.	MANUFACTURER	SEAL.	SEALANT
DET.	DETAIL			MTL.	METAL	S.M.	SHEET METAL
						STOR.	STORAGE

SHT.	SHEET		
SIM.	SIMILAR		
SPEC.	SPECIFICATION/ SPECIFIED		
SQ.	SQUARE		
S/V	STAIN & VARNISH		
STD.	STANDARD		
STL.	STEEL		
STRUCT.	STRUCTURAL		
SUSP.	SUSPENDED		
T.A.	TOILET ACCESSORIES		
T. & B.	TOP AND BOTTOM		
T/	TOP OF		
T/C	TOP OF CONCRETE		
THRU	THROUGH		
TYP.	TYPICAL		
U.N.O.	UNLESS NOTED OTHERWISE		
UR.	URINAL		
V.C.T.	VINYL COMPOSITION TILE		
VERT.	VERTICAL		
VEST.	VESTIBULE		
V.I.F.	VERIFY IN FIELD		
W/	WITH		
W.C.	WATER CLOSET		
W.W.F.	WELDED WIRE FABRIC		
WD.	WOOD		
W/O	WITHOUT		
WSCT.	WAINSCOT		

5 LIST OF ABBREVIATIONS

SCALE: NTS

FGM ARCHITECTS — CHICAGO · OAK BROOK · O'FALLON

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

GENERAL NOTES AND ABBREVIATIONS

DRAWN: AO

APPROVED: RL

PROFESSIONAL DESIGN FIRM IL # 184-000350

DATE: 8/28/2014

SHEET NO. G-1

JOB NO. #13-1641.01

(A) SAW CUT EXISTING CONCRETE FLOOR AS REQUIRED TO ACCOMMODATE NEW PLUMBING WORK. REFER TO PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.

1 DEMOLITION KEY NOTES

SCALE: NTS

(1) INSTALL ROUGH FRAMING FOR NEW PLUMBING CHASE WALL PARTITION, AS PER NOTED PARTITION TYPE. REFER TO SHEET A-7 FOR ADDITIONAL INFORMATION. NOTE: WALL FINISH MATERIALS TO BE PROVIDED AND INSTALLED AS PART OF FUTURE SCOPE OF WORK.

(2) INSTALL NEW MECHANICAL FLOOR GRILLES. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

(3) NOT USED

(4) INSTALL NEW MOP SINK. REFER TO PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.

(5) INSTALL NEW FLOOR CLEAN OUT. REFER TO PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.

(6) PATCH, FILL AND RESTORE CONCRETE FLOOR AS REQUIRED UPON COMPLETION OF PLUMBING WORK AND ACCESS OF UNDERGROUND UTILITIES.

(7) INSTALL NEW BASEMENT SURFACE MOUNTED LIGHT FIXTURE. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

(8) EXISTING EXPOSED CEILING TO REMAIN.

(9) PROVIDE COMPLETE ELECTRICAL INFRASTRUCTURE AS REQUIRED TO SERVE NEW PENDANT LIGHT FIXTURE. PENDANT LIGHTS TO BE SUPPLIED AND INSTALLED AS PART OF FUTURE SCOPE OF WORK.

(10) PROVIDE COMPLETE DRY PIPE SPRINKLER SYSTEM THROUGHOUT BUILDING, AND ALL RELATED ACCESSORIES AS REQUIRED FOR CODE-COMPLIANT FIRE PROTECTION. REFER TO SPECIFICATION MANUAL AND MEP DRAWINGS FOR ADDITIONAL INFORMATION.

2 BASEMENT AND FIRST FLOOR PLAN KEY NOTES

SCALE: NTS

FGM ARCHITECTS
CHICAGO OAK BROOK O'FALLON

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

PROJECT KEYNOTES

DRAWN: AO

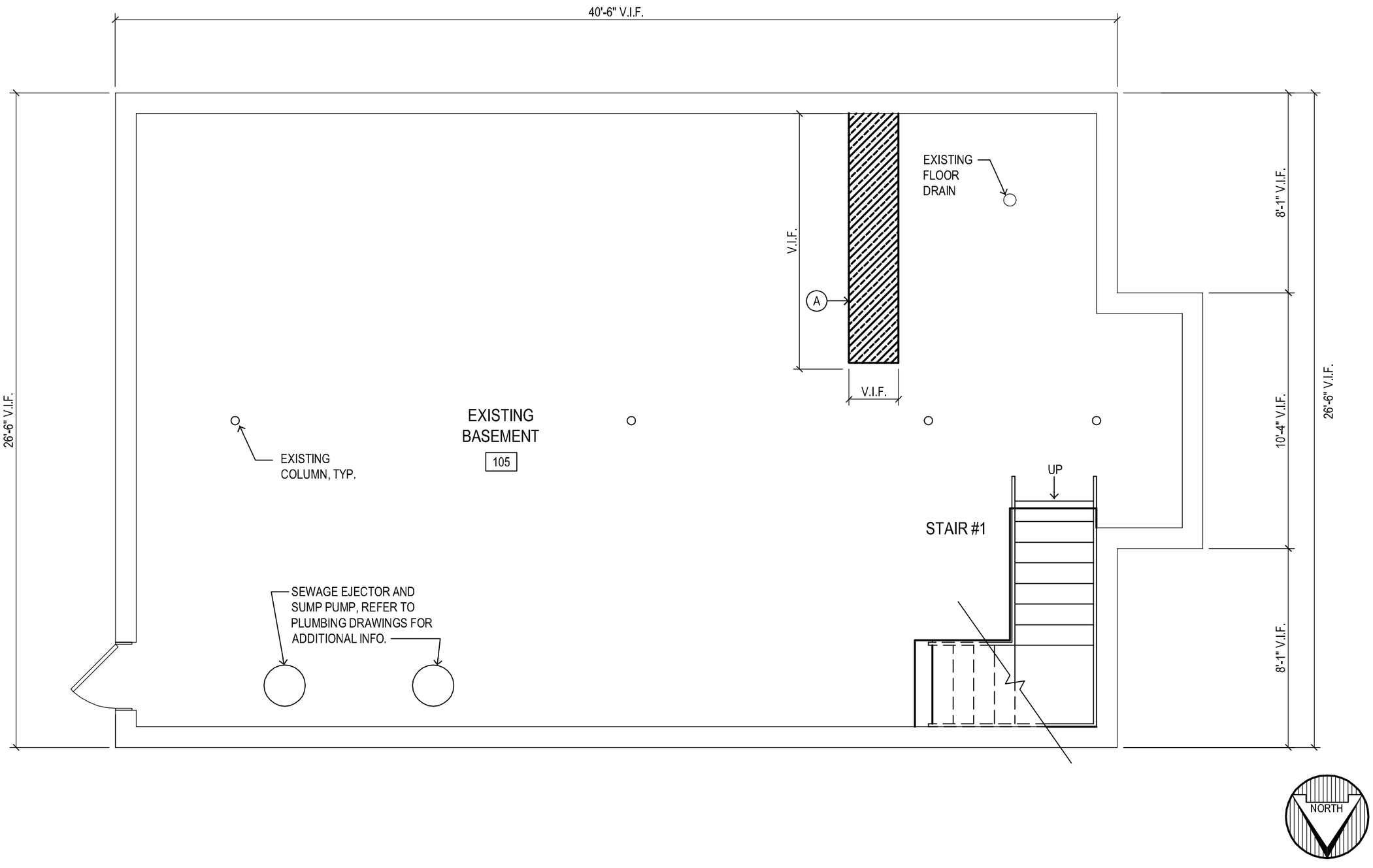
APPROVED: RL

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
A-1

JOB NO. #13-1641.01



1 EXISTING BASEMENT FLOOR DEMOLITION PLAN / EXISTING CONDITIONS

SCALE: 1/4" = 1'-0"

FGM ARCHITECTS
CHICAGO OAK BROOK O'FALLON

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

EXISTING BASEMENT DEMOLITION FLOOR PLAN AND EXISTING CONDITIONS

DRAWN: AO

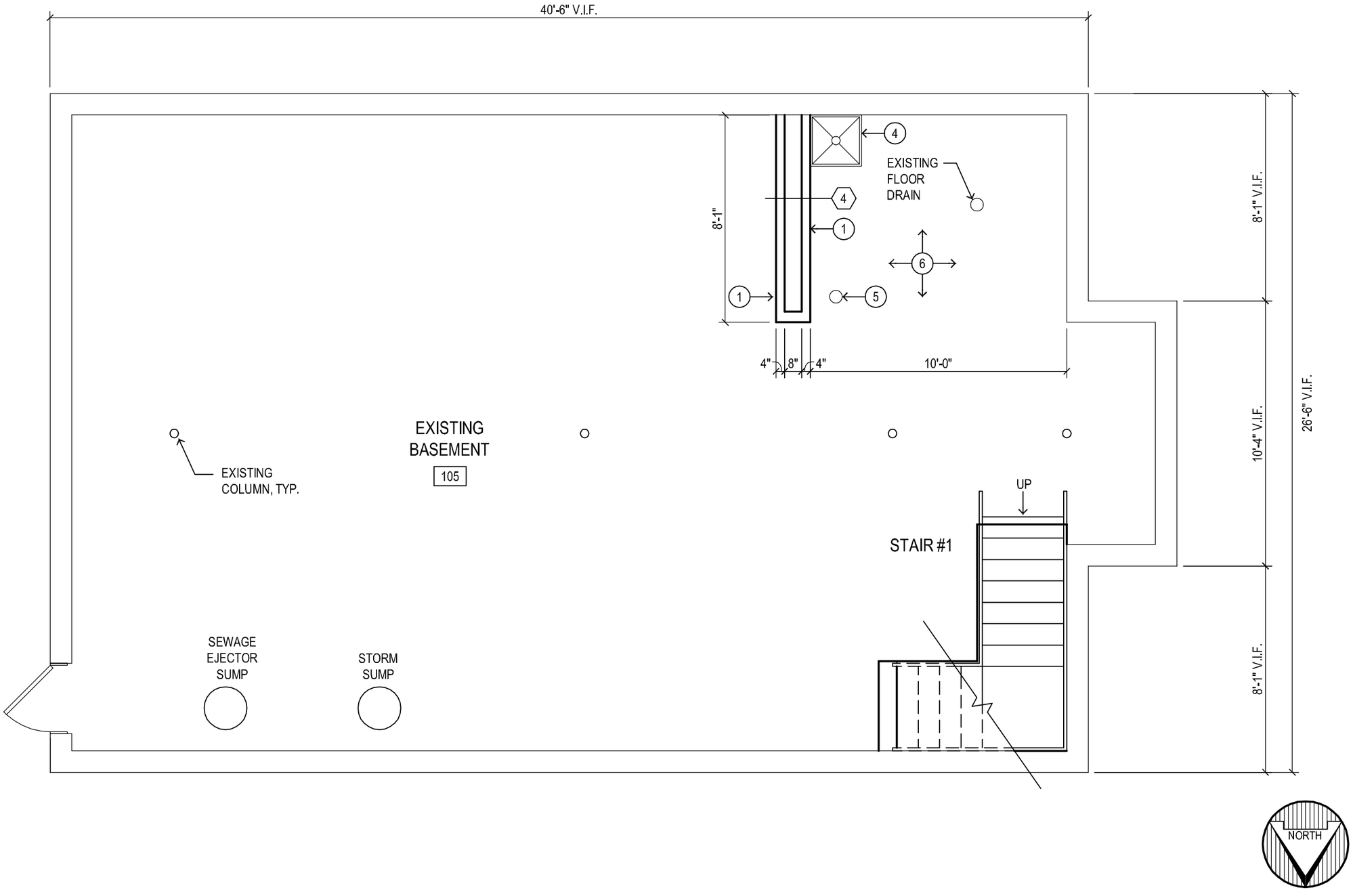
APPROVED: RL

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
A-2

JOB NO. #13-1641.01



1 **PROPOSED BASEMENT FLOOR PLAN**

SCALE: 1/4" = 1'-0"

FGM ARCHITECTS
CHICAGO OAK BROOK O'FALLON

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

PROPOSED BASEMENT FLOOR PLAN

DRAWN: AO

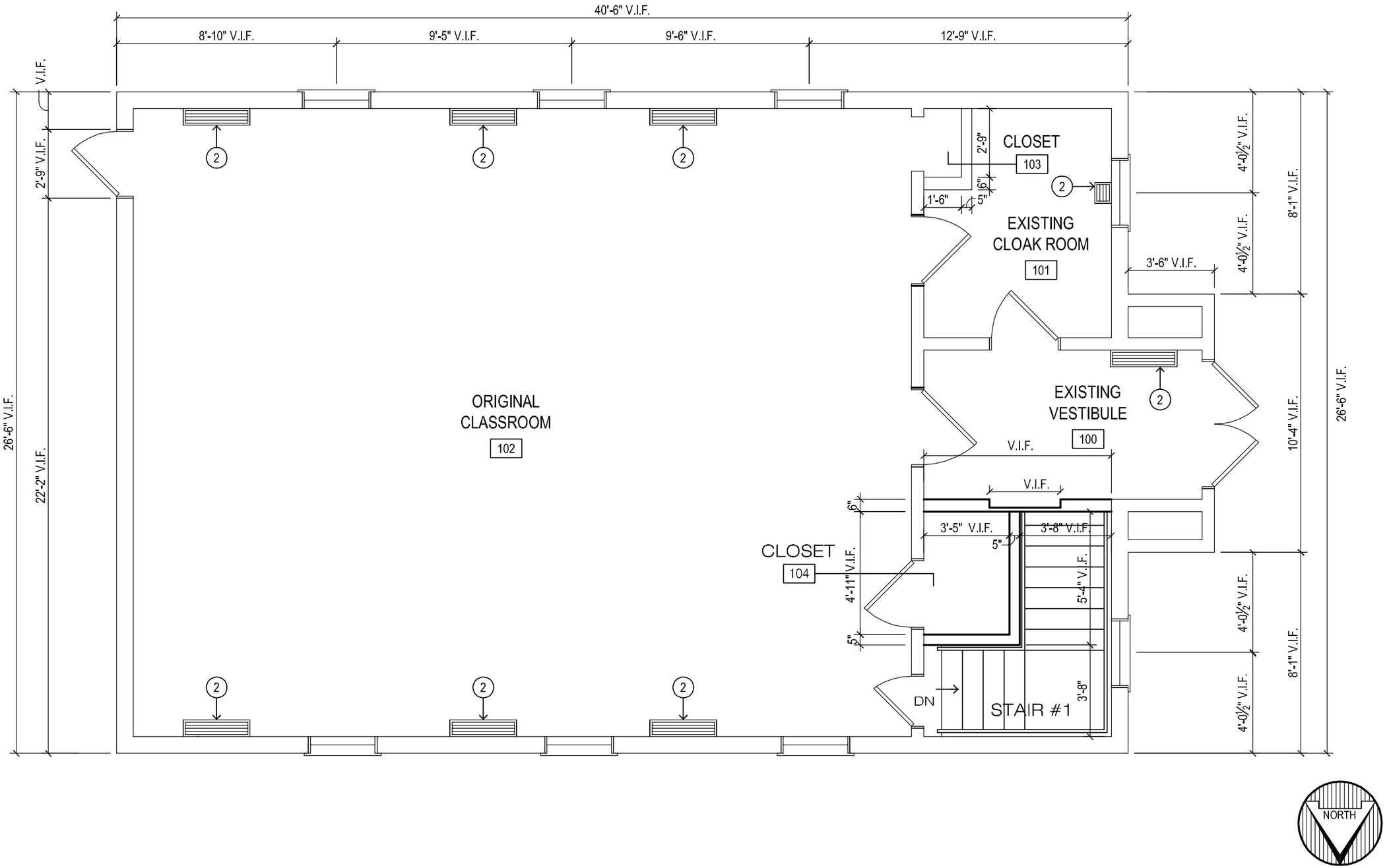
APPROVED: RL

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
A-3

JOB NO. #13-1641.01



1 **PROPOSED FIRST FLOOR PLAN**

SCALE: 1/4" = 1'-0"

FGM ARCHITECTS
OAK BROOK
OFALLON
CHICAGO

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

PROPOSED FIRST FLOOR PLAN

DRAWN: AO

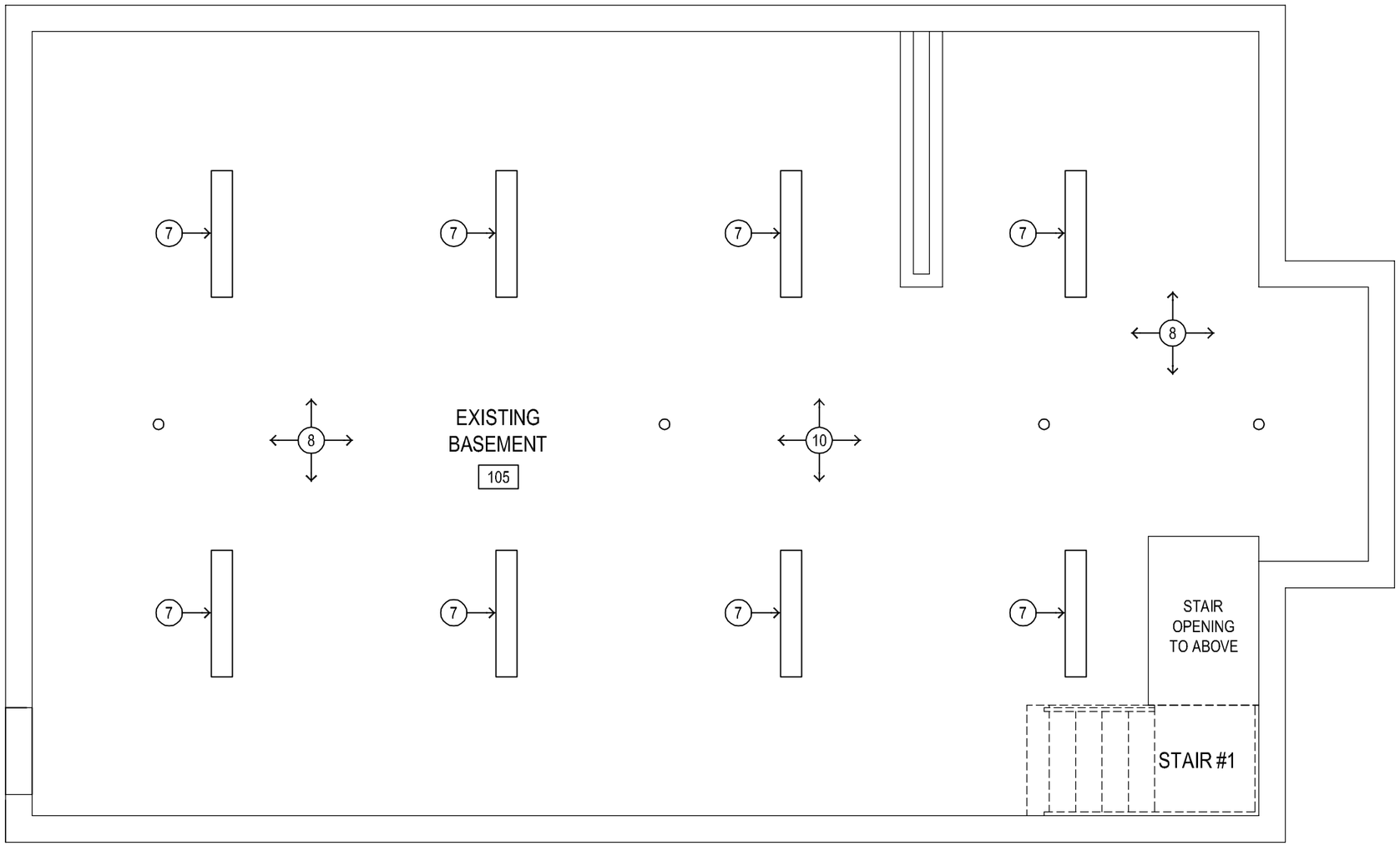
APPROVED: RL

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
A-4

JOB NO. #13-1641.01



1 **BASEMENT FLOOR REFLECTED CEILING PLAN**

SCALE: 1/4" = 1'-0"

FGM ARCHITECTS

CHICAGO OAK BROOK O'FALLON

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

BASEMENT FLOOR REFLECTED CEILING PLAN

DRAWN: AO

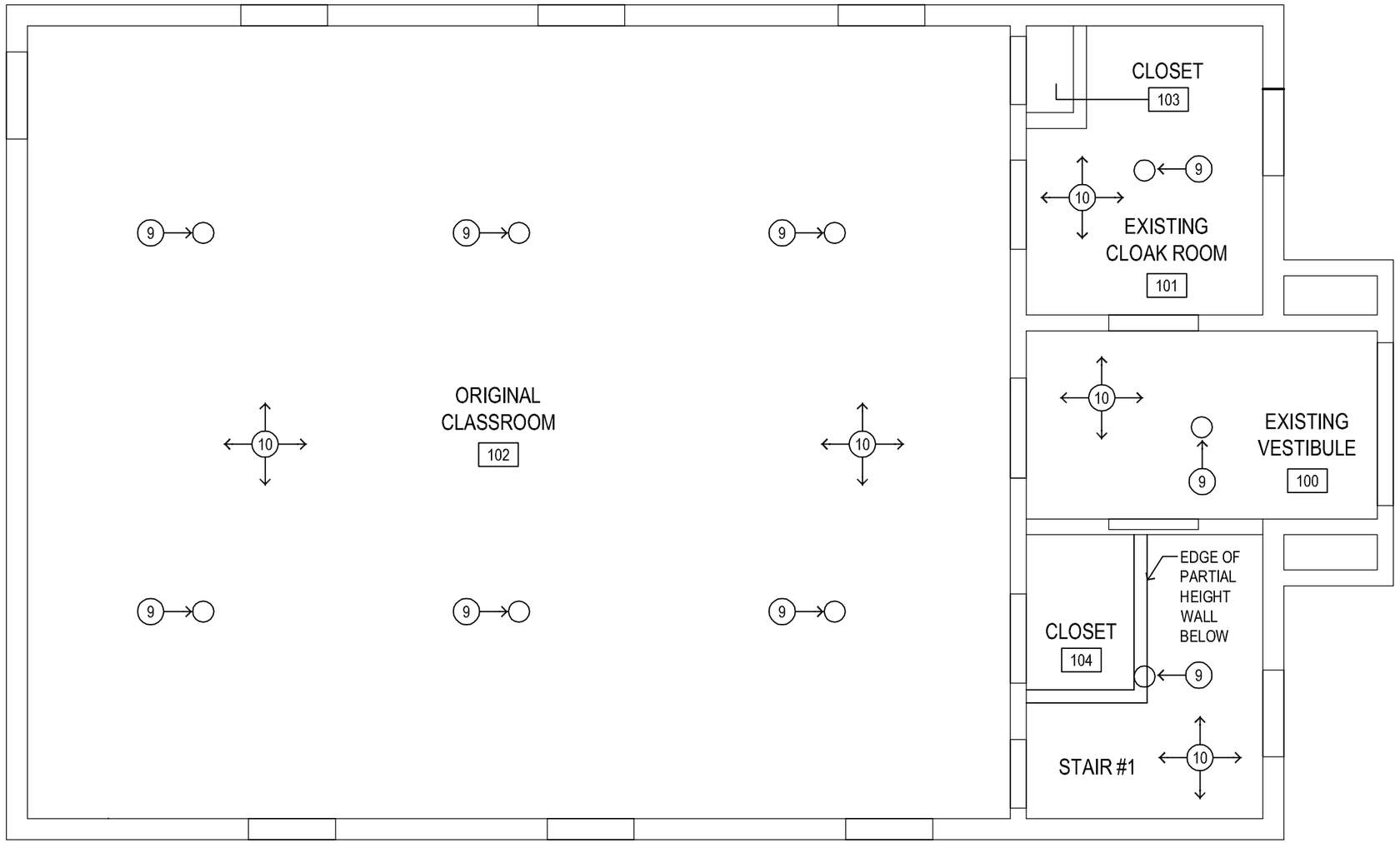
APPROVED: RL

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
A-5

JOB NO. #13-1641.01



1 **FIRST FLOOR REFLECTED CEILING PLAN**

SCALE: 1/4" = 1'-0"

FGM ARCHITECTS
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MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

FIRST FLOOR REFLECTED CEILING PLAN

DRAWN: AO

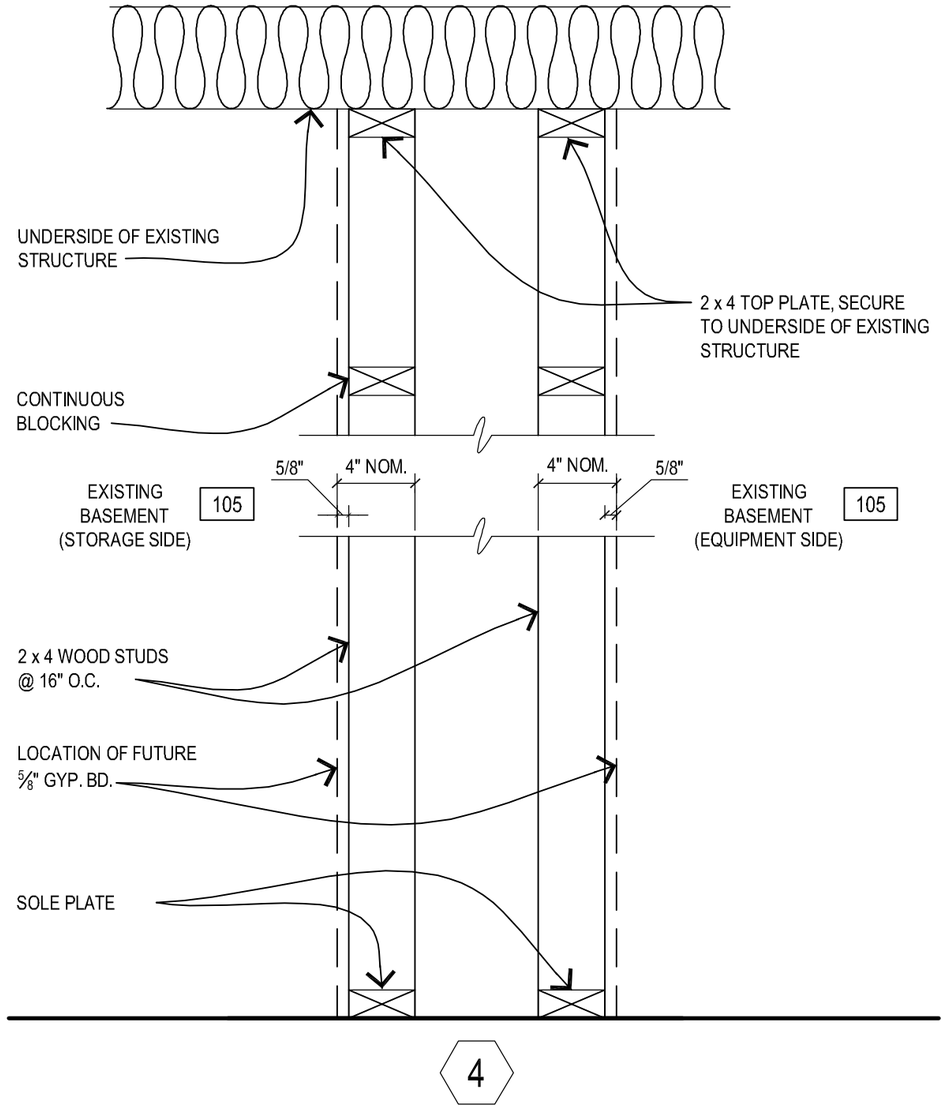
APPROVED: RL

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
A-6

JOB NO. #13-1641.01



4

1 PARTITION TYPES

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

FGM ARCHITECTS
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CHICAGO
O'FALLON

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

PARTITION TYPES

DRAWN: AO

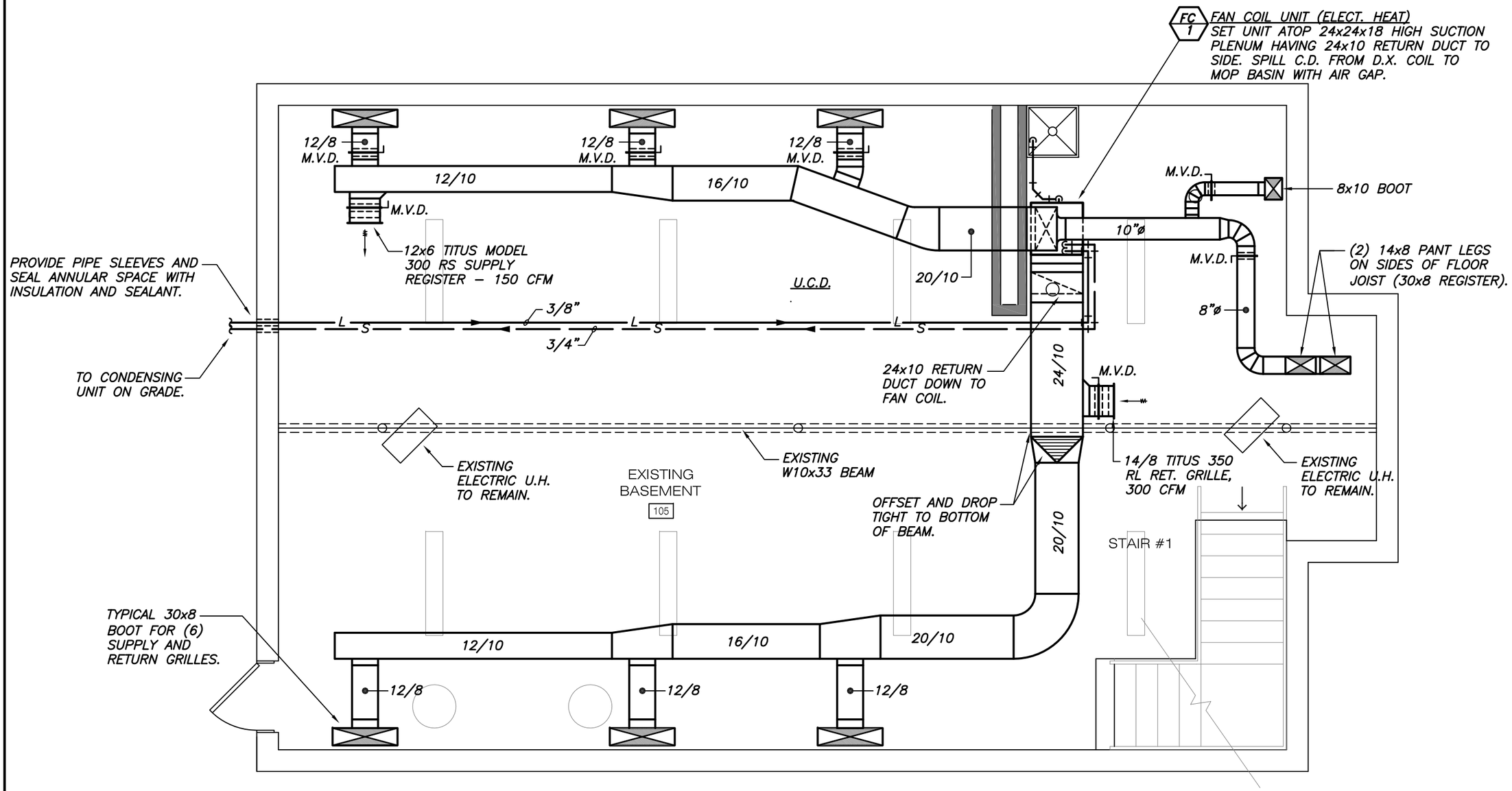
APPROVED: RL

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
A-7

JOB NO. #13-1641.01



MECHANICAL BASEMENT PLAN

SCALE 1/4" = 1'-0"

1
M-1

NORTH

NOTE:
MECHANICAL CONTRACTOR TO VERIFY EXACT SIZE AND LOCATION OF FRAMED OPENINGS FOR ALL FLOOR REGISTERS/GRILLES AFTER CARPENTRY CONTRACTOR HAS COMPLETED FLOOR JOIST FRAMING TO ASSURE PROPER FIT.

FGM ARCHITECTS
OAK BROOK O'FALLON CHICAGO

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

MECHANICAL BASEMENT PLAN

DRAWN: MI

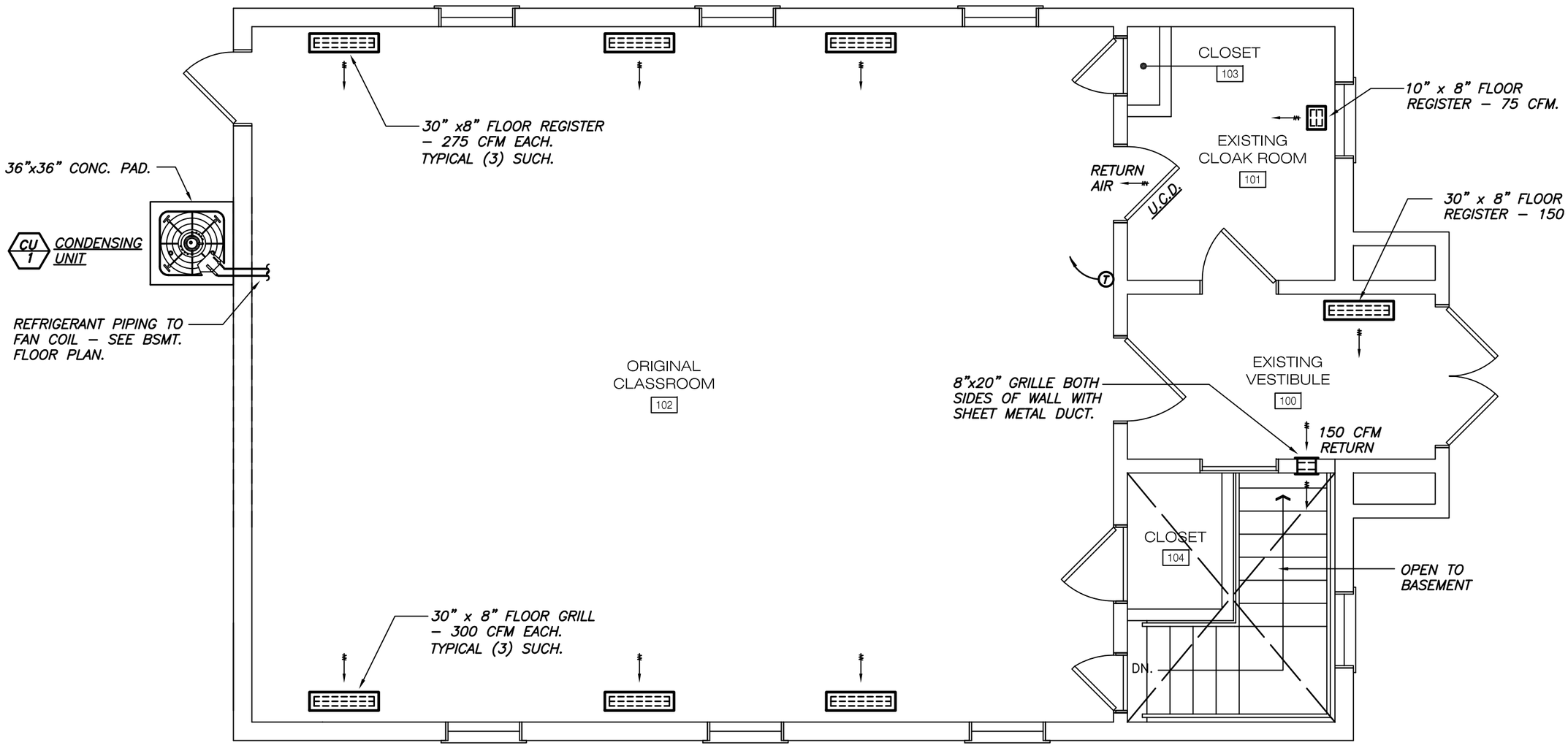
APPROVED: GW

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
M-1

JOB NO. #13-1641.01



MECHANICAL FIRST FLOOR PLAN

SCALE 1/4" = 1'-0"

1
M-2

NORTH

FGM ARCHITECTS
OAK BROOK
CHICAGO
O'FALLON

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

MECHANICAL FIRST FLOOR PLAN

DRAWN: MI

APPROVED: GW

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
M- 2

JOB NO. #13-1641.01

MECHANICAL NOTES AND SPECIFICATIONS

1 THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY BUILDING PERMITS AND INSPECTION FEES.

2 ALL INDOOR DUCTWORK SHALL BE GALVANIZED SHEET METAL CONSTRUCTED AS PER THE LATEST SMACNA RECOMMENDATIONS, ASTM G-60 WITH A MINIMUM 0.34 MILS PER SIDE ZINC COATING, AS WELL AS ANY APPLICABLE LOCAL CODES.

3 INSTALL VOLUME DAMPERS IN ALL DUCT BRANCHES, AND WHERE SHOWN ON PLANS. MANUAL VOLUME DAMPERS IN RECTANGULAR DUCTS SHALL BE VENTLINE #560 QUADRANT, ROUND ROD, WITH LOCK NUT. ROUND DUCT CONNECTIONS TO BRANCH DUCTS SHALL BE "BUCKLEY" TYPE BM-D OR EQUAL BELLMOUTH BRANCH WITH MANUAL BALANCING DAMPER.

4 FLEXIBLE DUCT CONNECTORS TO EQUIPMENT SHALL BE "VENTGLAS", AS MANUFACTURED BY VENTFABRICS, INC., GLASS FIBER COATED WITH DU PONT NEOPRENE, FIRE RETARDANT, ACID AND FUME RESISTANT.

5 ALL SUPPLY DUCTWORK SHALL BE EXTERNALLY INSULATED WITH 1 1/2" THICK, 1 PCF DENSITY, FIBERGLASS WITH REINFORCED FOIL FACED DUCT WRAPPING, INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. RETURN DUCTWORK SHALL NOT BE INSULATED.

6 REFRIGERANT TUBING/PIPING SHALL BE TYPE "ACR" MANUFACTURED IN ACCORDANCE WITH ASTM B280. WHERE SYSTEM PRESSURE IS IN EXCESS OF THE TUBING RATING, PIPING SHALL BE TYPE "K" ("L") COPPER TUBING WITH WROT FITTINGS. ALL JOINTS SHALL BE FORMED WITH "SIL-FOSS" OR EQUIVALENT BRAZING MATERIAL.

7 CONDENSATE DRAIN PIPING SHALL BE SCHEDULE 40 GALVANIZED STEEL PIPING, TYPE "M" COPPER TUBING, OR PVC PLASTIC WHERE APPROVED BY LOCAL CODE.

8 DO ALL NECESSARY CUTTING AND PATCHING AS DIRECTED BY THE ARCHITECT. PROVIDE ALL REQUIRED SUPPORTS, BLOCKING, AND BRACING AS NECESSARY FOR EQUIPMENT AND DUCT INSTALLATION.

9 EXACT LOCATIONS OF ALL GRILLES AND FLOOR REGISTERS SHALL BE COORDINATED IN THE FIELD WITH EXISTING STRUCTURAL FLOOR LAYOUTS. FINAL LOCATIONS TO BE APPROVED BY THE ARCHITECT AND OWNER BEFORE FIELD INSTALLATION.

10 THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL TEMPERATURE CONTROLS AND ALL NECESSARY WIRING FOR THE SYSTEMS AS NECESSARY. ALL CONTROLS SHALL BE PROVEN BY ACTUAL FIELD TESTING IN THE PRESENCE OF THE ARCHITECT, OR HIS REPRESENTATIVE.

11 THE MECHANICAL CONTRACTOR SHALL ADJUST ALL DRIVES, REGULATE DAMPERS IN ALL DUCTWORK FOR REQUIRED AIR QUANTITIES, AND DO ALL TEST AND BALANCING. PROVIDE THREE (3) BOUND BOOKLETS ATTESTING TO SAID BALANCING TO THE ARCHITECT.

12 ALL REFRIGERATION COMPRESSORS SHALL BE FURNISHED WITH A MINIMUM FIVE (5) YEAR WARRANTY FROM THE MANUFACTURER, NO EXCEPTIONS.

SYMBOLS & ABBREVIATIONS

L	REFRIGERANT LIQUID LINE
S	REFRIGERANT SUCTION LINE
M.V.D.	MANUAL VOLUME DAMPER
REG.	SUPPLY AIR REGISTER
GR.	RETURN AIR GRILLE
U.H.	UNIT HEATER
U.C.D.	UNDERCUT DOOR

MECHANICAL EQUIPMENT SCHEDULE

FC 1

FAN COIL UNIT WITH ELECTRIC HEAT (OPER WGT 125 LBS.)

TRANE MODEL #4TEC3F36B1000A OR APPROVED EQUAL, VERTICAL FAN COIL UNIT WITH A 3-ROW 14 FPI DX COIL, NOMINAL 3 TON CAPACITY, AND A TXV CONTROL. REFRIGERANT TO BE R-410A. UNIT TO SUPPLY 1140 CFM AT 0.50" ESP WITH A 1/3 HP-1 PH-240 VOLT-1080 RPM 10"x7" FAN BLOWER AND 3-SPEED DIRECT DRIVE MOTOR. PIPE CONDENSATE DRAIN TO SINK. ELECTRIC HEATER SHALL BE 9.60 KW (32.8 MBH) 40 AMP WITH A 60 AMP MOCP, 1PH-240 VOLT. FURNISH AND INSTALL A PROGRAMMABLE ROOM THERMOSTAT AND DO ALL CONTROL WIRING. UNIT SHALL BE SET ATOP A REINFORCED SHEET METAL RAISED PLENUM BOX WITH SIDE RETURN DUCT CONNECTION. FILTER IN BOTTOM OF FAN COIL SHALL BE 20 x 20 x 1" THICK THROWAWAY TYPE.

CU 1

AIR COOLED CONDENSING UNIT (190 LBS OPER WGT)

TRANE MODEL #4TTB3036B1 OR APPROVED EQUAL, HAVING A SPINE-FIN CONDENSER COIL WITH R-410A REFRIGERANT CHARGE OF 7 LB.- 14 OZ. AND A NOMINAL 3.0 TON COOLING CAPACITY AT 95 DEG. AMBIENT, 1200 CFM AIR ENTERING EVAPORATOR COIL AT 80 DB, 67 WB, WITH 13.9 RLA- 1 PH-240 VOLT COMPRESSOR, AND 1/8 HP- 0.7 FLA CONDENSER FAN. MINIMUM CIRCUIT AMPACITY 18.0, MAXIMUM 30 AMP FUSE MOCP. INCLUDE ANTI-SHORT CYCLE TIMER AND HARD START KIT. MOUNT UNIT ATOP CONCRETE CURB AS PER THE MANUFACTURER'S RECOMMENDATIONS. PROVIDE 5-YEAR COMPRESSOR WARRANTY.

REGISTERS, GRILLES, DIFFUSERS, AND LOUVERS

(#25 WHITE BAKED ENAMEL FINISH UNLESS NOTED OTHERWISE)

GRILLES AND REGISTERS:

KEES PATTERN GR250 WITH 43% OPEN AREA MADE OF 14 GAUGE STEEL WITH DARK BRONZE POLYURETHANE FINISH COLOR AS SELECTED BY THE ARCHITECT. GRILLES AND REGISTERS MOUNTED TO FLOOR WITH SURFACE FACE PLATE HAVING COUNTERSUNK SCREWS.

NOTE: THE MECHANICAL CONTRACTOR SHALL FIELD CHECK DIMENSIONS AFTER THE CARPENTRY CONTRACTOR HAS INSTALLED THE NEW FLOOR FRAMING BEFORE FABRICATING DUCT BOOTS FOR THE ABOVE GRILLES AND REGISTERS TO ASSURE PROPER FIT.

REG: BASEMENT SUPPLY REGISTER, TITUS MODEL #300 RS-5 WITH DOUBLE DEFLECTION ADJUSTABLE BLADES, 1 1/4" BORDER, OPPOSED BLADE DAMPERS, STEEL CONSTRUCTION.

RG: BASEMENT RETURN AIR GRILLE, TITUS MODEL #350 RL, 35 DEG. FIXED BLADES AT 3/4" SPACING, 1 1/4" BORDER, STEEL CONSTRUCTION.

FGM ARCHITECTS
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MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

MECHANICAL SCHEDULE AND NOTES

DRAWN: MI

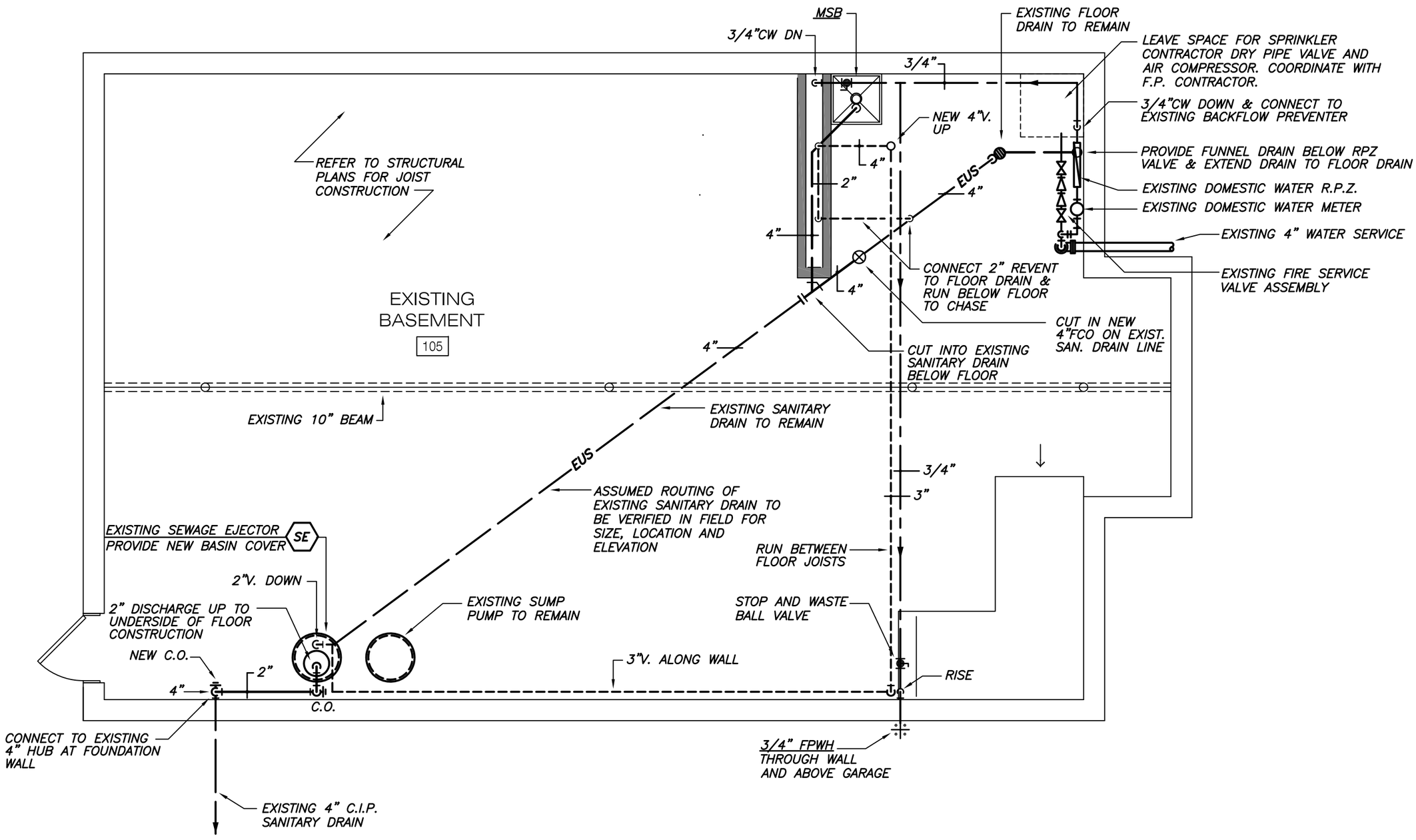
APPROVED: GW

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
M- 3

JOB NO. #13-1641.01



PLUMBING BASEMENT PLAN

SCALE 1/4" = 1'-0"

NORTH

FGM ARCHITECTS
OAKBROOK CHICAGO O'FALLON

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

BASEMENT PLAN

DRAWN: RM

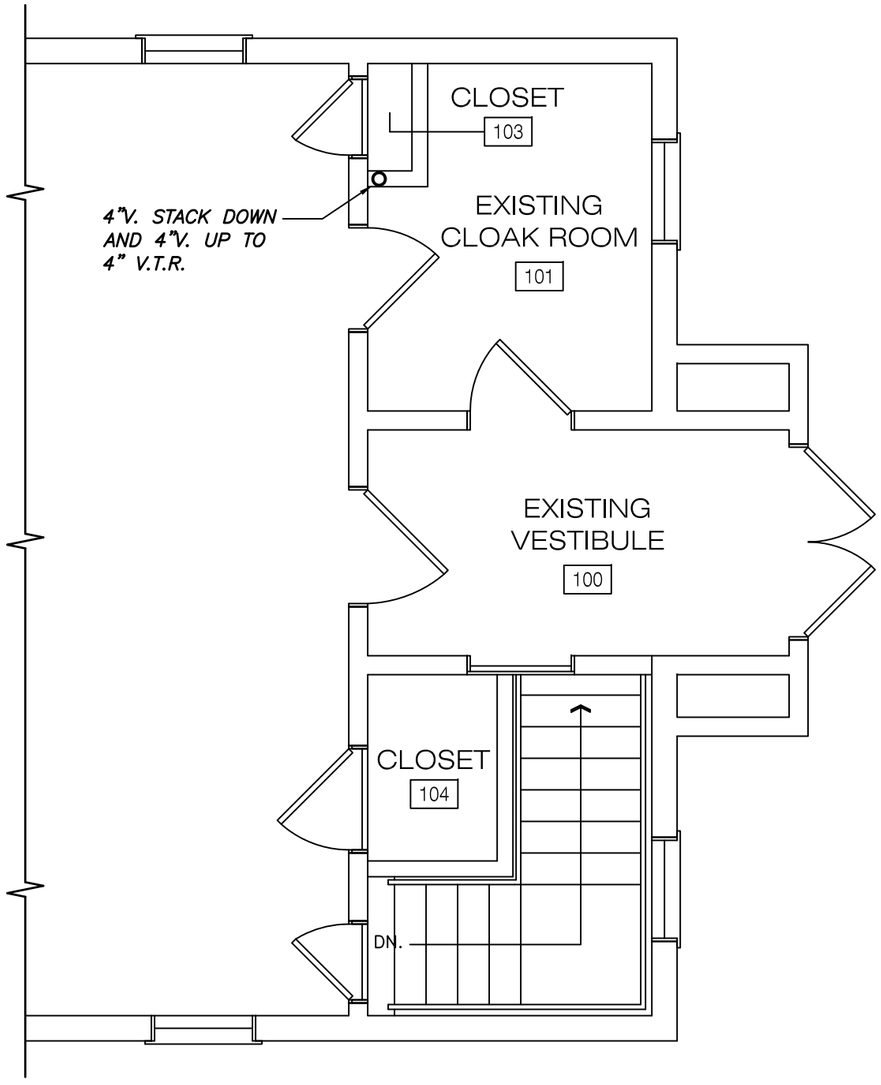
APPROVED: GW

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
P-1

JOB NO. #13-1641.01



PROPOSED FIRST FLOOR PLAN

SCALE 1/4" = 1'-0"

NORTH

SYMBOLS AND ABBREVIATIONS

E----	INDICATES EXISTING PIPING
	EXISTING PIPING TO BE REMOVED
US	UNDERGROUND SANITARY DRAIN
	SUSPENDED SOIL OR WASTE
	PLUMBING VENT PIPING
	CW – COLD WATER
	GV – GATE VALVE
	CV – CHECK VALVE
	O.S.&Y. GATE VALVE
	BV – BALL VALVE
	STRAINER
	UNION
	FD – FLOOR DRAIN
	FCO – FLOOR CLEANOUT
	CO – SUSPENDED PIPE CLEANOUT WCO – WALL CLEANOUT
VB	VACUUM BREAKER
CIP	CAST IRON PIPING
PVC	POLYVINYL CHLORIDE PIPING
VTR	VENT THRU ROOF
INCR.	PIPING INCREASER
S–W–V	SOIL – WASTE – VENT PIPING
AFF	ABOVE FINISH FLOOR
IE	INVERT ELEVATION
NIC	NOT IN CONTRACT
T&P	THERMOSTATIC AND PRESSURE RELIEF VALVE

FGM ARCHITECTS
OAK BROOK · CHICAGO · O'FALLON

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

FIRST FLOOR PLAN

DRAWN: RM

APPROVED: GW

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
P-2

JOB NO. #13-1641.01

PLUMBING GENERAL NOTES

1 ALL WORK AND MATERIALS SHALL BE IN COMPLIANCE WITH LOCAL MUNICIPAL CODE REQUIREMENTS. CONTRACTORS SHALL PAY FOR ALL NECESSARY PERMIT AND INSPECTION FEES.

2 CONTRACTOR SHALL DO ALL NECESSARY CUTTING AND PATCHING. HE SHALL PROVIDE ALL EQUIPMENT AND PIPE SUPPORTS.

3 ALL HORIZONTAL SANITARY DRAINAGE SYSTEMS SHALL BE SLOPED AT A MINIMUM OF 1/8" PER FOOT (1.0%) SLOPE UNLESS OTHERWISE NOTED OR SPECIFIED ON THESE CONTRACT DRAWINGS.

4 CLEANOUTS SHALL BE INSTALLED IN HORIZONTAL DRAINAGE SYSTEMS IN ALL CHANGES OF DIRECTION GREATER THAN 60 DEGREES AND IN ALL VERTICAL RISERS AT THE BASE OR NO MORE THAN 48" ABOVE THE FINISHED FLOOR IN COMPLIANCE WITH IPC 890.410 THROUGH 890.440.

5 UNDERGROUND DRAINAGE PIPING SHALL BE PVC PLASTIC, SCHEDULE 40, PVC PIPING COMPLYING WITH ASTM D2665–74 AND NSF 14, HAVING SOLVENT WELDED JOINTS, D–2855. PIPE SHALL BE LAID ATOP A 4" GRANULAR BEDDING OF ROUNDED PEA GRAVEL OR SAND WITH NO JAGGED NOR SHARP EDGES THROUGH BEDDING LENGTH.

6 SOIL, WASTE, AND VENT PIPING ABOVE EXCAVATED FLOORS SHALL BE TYPE DWV, SCHEDULE 40, PVC PIPING COMPLYING WITH ASTM D2665–74 AND NSF 14, HAVING SOLVENT WELDED JOINTS WITH VISIBLE PURPLE PRIMER. PIPE TO BE SUPPORTED AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS, BUT WITH HORIZONTAL SUPPORTS NOT EXCEEDING FOUR (4) FEET ON CENTER.

7 WATER SUPPLY PIPING ABOVE EXCAVATED FLOORS SHALL BE TYPE "L" COPPER TUBING, ASTM B–88, HARD DRAWN, WITH WROUGHT FITTINGS AND 95–5 TIN AND ANTIMONY SOLDER. NO LEAD SOLDER TO BE USED. DISSIMILAR METALS SHALL NOT BE APPROVED UNDER ANY CIRCUMSTANCE FOR THIS PROJECT. PIPE SIZES ARE NOMINAL INSIDE DIAMETER AND SHALL CONFORM WITH THE FOLLOWING PIPING SCHEDULE:

PIPE SIZE	COPPER	PIPE SIZE	COPPER
1/2" DIAM.	5/8" O.D.	1 1/2" DIAM.	1 5/8" O.D.
3/4" DIAM.	7/8" O.D.	2" DIAM.	2 1/8" O.D.
1" DIAM.	1/8" O.D.	1/2" DIAM.	2 5/8" O.D.
1 1/4" DIAM.	1 3/8" O.D.		

8 USE DI–ELECTRIC UNIONS OR INSULATED COUPLINGS FOR CONNECTIONS BETWEEN EQUIPMENT AND PIPING OF DISSIMILAR MATERIALS.

9 INSULATE WATER PIPING WITH 1/2" THICK, 4 PCF DENSITY, FIBERGLASS SECTIONAL PIPE INSULATION HAVING VAPOR BARRIER AND ALL PURPOSE JACKET. OMIT PIPE INSULATION ON BRANCH PIPING WITHIN PLUMBING WALLS. RISERS TO BE INSULATED IN THEIR ENTIRETY.

10 INSTALL BALL VALVES WITH UNIONS IN ALL BRANCHES SERVING TWO (2) OR MORE FIXTURES, AT BASE OF ALL RISERS, AND WHERE INDICATED ON PLANS. VALVES SHALL BE RATED FOR 125 PSIG STEAM WITH BRONZE BODY AND TRIM. VALVES SHALL BE AS MANUFACTURED BY "STOCKHAM" AS LISTED BELOW:

	THREADED	SOLDERED
GATE VALVES	#B–103	#B–104
CHECK VALVES	#B–319	#B–309
BALL VALVES	#S–217	#S–227

11 INSTALL FULL SIZE OF PIPE GATE AND CHECK VALVES IN EACH SEWAGE EJECTOR PUMP DISCHARGE LINE.

12 ALL VENTS TO EXTEND 12" ABOVE THE ROOF LINE AND BE PROVIDED WITH REGULAR ROOF CONNECTION TO RECEIVE FLASHING MADE FOR THIS PURPOSE.

13 CONTRACTOR SHALL PERFORM ALL DOMESTIC WATER PRESSURE TESTS AND CHLORINATION, AND SOIL–WASTE–VENT–STORM DRAIN PIPING PRESSURE TESTS IN ACCORDANCE WITH GOVERNING CODE JURISDICTION.

14 REFER TO ARCHITECTURAL PLANS FOR EXACT DIMENSIONS AND LOCATIONS OF ROOMS, ROOF DRAINS, PLUMBING FIXTURES, AND MISCELLANEOUS ITEMS RELATING TO THE PLUMBING WORK UNDER THIS CONTRACT.

PLUMBING FIXTURE SCHEDULE

A. FIXTURE MANUFACTURERS:

1 ACCEPTABLE PLUMBING FIXTURE MANUFACTURERS SHALL BE ELJER, KOHLER, AND AMERICAN STANDARD. WHERE FIXTURES ARE TAGGED FOR HANDICAPPED USE, THE MANUFACTURER SHALL SUBMIT VERIFICATION THAT FIXTURE COMPLIES WITH THE LATEST "AMERICANS WITH DISABILITIES ACT" (A.D.A.) STANDARDS.

2 MANUFACTURERS OF FIXTURE CARRIERS, SUPPORTS, DRAINS, AND CLEANOUTS SHALL BE J.R. SMITH, WADE, ZURN, OR JOSAM.

B. ALL FIXTURES SHALL BE WHITE UNLESS OTHERWISE SPECIFICALLY NOTED.

C. INSTALL 3/8" LOOSE KEY STOPS AND 12" FLEXIBLE RISERS, "BRASSCRAFT", "PLUMBCRAFT", "McGUIRE", OR FIXTURE MANUFACTURER, AND ONLY WITH BRASS STEMS ON THE VALVES. PLASTIC STEMS ARE NOT ACCEPTABLE.

D. LAVATORY WITH 1–1/4" CHROME PLATED TRAP WITH DRAIN ARM AND ESCUTCHEON, NOT LESS THAN 17 GAUGE.

E. LAVATORY WITH CHROME PLATED 1 1/4" TAILPIECE AND GRID STRAINER ASSEMBLY WITH OFFSET TAILPIECE AND CHROME PLATED EXTENSION TO TRAP.

F. PROVIDE ALL NECESSARY CAULKING OF PLUMBING FIXTURES AT THE JUNCTION OF FIXTURE TO WALL OR FLOOR SO AS TO MAKE THE INSTALLATION WATERPROOF. CAULK MATERIAL SHALL BE OF SILICON AND SHALL MATCH FIXTURE COLOR UNLESS OTHERWISE DIRECTED BY THE PROJECT SPECIFICATIONS OR ARCHITECT.

G. LAVATORY P–TRAP AND HOT WATER SUPPLY STOP SHALL BE INSULATED WITH THE FULLY MOLDED "TRUEBRO" INSULATION KIT #101 WITH ACCESSORY #105 OFFSET TAILPIECE IF REQUIRED, OR APPROVED EQUAL MANUFACTURER. TRAP ASSEMBLY TO INCLUDE WEEP HOLE.

PLUMBING FIXTURES AND TRIM:

MSB: MOP SERVICE BASIN OF MOLDED STONE CONSTRUCTION, FIAT #MSB–2424, 24" x 24" x 10" DEEP WITH DOME STRAINER, RIM GUARD, MOP HANGER, HOSE AND BRACKET, CHICAGO FAUCET #952–CP INSIDE SILL FITTING WITH VACUUM BREAKER AND STOP. SEAL EDGES AT WALL WITH SILICONE SEALANT. FURNISH AND INSTALL 3"IPS TRAP AND STRAINER.

FD: J.R. SMITH #2010–A, CAST IRON BODY WITH FLASHING FLANGE, 6" DIAMETER NICKEL BRONZE ADJUSTABLE STRAINER. UNLESS OTHERWISE NOTED OR CODE REQUIRED, PROVIDE DEEP SEAL TRAPS FOR ALL FLOOR DRAINS.

FCO: FLOOR CLEANOUTS, J.R. SMITH #4020 CAST IRON BODY WITH ROUND SCORIATED NICKEL BRONZE TOP. PROVIDE CARPET MARKER WHERE REQUIRED IN CARPETED FLOORS.

FPWH: FROST PROOF WALL HYDRANT J.R. SMITH #5609QT WITH INTEGRAL VACUUM BREAKER, LOOSE KEY, 3/4" HOSE CONNECTION, AND NICKEL BRONZE FINISH.

PLUMBING EQUIPMENT SCHEDULE

(SE) SEWAGE EJECTOR (EXISTING BASIN)

CONTRACTOR SHALL FURNISH AND INSTALL A STEEL COVER WITH INSPECTION MANHOLE, 2" VENT CONNECTION, AND PUMP OUTLET / MOTOR HOUSING. FIELD MEASURE EXISTING BASIN TO ASSURE PROPER SIZE. PROVIDE GASKET OR CAULKING TO SEAL GAS TIGHT. REMOVE AND REPLACE PUMP WITH A NEW WEIL PUMP COMPANY MODEL 2" – 2426 SUBMERESIBLE PUMP CAPACITY OF 20 GPM AT 16 FT. HD. WITH A 1/2 HP – 1 PH – 115 V. – 1750 RPM MOTOR.

FGM ARCHITECTS
OAK BROOK O'FALLON CHICAGO

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

PLUMBING SCHEDULES

DRAWN: RM

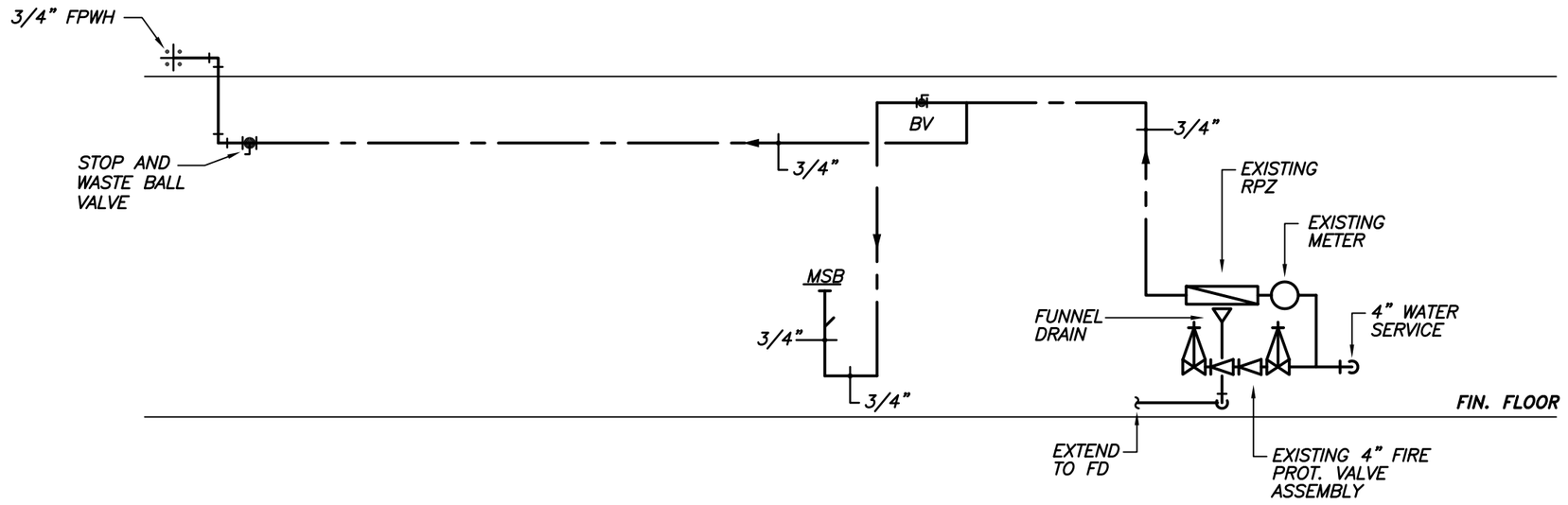
APPROVED: GW

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

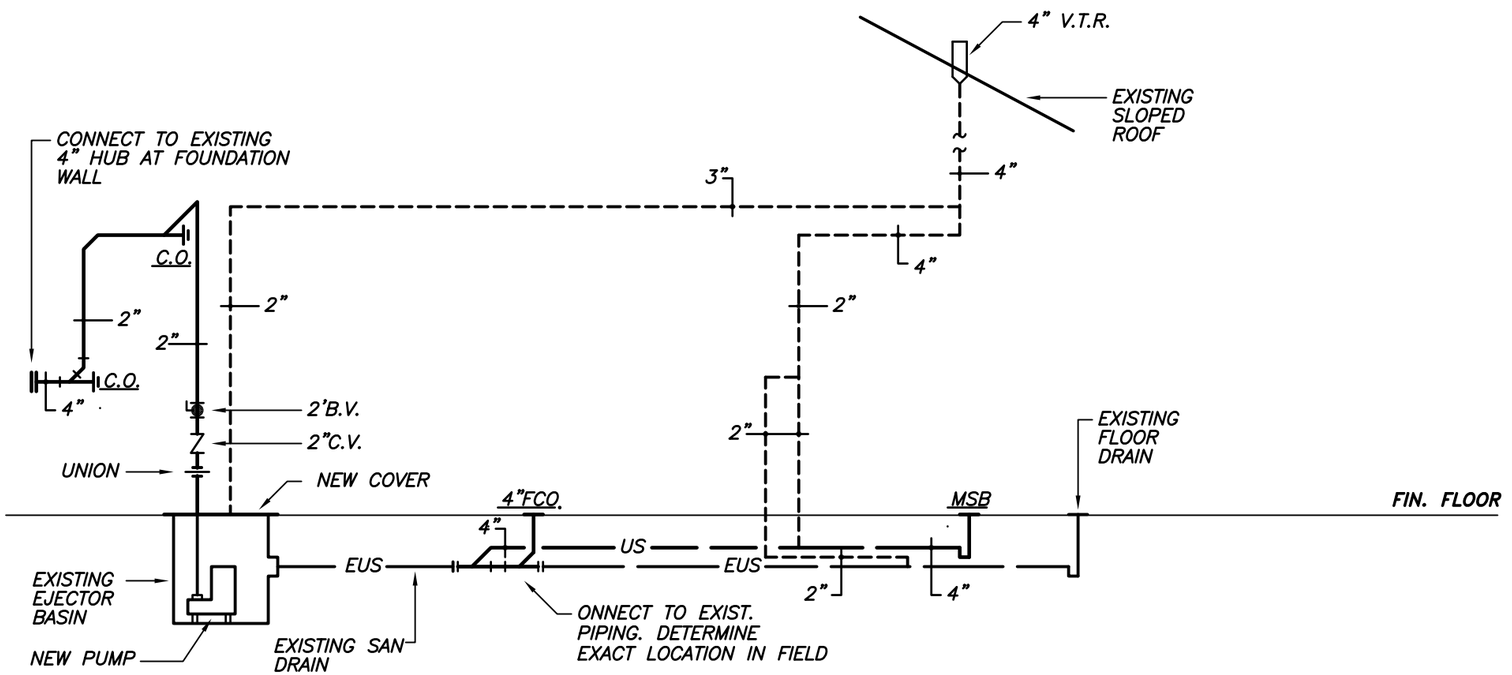
SHEET NO.
P-3

JOB NO. #13-1641.01



WATER PIPING DIAGRAMS

NOT TO SCALE



SOIL, WASTE AND VENT PIPING DIAGRAMS

NOT TO SCALE

FGM ARCHITECTS
OAKBROOK CHICAGO O'FALLON

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

PLUMBING DIAGRAM

DRAWN: RM

APPROVED: GW

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
P-4

JOB NO. #13-1641.01

ELECTRICAL ABBREVIATIONS

ABBREV.	DESCRIPTION	ABBREV.	DESCRIPTION
AFF	ABOVE FINISHED FLOOR	KVA	KILOVOLT-AMPERE
AFG	ABOVE FINISHED GRADE	LTG	LIGHTING
AC	ALTERNATING CURRENT	LV	LOW VOLTAGE
A	AMPERE	MH	MANHOLE
AMP	AMPERE	MFR	MANUFACTURER
AIC	AMPERES INTERRUPTING CAPACITY	MTR	MOTOR
AL	ALUMINUM	MCC	MOTOR CONTROL CENTER
AT	AMPERE TRIP	MTD	MOUNTED
ATS	AUTOMATIC TRANSFER SWITCH	NEC	NATIONAL ELECTRICAL CODE
BR	BRANCH	N	NEUTRAL
BRKR	BREAKER	NC	NORMALLY CLOSED
BGB	BUILDING GROUND BOX	NO	NORMALLY OPENED
CAB	CABINET	NIC	NOT IN CONTRACT
CATV	CABLE TELEVISION	NL	NIGHT LIGHTING
CB	CIRCUIT BREAKER	NTS	NOT TO SCALE
CCT	CIRCUIT	PNL	PANEL
CCTV	CLOSED CIRCUIT TELEVISION	PH	PHASE
COAX	COAXIAL	PWR	POWER
COMED	COMMONWEALTH EDISON CO.	PRI	PRIMARY
CP	ISOLATED COMPUTER POWER	PA	PUBLIC ADDRESS
CU	COPPER	PB	PULL BOX
CUH	CABINET UNIT HEATER	REC	RECEPTACLE
CT	CURRENT TRANSFORMER	R	RESISTANCE
HZ	HERTZ (CYCLES/SECOND)	SEC	SECONDARY
DC	DIRECT CURRENT	SP	SINGLE POLE
DS	DISCONNECT SWITCH	SPKR	SPEAKER
EC	ELECTRICAL CONTRACTOR	SPEC	SPECIFICATION
ELEC	ELECTRIC	SS	STAINLESS STEEL
EWC	ELECTRIC WATER COOLER	S	SWITCH
EM	EMERGENCY	SWBD	SWITCHBOARD
EMT	ELECTRIC METALLIC TUBING	SWGR	SWITCHGEAR
EUH	ELECTRIC UNIT HEATER	SYS	SYSTEM
EX	EXISTING	TC	TERMINAL CABINET
FPB	FAN POWERED BOX	TEL	TELEPHONE
FA	FIRE ALARM	TTC	TELEPHONE TERMINAL CABINET
FB	FLOORBOX	TV	TELEVISION
FLUOR	FLUORESCENT	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
F	FUSE	TL	TWIST LOCK
FS	FUSED SWITCH	UL	UNDERWRITER'S LABORATORIES
GEN	GENERATOR	UH	UNIT HEATER
G	GROUND	UNO	UNLESS NOTED OTHERWISE
GFI	GROUND FAULT CCT. INTERRUPT	V	VOLT
GHW	GALVANIZED HEAVYWALL STEEL	VA	VOLT-AMPERE
HP	HORSE POWER	VP	VANDALPROOF
HH	HANDHOLE	W	WATT
IC	INTERRUPTING CAPACITY	WP	WEATHERPROOF
IG	ISOLATED GROUND	XFRMR	TRANSFORMER
IMC	INTERMEDIATE GRADE CONDUIT	XR	EXISTING TO BE REMOVED
JB	JUNCTION BOX	XRL	EXISTING TO BE RELOCATED
KW	KILOWATT	XRN	EXISTING TO BE REPLACED WITH NEW

APPLICABLE CODES AND STANDARDS

APPLICABLE CODES INCLUDE:

1.	NATIONAL ELECTRIC CODE CURRENT EDITION	NEC
2.	INTERNATIONAL BUILDING CODE CURRENT EDITION	IBC
3.	ILLINOIS ACCESSIBILITY CODE CURRENT EDITION	IAC
4.	INTERNATIONAL ENERGY CONSERVATION CODE CURRENT EDITION	IECC
5.	INTERNATIONAL FIRE PROTECTION CODE CURRENT EDITION	IFPC
6.	ILLINOIS ADMINISTRATIVE CODE CURRENT EDITION	
7.	LOCAL AMENDMENTS (MT. PROSPECT) CURRENT EDITION	

APPLICABLE LAWS AND AGENCY STANDARDS INCLUDE:

1.	AMERICAN NATIONAL STANDARDS INSTITUTE	ANSI
2.	AMERICAN SOCIETY FOR TESTING AND MATERIALS	ASTM
3.	AMERICANS WITH DISABILITIES ACT	ADA
4.	ASSOCIATION OF EDISON ILLUMINATING COMPANIES	AEIC
5.	CERTIFIED BALLAST MANUFACTURERS	CBM
6.	ELECTRICAL TESTING LABORATORIES	ETL
7.	ELECTRONIC/TELECOMMUNICATIONS INDUSTRIES ASSOCIATION	EIA/TIA
8.	ENERGY POLICY ACT AND AMENDMENTS	EPACT
9.	FEDERAL AVIATION ADMINISTRATION	FAA
10.	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA	IESNA
11.	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS	IEEE
12.	INSULATED CABLE ENGINEERS ASSOCIATION	ICEA
13.	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION	NEMA
14.	NATIONAL FIRE PROTECTION ASSOCIATION	NFPA
15.	UNDERWRITERS' LABORATORIES	UL

GENERAL NOTES

1. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF LIGHTING AND CONTROLS, RECEPTACLES, COMMUNICATIONS DEVICES, FIRE ALARM DEVICES, AND LIFE SAFETY DEVICES. REFER TO DIVISION 16 SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FOR ELECTRICAL INSTALLATION. ADHERE TO MORE STRINGENT REQUIREMENTS WHERE ANY CONFLICT IS ENCOUNTERED.
2. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION OF HVAC, PLUMBING, AND FIRE PROTECTION EQUIPMENT. COORDINATE WITH RESPECTIVE CONTRACTORS.
3. FOR NEW DEVICES ON EXISTING MASONRY WALLS IN FINISHED AREAS, PROVIDE SURFACE MOUNTED BOXES AND RACEWAY SIMILAR TO WIREMOLD, PAINTED TO MATCH WALL. RACEWAY SHALL TRANSITION TO CONDUIT ABOVE CEILING. NEW DEVICES ON EXISTING PLASTER, WOOD, OR DRYWALL WALLS SHALL BE FISHED OR CHANNELED AS APPROPRIATE AND PATCHED TO MEET THE OWNERS AND ARCHITECTS REQUIREMENTS. COORDINATE EXACT REQUIREMENTS WITH ARCHITECT/OWNER.
4. THE DRAWINGS MAY NOT SHOW COMPLETE OR ACCURATE DETAILS OF THE BUILDING IN EVERY RESPECT. EXACT LOCATIONS AND RELATIONS ARE TO BE DETERMINED IN THE FIELD AND SHALL BE TO THE SATISFACTION OF THE ARCHITECT. THIS CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL FIELD MEASUREMENTS AND SPATIAL COORDINATION OF ALL INSTALLATIONS..
5. NO HOLES OR RECESSES MAY BE CUT IN WALLS, FLOORS, CEILINGS, OR ANY PART OF THE BUILDING TO ADMIT CONDUIT OR OTHER WORK OF THIS CONTRACT WITHOUT PRIOR SUBMISSION TO AND REVIEW AND APPROVAL BY THE ARCHITECT. WORK SHALL BE PERFORMED BY A COMPETENT MECHANIC SKILLED IN THIS FIELD IN A NEAT AND WORKMANSHIPLIKE MANNER. THE PORTIONS CUT MUST BE RESTORED TO THEIR ORIGINAL CONDITION AT THE EXPENSE OF THIS CONTRACTOR. THIS CONTRACTOR SHALL INCLUDE ALL COSTS FOR ALL CUTTING AND PATCHING REQUIRED FOR THIS WORK UNDER CONTRACT.
6. MOUNTING HEIGHTS OF ELECTRICAL ITEMS SHALL BE AS LISTED BELOW ABOVE FINISHED FLOOR TO CENTERLINE, UNLESS NOTED OTHERWISE:

A.	INTERIOR RECEPTACLES	16"
B.	OUTDOOR AND GARAGE RECEPTACLES	24"
C.	TELEPHONE AND DATA OUTLETS	16"
D.	TOGGLE AND LIGHTING SWITCHES	46"
E.	FIRE ALARM PULL STATIONS	46"
F.	SECURITY CALL STATIONS	46"
G.	TELEVISION OUTLETS	16"
H.	THERMOSTAT J-BOXES	46"
I.	CLOCK AND PAGING SPEAKER OUTLETS	80"
J.	FIRE ALARM AUDIO/VISUAL DEVICES	80"
K.	WALL MOUNTED EXIT SIGNS	90"
L.	INDIVIDUAL DISCONNECTS AND STARTERS	60"
M.	GROUPED DISCONNECTS AND STARTERS	> 12" < 72"
N.	PANELBOARD OVERCURRENT DEVICES	> 12" < 72"
O.	GENERAL WALL MOUNTED LIGHTING FIXTURES	80"

FIRE ALARM SYMBOLS

SYMBOL	DESCRIPTION
F	FIRE ALARM MANUAL PULL STATION
SD A	SMOKE DETECTOR ("A" INDICATES AUXILIARY CONTACTS)
WFS	WATER FLOW SWITCH
VSS	VALVE SUPERVISION SWITCH
AES	WIRELESS ALARM MONITORING UNIT
FACP	FIRE ALARM CONTROL PANEL
FAAP	FIRE ALARM ANNUNCIATOR PANEL
AV	GENERAL ALARM ANNUNCIATION WITH VISUAL STROBE

FIRE PROTECTION GENERAL NOTES

1. PROVIDE 2-GANG J-BOX AND 3/4"C WITH INSULATING BUSHINGS AND PULL STRINGS FOR EACH NEW FIRE ALARM DEVICE. ALL FIRE ALARM CABLING SHALL BE PROVIDED BY E.C. AND RUN IN CONDUIT, U.N.O. COORD. WITH MANUFACT. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE ALL SLEEVES THRU WALLS AND CORING THRU FLOORS. ANY CUTTING, DRILLING OR CORING SHALL BE DONE WET TO MINIMIZE SPREAD OF DUST. VERIFY WITH ARCHITECT AND PROVIDE FIRE STOPPING MATERIAL AS REQUIRED.
3. FIREPROOF ALL CONDUIT OPENINGS BETWEEN FLOORS AND ANY INTERSPACE FIRE SEPARATION BLOCK WALLS WITH AN APPROVED UL LISTED FIRE RETARDANT MATERIAL. COORDINATE EXACT REQUIREMENTS WITH ARCHITECT.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY MATERIALS, DEVICES, LABOR, AND COORDINATION AS REQUIRED TO INSTALL COMPLETE AND FUNCTIONAL SYSTEMS AS DESIGNED, REQUIRED, AND CONTEMPLATED IN ACCORDANCE WITH ALL APPLICABLE CODES, STANDARDS, PROJECT DOCUMENTS, AND OWNER'S REQUIREMENTS.
5. CONTRACTOR SHALL COORDINATE WITH SPRINKLER CONTRACTOR TO DETERMINE EXACT LOCATIONS AND QUANTITIES OF WATER FLOW AND VALVE TAMPER CONNECTIONS NEEDED, AND SHALL INCLUDE AND PROVIDE AS PART OF BASE BID.
6. CONTRACTOR SHALL COORDINATE WITH LOCAL FIRE PREVENTION AUTHORITY AND PROVIDE FIRE ALARM ANNUNCIATOR AND KNOX BOXES, LOCATIONS AND QUANTITIES AS REQUIRED.
7. ALL SMOKE DETECTORS SHALL BE PHOTOELECTRIC TYPE AND ALL HEAT DETECTORS SHALL BE RATE OF RISE TYPE, U.N.O.
8. ALL FIRE ALARM WIRING SHALL BE INSTALLED IN MINIMUM 3/4" EMT CONDUIT, WITH NO EXCEPTIONS. ONLY 2-GANG BOXES SHALL BE USED FOR DEVICE MOUNTING.
9. NEW FIRE ALARM DEVICES CONNECTED TO AN EXISTING FA SYSTEM SHALL BE ADDRESSABLE TYPE BY THE SAME MANUFACTURER AS THE EXISTING SYSTEM, U.N.O. PROVIDE ALL CONNECTIONS AND ZAMS IF AND AS REQUIRED.
10. PROVIDE 10% ATTIC STOCK SPARE DEVICES, KEYS AND FUSES FOR ALL NEW SYSTEMS AND UPGRADES TO OWNER UPON DATE OF SUBSTANTIAL COMPLETION.
11. ALL REQUIRED PROGRAMMING, PERMIT DRAWINGS, ALLOWANCES, FIELD VISITS, AND MEETINGS ARE MANDATORY AND ARE TO BE INCLUDED IN BASE BID, NO ADDITIONAL COMPENSATION SHALL BE GRANTED FOR THE AFOREMENTIONED.
12. ALL REQUIRED PROGRAMMING, PERMIT DRAWINGS, ALLOWANCES, FIELD VISITS, AND MEETINGS ARE MANDATORY AND ARE TO BE INCLUDED IN BASE BID, NO ADDITIONAL COMPENSATION SHALL BE GRANTED FOR THE AFOREMENTIONED.
13. NEW FIRE ALARM SYSTEMS SHALL NOT BE HARDWARE OR SOFTWARE PROPRIETARY. OWNER SHALL BE GIVEN PROGRAM CODES FOR FULL ACCESS TO FA SYSTEMS. NO MAINTENANCE CONTRACT LONGER THAN 12 MONTHS SHALL BE ACCEPTED AS PART OF THIS PROJECT, U.N.O.
14. ELECTRICAL CONTRACTOR SHALL CAREFULLY EXAMINE THE CONTRACT DRAWINGS AND SPECIFICATIONS AND FULLY INFORM HIMSELF AS TO ALL CONDITIONS AND MATTERS THAT IN ANY WAY AFFECT THE WORK OR THE COST THEREOF. SHOULD THIS CONTRACTOR FIND DISCREPANCIES IN, OR OMISSIONS FROM THE DRAWINGS, SPECIFICATIONS OR OTHER DOCUMENTS, OR BE IN DOUBT AS TO THEIR MEANING, NOTIFY THE ARCHITECT/ENGINEER AT ONCE, IN WRITING. RESOLVE DISCREPANCIES BETWEEN EXISTING CONDITIONS AND NEW WORK, AND OBTAIN CLARIFICATION PRIOR TO SUBMITTING ANY BID. LACK OF NOTIFICATION SHALL BE INTERPRETED TO INDICATE NO DISCREPANCIES OR CONFLICTS EXIST. ADDITIONAL COMPENSATION WILL NOT BE GRANTED AFTER AWARD OF CONTRACT FOR ANY WORK REQUIRED TO COMPLY WITH THESE REQUIREMENTS.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY MATERIALS, DEVICES, LABOR, AND COORDINATION AS REQUIRED TO INSTALL COMPLETE AND FUNCTIONAL SYSTEMS AS DESIGNED, REQUIRED, AND CONTEMPLATED IN ACCORDANCE WITH ALL APPLICABLE CODES, STANDARDS, PROJECT DOCUMENTS, AND OWNER'S REQUIREMENTS.
16. THIS CONTRACTOR IS RESPONSIBLE FOR SCHEDULING DELIVERY, RECEIVING, UNLOADING, UNCRATING, STORING, SETTING IN PLACE, AND PROTECTING FROM DAMAGE, VANDALISM, THEFT OR WEATHER DURING CONSTRUCTION FOR ALL NEW EQUIPMENT FURNISHED BY THIS CONTRACTOR. THIS SHALL ALSO APPLY TO ITEMS FURNISHED BY THE OWNER TO THE ELECTRICAL CONTRACTOR. THIS CONTRACTOR SHALL COORDINATE THE ABOVE TO MEET THE PROJECT COMPLETION DATES AS ESTABLISHED BY THE OWNER.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION AND SCHEDULING WITH ALL NECESSARY UTILITY COMPANIES FOR WORK TO BE INSTALLED, INCLUDING ELECTRIC, TELEPHONE, DATA, CABLE TV, GAS, ETC. CONTRACTOR SHALL AID IN ARRANGING PAYMENTS TO UTILITY COMPANIES FOR THEIR PORTIONS OF WORK.
18. GUARANTEE ALL WORK AND MATERIALS FOR A PERIOD OF ONE FULL YEAR AFTER FINAL ACCEPTANCE BY THE ARCHITECT AND OWNER, OR BENEFICIAL OCCUPANCY.
19. FURNISH CAD PRODUCED AS-BUILT DRAWINGS TO THE ARCHITECT BEFORE FINAL PAYMENT WILL BE ISSUED. THE CAD PRODUCED AS-BUILT DRAWINGS SHALL DIAGRAMMATICALLY INDICATE THE INSTALLED CONDITION FOR ALL WORK AND BE SUBMITTED IN REPRODUCIBLE HARDCOPY DRAWINGS AND ON DISK OR CD-ROM. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
20. PROVIDE FULL DETAILED SUBMITTALS FOR ALL PROPOSED ELECTRICAL DEVICES, EQUIPMENT AND MATERIALS PROPOSED TO BE UTILIZED IN THE PROJECT. ALL SUBMITTALS ARE SUBJECT TO THE REVIEW, APPROVAL, AND/OR REJECTION BY THE OWNER, ARCHITECT, AND ENGINEER.

GENERAL ELECTRICAL SYMBOLS

SYMBOL	DESCRIPTION	
	CONDUIT RUN CONCEALED IN CEILING OR WALL	ARROWHEAD DENOTES HOMERUN TO PANEL FOR POWER, IDF/MDF FOR LOW VOLTAGE SYSTEMS, DEMARK FOR CATV, AND FACP OR NAC FOR FIRE ALARM. SLASH LINES FOR POWER HR INDICATE QUANTITY OF WIRE; NEUTRAL WIRE SHOWN AS A LONG LINE, PHASE WIRES AND SWITCH LEGS SHOWN AS SHORT LINES, AND GROUND WIRE SHOWN AS A LONG LINE WITH A DOT.
	CONDUIT RUN CONCEALED IN OR BELOW FLOOR	
	CONDUIT RUN EXPOSED ON CEILING OR WALL	
	CONDUIT STUBBED UP	
	CONDUIT STUBBED DOWN	
	FLEXIBLE CONDUIT MINIMUM 1/2" TRADE SIZE, U.N.O.	

ELECTRICAL GENERAL NOTES

1. REFER TO PANELBOARD DIVISION LINES FOR BRANCH CIRCUIT HOMERUN PANELBOARD WHERE INDICATED, UNLESS IDENTIFIED OTHERWISE.
2. PROVIDE EQUIPMENT GROUND WIRE IN ALL CONDUITS. MAXIMUM OF (3) BRANCH NETWORKS PER CONDUIT ALLOWED.
3. BRANCH CIRCUIT WIRING FOR 120 VOLT 15 AND 20 AMP CIRCUITS WIRED TO 240/120V AND 208V/120V SYSTEMS SHALL BE AS FOLLOWS:
   - A. GENERAL RECEPTACLES AND INCANDESCENT LIGHTING LOADS:
     UP TO 100 FEET IN LENGTH: 3#12, 1#12N, 1#12G, 3/4"C.
     OVER 100 FEET IN LENGTH: 3#10, 1#10N, 1#10G, 3/4"C.
   - B. ISOLATED GROUND RECEPTACLE LOADS:
     UP TO 80 FEET IN LENGTH: 3#12, 1#10N, 1#12G, 1#12IG, 3/4"C.
     OVER 80 FEET IN LENGTH: 3#10, 1#10N, 1#10G, 1#10IG, 3/4"C.
   - C. FLUORESCENT AND HID LIGHTING LOADS:
     UP TO 100 FEET IN LENGTH: 3#10, 1#10N, 1#10G, 3/4"C.
     OVER 100 FEET IN LENGTH: 3#10, 1#10N, 1#10G, 3/4"C.
4. BRANCH CIRCUIT WIRING FOR 277 AND 347 VOLT 15 AND 20 AMP CCTS WIRED TO 347/600V AND 480V/277V SYSTEMS SHALL BE AS FOLLOWS:
   - A. ELECTRIC HEATING LOADS:
     UP TO 150 FEET IN LENGTH: 3#10, 1#10N, 1#10G, 3/4"C.
     OVER 150 FEET IN LENGTH: 3#8, 1#8N, 1#8G, 3/4"C.
   - B. FLUORESCENT AND HID LIGHTING LOADS:
     UP TO 150 FEET IN LENGTH: 3#12, 1#10N, 1#12G, 3/4"C.
     OVER 150 FEET IN LENGTH: 3#10, 1#10N, 1#10G, 3/4"C.
5. NO ROMEX OR BX SHALL BE PERMITTED. MI CABLE SHALL BE PERMITTED FOR RENOVATION WORK AND/OR AS ACCEPTABLE BY LOCAL JURISDICTION.
6. PROVIDE ALL TEMPORARY WIRING FOR HAND TOOLS AND CONSTRUCTION LIGHTING PER LATEST OSHA STANDARDS AND INCLUDE ALL COSTS IN THE BASE BID. THIS CONTRACTOR SHALL ESTABLISH SAFE WORKING PROCEDURES FOR THE PROTECTION WORKMEN IN ALL PHASES OF WORK, COMPLYING WITH THE APPLICABLE PROVISIONS OF ALL CITY, STATE AND FEDERAL SAFETY LAWS (OSHA).
7. NO WIREWAY OR TROUGHS ARE PERMITTED UNLESS INDICATED ON THE ELECTRICAL DRAWINGS FOR A SPECIFIC USE. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL PROPERLY SIZED JUNCTION OR PULL BOXES WHERE REQUIRED.
8. NO CONDUITS SHALL BE ROUTED ON ROOF. COORDINATE ROOF PENETRATIONS WITH MECHANICAL PIPE CURBS. WHERE CONDUIT MUST BE RUN ON ROOF, IT SHALL BE RACKED WITH OTHER TRADES WHERE POSSIBLE OR PROVIDED WITH IT'S OWN ROOF RACK SUPPORT SYSTEM WITH PROPER ROOF PLATE SO AS NOT TO CAUSE DAMAGE TO ROOF COVERING. PROVIDE CORROSION-PROOF INSTALLATION.
9. ALL SWITCHBOARDS, DISTRIBUTION PANELS AND PANELBOARDS SHALL BE MANUFACTURED BY ONE MANUFACTURER. ALL EQUIPMENT INDICATED IS BASED ON "SQUARE D". ALTERNATE PANEL MANUFACTURERS, "SIEMENS", "CHICAGO SWBD", OR ENGINEER APPROVED EQUAL WILL BE APPROVED ONLY IF THEY DO NOT EXCEED THE PHYSICAL PANEL DIMENSIONS REQUIRED FOR THE AREA BEING INSTALLED IN AND MEET THE SPECIFIED REQUIREMENTS.
10. ALL SWITCHBOARDS, DISTRIBUTION PANELS AND PANELBOARDS SHALL BE FURNISHED WITH FULL RATED COPPER BUS AND BRACED FOR THE AVAILABLE FAULT CURRENT WITH MINIMUM RATINGS AS INDICATED IN SPECIFICATIONS.
11. ALL SWITCHES LARGER THAN 800 AMPERE SHALL BE BOLTED PRESSURE CONTACT SWITCH, U.N.O.
12. ALL CIRCUIT BREAKERS FOR PANELBOARDS SHALL BE OF THE BOLT-ON TYPE, RATED FOR SWITCHING DUTY AND RATED FOR THE PANEL FAULT CURRENT
13. ALL BRANCH CIRCUIT BREAKERS OF A 2P. OR 3P. CONFIGURATION SHALL HAVE A COMMON TRIP MECHANISM. HANDLED TIES SHALL NOT BE PERMITTED.
14. ALL CIRCUIT BREAKERS SIZES AND QUANTITIES INDICATED ON SCHEDULE ARE FOR THE CONVENIENCE OF THE BIDDERS ONLY. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND SUPPLYING ALL REQUIRED BRANCH BREAKERS AND EQUIPMENT FEEDS AS NECESSARY.
15. ALL PANELBOARDS SHALL BE FURNISHED WITH TYPED-CARD DIRECTORIES WITH PROPER DESIGNATION OF THE EQUIPMENT SERVED. ALL DIRECTORIES SHALL BE LOCATED IN A HOLDER WITH A CLEAR VIEWING PANEL.
16. ELECTRICAL CONTRACTOR SHALL BALANCE ALL PHASES OF ALL PANELS TO ENSURE PROPER LOADING WITHIN 10% OF EACH OTHER IN FIELD, AND PROVIDE WRITTEN REPORT INDICATING PHASE LOADING OF ALL SYSTEM POINTS.
17. THE ELECTRICAL INSTALLATION IS TO BE IN STRICT ACCORDANCE WITH THE APPLICABLE RULES AND REGULATIONS OF ALL LOCAL, STATE AND FEDERAL ELECTRICAL CODES AND THE LOCAL UTILITY COMPANY REQUIREMENTS OR ANY OTHER AUTHORITIES HAVING LAWFUL JURISDICTION.
18. ALL EQUIPMENT/DEVICES SHALL BE NEW AND OF FIRST QUALITY AND SHALL BEAR THE APPROPRIATE UL OR CSA APPROVED LABELS FOR SPECIFIC PURPOSE. ALL MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE PREVAILING ELECTRIC CODE. CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE SPECIFIC REQUIREMENTS OF LOCAL CODES PRIOR TO CONSTRUCTION. NO ADDITIONAL COMPENSATION SHALL BE AWARDED AFTER BASE BID CONTRACT FOR UN-VERIFIED, NON-CODE COMPLIANT INSTALLATION OR INSTALLATION INTENT.
19. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY MATERIALS, DEVICES, LABOR, AND COORDINATION AS REQUIRED TO INSTALL COMPLETE AND FUNCTIONAL SYSTEMS AS DESIGNED, REQUIRED, AND CONTEMPLATED IN ACCORDANCE WITH ALL APPLICABLE CODES, STANDARDS, PROJECT DOCUMENTS, AND OWNER'S REQUIREMENTS.
20. PROVIDE FULL DETAILED SUBMITTALS FOR ALL PROPOSED ELECTRICAL DEVICES, EQUIPMENT AND MATERIALS PROPOSED TO BE UTILIZED IN THE PROJECT. ALL SUBMITTALS ARE SUBJECT TO THE REVIEW, APPROVAL, AND/OR REJECTION BY THE OWNER, ARCHITECT, AND ENGINEER.

POWER SYMBOLS

FLUSH IN-WALL	ABOVE FLOOR BOX	FLUSH IN-FLOOR	FLUSH POKE-THROUGH	DESCRIPTION
				DUPLEX RECEPTACLE "AC" DENOTES ABOVE COUNTER
				QUADRUPLEX RECEPTACLE "AC" DENOTES ABOVE COUNTER
				DUPLEX RECEPTACLE SPLIT WIRED AND/OR SWITCHED
				SIMPLEX RECEPTACLE "AC" DENOTES ABOVE COUNTER
				SPECIAL NEMA TYPE RECEPTACLE "AC" DENOTES ABOVE COUNTER MATCHED TO EQUIPMENT SERVED

ADJACENT LETTERS IN THE SYMBOLS ABOVE INDICATE THE FOLLOWING:

"CR" INDICATES RECEPTACLE FED BY CRITICAL CIRCUIT
"EM" INDICATES RECEPTACLE FED BY EMERGENCY CIRCUIT
"EP" INDICATES RECEPTACLE IS EXPLOSION PROOF
"EWC" INDICATES RECEPTACLE SERVES ELECTRIC WATER COOLER
"GFI" INDICATES RECEPTACLE HAS GROUND FAULT CIRCUIT INTERRUPTER
"CP" INDICATES RECEPTACLE HAS ISOLATED GROUND "COMPUTER POWER"
"IG" INDICATES RECEPTACLE HAS ISOLATED GROUND
"WP" INDICATES RECEPTACLE HAS WEATHERPROOF COVER
"##" INDICATES RECEPTACLE CIRCUIT NUMBER

THERMOSTAT (BY MECHANICAL UNLESS FOR ELECTRIC HEATER)

TH — MANUAL MOTOR CONTROL AND/OR DISCONNECT SWITCH
"K" INDICATES KEY OPERATED
"P" INDICATES PILOT LIGHT
"TH" INDICATES THERMAL OVERLOAD PROTECTION
"XX" INDICATES CIRCUIT NUMBER
"2P" INDICATES 2 POLE SWITCH

SURFACE MOUNTED BRANCH CIRCUIT PANELBOARD

EXAMPLES: 1-HDP-1, 1-LP-1, 2-CP-2

SWITCHBOARDS, DISTRIBUTION PANELBOARDS, MOTOR CONTROL CENTERS, PANELBOARDS, CABINETS, AND RELATED EQUIPMENT NOMENCLATURE

1-HDP-1: FLOOR LEVEL — DESIGNATED NUMBER
VOLTAGE CODE: 'L'=120/208V, 'H'=277/480V, 'U'=347/600V
PANEL TYPE: 'P'=BRANCH, 'CP'=COMPUTER, 'DP'=DISTRIBUTION, 'SWBD'=SWITCHBOARD, 'MC'=MOTOR CONTROL

EXHAUST FAN OR FAN POWERED BOX

NON-FUSED DISCONNECT SWITCH, "AS" INDICATES AMPERE RATING OF SWITCH

POWER GENERAL NOTES

1. STARTERS AND COMBINATION DISCONNECT/STARTERS SHALL BE FURNISHED BY MECHANICAL CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR. SIZES/ RATINGS INDICATED ON ELECTRICAL DRAWINGS ARE FOR REFERENCE ONLY.
2. ANY MENTION OF A SPECIFIC VOLTAGE OR AMPERAGE ON THE ELECTRICAL DRAWINGS SHALL NOT RELIEVE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO VERIFY THE VOLTAGE AND AMPERAGE PRIOR TO PURCHASING OR ROUGH-IN WORK. THIS CONTRACTOR SHALL SUBMIT A VOLTAGE AND AMPERAGE COORDINATION FORM TO ALL CONTRACTORS AND PARTIES FURNISHING EQUIPMENT FOR VERIFICATION. COORDINATE WITH ALL RESPECTIVE CONTRACTORS.
3. ALL INSTRUMENTS, APPARATUS AND EQUIPMENT SHALL BE TESTED AND PROVED TO BE ELECTRICALLY AND MECHANICALLY CORRECT WITHOUT DEFECTS. THE ELECTRICAL SYSTEM SHALL BE TESTED FOR GROUNDS OR SHORTS. IF THE TROUBLE IS WITHIN THE CIRCUIT WIRING ALL SHORTED OR GROUNDED WIRES SHALL BE REPLACED AND THEN RETESTED. ALL METERS, CABLES, EQUIPMENT OR APPARATUS NECESSARY FOR MAKING ALL TESTS SHALL BE FURNISHED AND PROVIDED BY THIS CONTRACTOR.
4. ALL WIRE AND CABLE SHALL BE COPPER, 600 VOLT INSULATION WITH RATING OF MINIMUM 75°C AND AS FOLLOWS:
   - "THHN-2" – BRANCH CIRCUIT WIRING ABOVE FINISHED FLOORS NOT SUBJECT TO MOISTURE.
   - "THWN-2" – BRANCH CIRCUIT WIRE IN FINISHED FLOORS OR SUBJECT TO MOISTURE.
   - "XHHW-2" – UNDERGROUND FEEDER/BRANCH CIRCUIT WIRING.
   - "XLP-USE-2" – UNDERGROUND SERVICE CONDUCTORS.
5. ALL WIRE SHALL BE INSTALLED IN CONDUIT, REFER TO SPECIFICATIONS FOR TYPES. FOR ALL SYSTEMS THE MINIMUM CONDUIT TRADE SIZE SHALL BE 3/4" FOR ANY AND ALL WIRING, INDIVIDUAL DROPS TO SWITCHES AND RECEPTACLES MAY BE 1/2" UNLESS OTHERWISE NOTED ON DRAWINGS. ALL THINWALL FITTINGS SHALL BE OF THE STEEL COMPRESSION GLAND TYPE, NO SET-SCREW FITTINGS ALLOWED.
6. INSTALL SIZE OF CONDUIT CALLED FOR ON DRAWINGS AND AS SCHEDULED ABOVE AND SHALL NOT REDUCE SIZE OF CONDUITS TO SUIT WIRE FILL CAPACITY.
7. PROVIDE BARRIERS TO SEPARATE DIFFERENT PHASES IN 277 VOLT GANGED SWITCH BOXES AND FEEDERS IN MULTI-CIRCUIT PULL-BOXES.
8. FINAL EQUIPMENT CONNECTION TO PILOT CONTROL DEVICES SHALL BE MADE WITH 1'-0" MINIMUM LENGTH OF FLEXIBLE CONDUIT CONNECTION (I.E., SOLENOID VALVES, MOTORIZED DAMPERS, ETC.) COORDINATE WITH RESPECTIVE CONTRACTORS.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY MATERIALS, DEVICES, LABOR, AND COORDINATION AS REQUIRED TO INSTALL COMPLETE AND FUNCTIONAL SYSTEMS AS DESIGNED, REQUIRED, AND CONTEMPLATED IN ACCORDANCE WITH ALL APPLICABLE CODES, STANDARDS, PROJECT DOCUMENTS, AND OWNER'S REQUIREMENTS.
10. ALL RECEPTACLES INSTALLED WITHIN 72" OF BASIN, WASHTUB, OR IN UNFINISHED BELOW GRADE, OR EXTERIOR LOCATIONS SHALL BE GFI TYPE. ALL BATHROOMS SHALL HAVE AT LEAST (1) 20A/120V RECEPTACLE WITHIN 12" TO 36" OF SINK.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECT DEVICE USAGE INCLUDING, BUT NOT LIMITED TO: BEDROOMS AND SLEEPING AREAS SHALL BE AFCI PROTECTED RECEPTACLES, COMPUTER IG RECEPTACLES. KITCHENS, GARAGES, NON-FINISHED BASEMENTS AND EXTERIOR LOCATIONS SHALL HAVE GFCI PROTECTED RECEPTACLES. WATER COOLERS AND HAIR/HAND DRYERS SHALL HAVE HmA TRIP GFI BREAKERS.
12. PROVIDE FULL DETAILED SUBMITTALS FOR ALL PROPOSED ELECTRICAL DEVICES, EQUIPMENT AND MATERIALS PROPOSED TO BE UTILIZED IN THE PROJECT. ALL SUBMITTALS ARE SUBJECT TO THE REVIEW, APPROVAL, AND/OR REJECTION BY THE OWNER, ARCHITECT, AND ENGINEER.

LIGHTING SYMBOLS

SYMBOL	DESCRIPTION	
	SURFACE WRAPAROUND FLUORESCENT LIGHTING FIXTURE PRISMATIC LENSED	LIGHTING FIXTURES: "F1" INDICATES LIGHTING FIXTURE TYPE. REFER TO LIGHTING FIXTURE SCHEDULE FOR DESCRIPTION AND MOUNTING. "1" INDICATES CIRCUIT NUMBER "a" INDICATES SWITCH CONTROL SHADING OF LIGHTING FIXTURE OR "EM" INDICATES LIGHTING FIXTURE CONNECTED TO EMERGENCY CIRCUIT.
	PENDANT TYPE LIGHTING FIXTURE	
EM	WALL MOUNTED BATTERY PACK EMERGENCY LIGHTING UNIT	
EM	REMOTE HEAD CONNECTED TO EMERGENCY BATTERY PACK	

1a, 1a 1b, 1a 1b 3a, 1a 1b 3a 3b — LIGHT SWITCHES, SINGLE POLE UNLESS NOTED OTHERWISE:

"1a" INDICATES SWITCHLEG CONTROLLED
"D" INDICATES DIMMER SWITCH
"XP" INDICATES EXPLOSION PROOF
"K" INDICATES KEY OPERATED
"LV" INDICATES LOW VOLTAGE
"MC" INDICATES MOMENTARY CONTACT
"P" INDICATES PILOT LIGHT
"TH" INDICATES THERMAL TRIP
"WP" INDICATES WEATHERPROOF
"2P" INDICATES 2 POLE
"3P" INDICATES THREE POLE
"3W" INDICATES THREE-WIRE
"4W" INDICATES FOUR-WIRE

X3 EM, X21 EM — "X#" INDICATES INSCRIPTION, ARROWS, AND SINGLE OR DOUBLE FACED, AS SHOWN BELOW. SHADED QUADRANTS INDICATES CHEVRONS.

"X1"	FIRE ESCAPE	"X12"	EXIT ←→
"X2"	STAIRWAY	"X13"	EXIT – RECESSED
"X3"	EXIT	"X14"	TRIANGLE
"X4"	FIRE ESCAPE →	"X15"	ELEVATOR
"X5"	STAIRWAY →	"X16"	FIRE ESCAPE ⇉
"X5A"	STAIRS →	"X17"	STAIRWAY ⇉
"X6"	EXIT →	"X18"	EXIT ⇉
"X7"	FIRE ESCAPE ←	"X19"	FIRE ESCAPE ⇇
"X8"	STAIRWAY ←	"X20"	STAIRWAY ⇇
"X8A"	STAIRS ←	"X20A"	STAIRS ⇇
"X9"	EXIT ←	"X21"	EXIT ⇇
"X10"	FIRE ESCAPE ←→	"X22"	FIRE ESCAPE ⇆
"X11"	STAIRWAY ←→	"X23"	STAIRWAY ⇆
"X11A"	STAIRS ←→	"X23A"	STAIRS ⇆
		"X24"	EXIT ⇆

LIGHTING GENERAL NOTES

1. ALL ACRYLIC LENS SHALL BE 100% VIRGIN ACRYLIC. MIN. .125" THICKNESS. ALL LIGHT FIXTURES SHALL HAVE LENSES, LOUVERS, OR GUARDS, NO EXPOSED FLUORESCENT TUBES, HID LAMPS, OR INCANDESCENT LAMPS SHALL BE ALLOWED.
2. ALL FLUORESCENT FIXTURES TO BE FURNISHED COMPLETE WITH PREMIUM 35K ENERGY SAVING LAMPS, FUSES, AND <10% THD ELECTRONIC BALLASTS.
3. ELECTRICAL CONTRACTOR SHALL PROVIDE IN-LINE FUSING FOR ALL FLUORESCENT AND HIGH INTENSITY DISCHARGE (H.I.D.) FIXTURES SERVED FROM 15, 20, 25, AND 30 AMP AMPERE CIRCUIT BREAKERS.
4. ALL EXIT SIGNS AND EMERGENCY LIGHT FIXTURES SHALL BE IN STRICT ACCORDANCE WITH THE LOCAL JURISDICTIONAL CODE AUTHORITY. ANY MODIFICATIONS TO UPGRADE SYSTEM SHALL BE INCLUDED IN THE BASE BID. ALL EXIT SIGNS SHALL BE INSTALLED IN A VISIBLE LOCATION. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL STEMS WHERE NECESSARY TO DROP A SIGN BELOW AN OBSTRUCTION. PROVIDE EXIT AND EMERGENCY LIGHTING DRAWINGS AND CUTSHEETS TO LOCAL FIRE PREVENTION AUTHORITY FOR REVIEW.
5. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL REQUIRED MOUNTING HARDWARE (PENDANTS, SUPPORTS, ETC.) FOR FIXTURES MOUNTED IN EXPOSED AREAS. PROVIDE RODS OR AIRCRAFT GRADE CABLE FOR HUNG FIXTURES.
6. ALL LIGHTING FIXTURES SHALL BEAR THE APPROPRIATE U. L. LABEL FOR THE USE AND UNION LABELS AND/OR CSA LABELS WHERE REQUIRED.
7. FURNISH TO THE OWNERS REPRESENTATIVE ONE SCREW DRIVER FOR EACH TYPE OF TAMPER PROOF SCREW WHICH IS UTILIZED ON LIGHTING FIXTURES AT THE COMPLETION OF THE PROJECT.
8. THE COLOR FACTOR FOR ALL H.I.D. AND FLUORESCENT LAMPS SHALL MATCH. 3500K ABD 85CRI SHALL BE STANDARD FOR ALL FLUORESCENT LAMPS AND 4000K AND 70 CRI FOR ALL H.I.D. LAMPS. COORDINATE WITH MANUFACTURERS.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY MATERIALS, DEVICES, LABOR, AND COORDINATION AS REQUIRED TO INSTALL COMPLETE AND FUNCTIONAL SYSTEMS AS DESIGNED, REQUIRED, AND CONTEMPLATED IN ACCORDANCE WITH ALL APPLICABLE CODES, STANDARDS, PROJECT DOCUMENTS, AND OWNER'S REQUIREMENTS.
10. ALL FIXTURES, OTHER THAN COMMON AREA FIXTURES, SHALL BE CIRCUITED AS DUAL SWITCHED, DIMMABLE, AND/OR CONTROLLED VIA OCCUPANCY SENSOR IN COMPLIANCE WITH ENERGY CONSERVATION CODES, U.N.O.
11. ALL FIXTURE TRIM, COLORS, FINISHES, ETC. SHALL BE VERIFIED WITH THE ARCHITECT PRIOR TO PURCHASING. UNVERIFIED FIXTURES SHALL BE REPLACED AT CONTRACTORS EXPENSE IF UNSATISFACTORY TO ARCHITECT AND/OR OWNER.
12. ALL OCCUPANCY SENSORS SHALL BE NEW DUAL TECHNOLOGY TYPE WITH RANGES AS REQUIRED PER APPLICATION. ALL SENSORS SHALL HAVE MINIMUM (2) TYPES OF ADJUSTMENT FOR TIME DELAY OFF, AND SENSOR SIGNAL STRENGTH. SENSORS SHALL BE INTELLIGENT SELF LEARNING TYPE, NO EXCEPTIONS.
13. PROVIDE MINIMUM 10% ATTIC STOCK OF ALL LAMPS AND BALLASTS INSTALLED. DELIVER TO OWNER UPON SUBSTANTIAL COMPLETION.
14. ALL LAMPS SHALL BE ULTRA-LOW MERCURY GREEN TYPE. PHILLIPS ALTO/ALTO II OR APPROVED EQUAL. COORDINATE WITH MANUFACTURER AND PROVIDE COMPLETE SUBMITTAL INCLUDING MERCURY CONTENT OF EACH LAMP TYPE.
15. PROVIDE FULL DETAILED SUBMITTALS FOR ALL PROPOSED ELECTRICAL DEVICES, EQUIPMENT AND MATERIALS PROPOSED TO BE UTILIZED IN THE PROJECT. ALL SUBMITTALS ARE SUBJECT TO THE REVIEW, APPROVAL, AND/OR REJECTION BY THE OWNER, ARCHITECT, AND ENGINEER.

FGM ARCHITECTS
CHICAGO
OAK BROOK
O'FALLON

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

ELECTRICAL SYMBOL LIST, GENERAL NOTES & SPECIFICATIONS

DRAWN: BMD

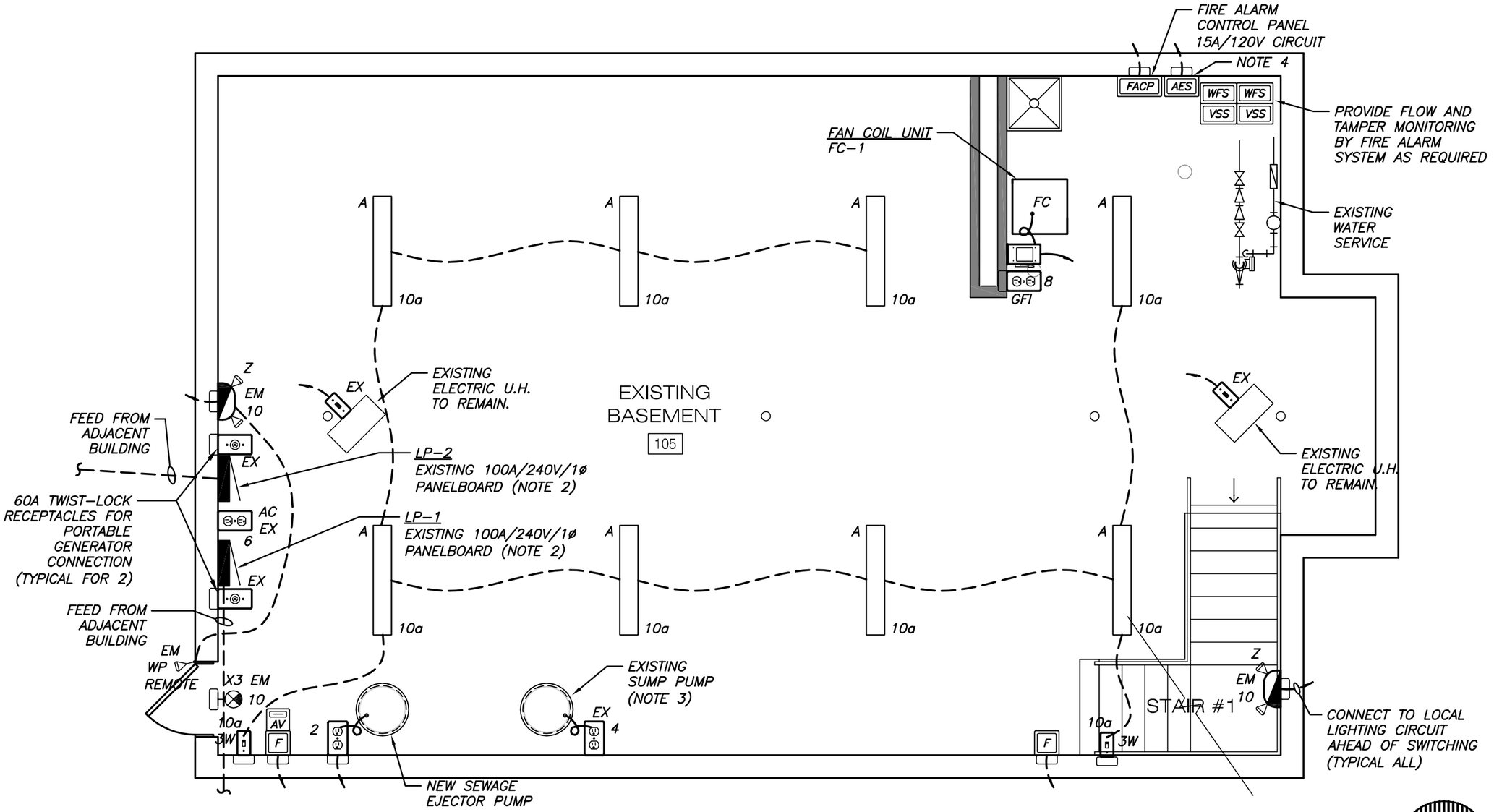
APPROVED: DBD

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
E-0

JOB NO. #13-1641.01



PROPOSED BASEMENT FLOOR PLAN

SCALE 1/4" = 1'-0"

1 / E-1

NORTH

NOTES:

1. *REFER TO SHEET E-0 SYMBOLS, NOTES, AND SPECIFICATIONS.*
2. *INTERCONNECT GROUND AND NEUTRALS AT ENTRY TO BUILDING PER CODE. PROVIDE 1#6G, 1/2"C FROM PANELBOARD TO WATER SERVICE INCOMING AND A 10' DRIVEN GROUND ROD.*
3. *PROVIDE 20A/120V PLUG IN BATTERY BACK UP UNIT FOR EXISTING SUMP PUMP SIMILAR TO SUMPRO BASE MODEL 1/2 HP.*
4. *PROVIDE DEDICATED 20A/120V CIRCUITS FOR NEW FIRE ALARM SYSTEM AND WIRELESS ALARM MONITORING UNIT.*
5. *ALL CIRCUITING IS FOR GENERAL REFERENCE ONLY. CONTRACTOR SHALL COORDINATE ALL FINAL CIRCUITRY WITH EXISTING PANELBOARDS IN FIELD AS REQUIRED, V.I.F.*
6. *PROVIDE LOCK-ON DEVICES FOR ALL FIRE ALARM EQUIPMENT AND EM LIGHTING CIRCUIT BREAKERS.*

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BASEMENT ELECTRICAL PLAN

DRAWN: BMD

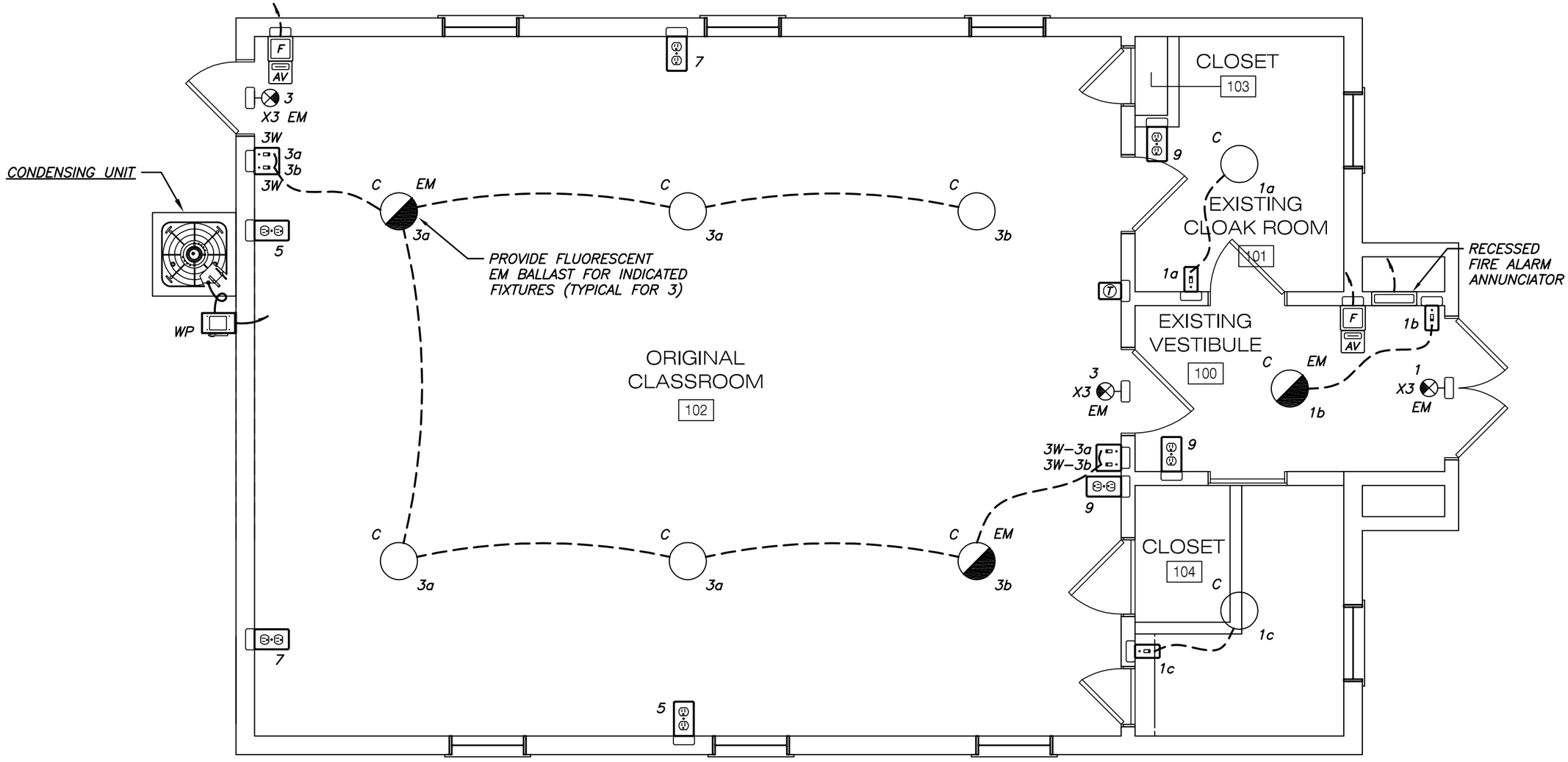
APPROVED: DBD

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
E-1

JOB NO. #13-1641.01



PROPOSED FIRST FLOOR PLAN

SCALE 1/4" = 1'-0"

1 / E-2

NORTH

NOTES:

1. *REFER TO SHEET E–0 SYMBOLS, NOTES, AND SPECIFICATIONS.*
2. *BALANCE ALL NEW LOADS EVENLY BETWEEN EXISTING PANELBOARDS 'LP–1' & 'LP–2', V.I.F.*
3. *ALL CIRCUITING IS FOR GENERAL REFERENCE ONLY. CONTRACTOR SHALL COORDINATE ALL FINAL CIRCUITRY WITH EXISTING PANELBOARDS IN FIELD AS REQUIRED, V.I.F.*

FGM ARCHITECTS
CHICAGO OAK BROOK O'FALLON

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

FIRST FLOOR ELECTRICAL PLAN

DRAWN: BMD

APPROVED: DBD

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
E-2

JOB NO. #13-1641.01

PANELBOARD: LP-1 (EXISTING)

PANEL LOC. BASEMENT PANEL TYPE NEMA 1, BOLT-ON, CB BUS SIZE 100 AMPS
MAIN MAIN CB MOUNTING : SURFACE VOLTAGE : 240 / 120 V. 1 ø 3 W.

CCT	C/B	DESCRIPTION	A ø VA	B ø VA	DESCRIPTION	C/B	CCT
1	20/1	VESTIBULE & CLOSET LIGHTING	504	500	FIRE ALARM CONTROL PANEL	20/1	2
3	20/1	CLASSROOM LIGHTING		1008	F.A. WIRELESS MONITORING UNIT	20/1	4
5	20/1	CLASSROOM RECEPTACLES	360	360	BASEMENT RECEPTACLES	20/1	6
7	20/1	CLASSROOM RECEPTACLES		540	BASEMENT GFI RECEPTACLES	20/1	8
9	20/1	VESTIBULE & CLOSET RECEPTACLES	360	548	BASEMENT LIGHTING	20/1	10
11	20/1	EXISTING TO REMAIN V.I.F.		500	EXISTING TO REMAIN V.I.F.	20/1	12
13	20/1	EXISTING TO REMAIN V.I.F.	500	500	EXISTING TO REMAIN V.I.F.	20/1	14
15	20/1	EXISTING TO REMAIN V.I.F.		500	EXISTING TO REMAIN V.I.F.	20/1	16
17	20/1	EXISTING TO REMAIN V.I.F.	500	500	EXISTING TO REMAIN V.I.F.	20/1	18
19	20/1	SPARE		0	EXISTING TO REMAIN V.I.F.	20/1	20
21	20/1	SPARE	0	4900	FAN COIL UNIT	60/2	22
23	20/1	SPARE		0	4900		24
25	20/1	SPARE	0	0	SPARE	20/1	26
27	60/2	GENERATOR CONNECTION RECEPTACLE BELOW PANEL 2#6, 1#8G, 3/4"C		0	0	SPARE	20/1	28
29			0	0	SPARE	20/1	30
		TOTAL VA/PHASE	9,532	10,168	TOTAL VA	19,700	
					TOTAL AMPS	82.1	

10,000 AIC RATED

PANELBOARD: LP-2 (EXISTING)

PANEL LOC. BASEMENT PANEL TYPE NEMA 1, BOLT-ON, CB BUS SIZE 100 AMPS
MAIN MAIN CB MOUNTING : SURFACE VOLTAGE : 240 / 120 V. 1 ø 3 W.

CCT	C/B	DESCRIPTION	A ø VA	B ø VA	DESCRIPTION	C/B	CCT
1	30/2	CONDENSING UNIT	2160	1200	NEW SEWAGE EJECTOR PUMP	20/1	2
3				2160	1000	EXISTING SUMP PUMP	20/1	4
5	20/1	EXISTING TO REMAIN V.I.F.	500	2500	EXISTING ELECTRIC UNIT HEATER	30/2	6
7	20/1	EXISTING TO REMAIN V.I.F.		500	2500		8
9	20/1	EXISTING TO REMAIN V.I.F.	500	2500	EXISTING ELECTRIC UNIT HEATER	30/2	10
11	20/1	EXISTING TO REMAIN V.I.F.		500	2500		12
13	20/1	EXISTING TO REMAIN V.I.F.	500	500	EXISTING TO REMAIN V.I.F.	20/1	14
15	20/1	SPARE		0	500	EXISTING TO REMAIN V.I.F.	20/1	16
17	20/1	SPARE	0	500	EXISTING TO REMAIN V.I.F.	20/1	18
19	20/1	SPARE		0	0	SPARE	20/1	20
21	20/1	SPARE	0	0	SPARE	20/1	22
23	20/1	SPARE		0	0	SPARE	20/1	24
25	20/1	SPARE	0	0	SPARE	20/1	26
27	20/1	SPARE		0	0	GENERATOR CONNECTION RECEPTACLE BELOW PANEL 2#6, 1#8G, 3/4"C	60/2	28
29	20/1	SPARE	0	0				30
		TOTAL VA/PHASE	10,860	9,660	TOTAL VA	20,520		
					TOTAL AMPS	85.5		

10,000 AIC RATED

MECHANICAL AND PLUMBING EQUIPMENT CONNECTION SCHEDULE

EQUIPMENT TAG	ø	VOLT	HP	AMPS	PANELBOARD	OVER CURRENT PROTECTION	FEEDER	LOCAL DISCONNECT	LOCATION	QTY
FC-1	1	240	1/3	40.0	LP-1	60A/240V/2P CB	2#6, 1#8G, 3/4"C	60A/240V/1ø	BASEMENT	1
CU-1	1	240	NA	18.0	LP-2	30A/240V/2P CB	2#12, 1#12G, 3/4"C	30A/240V/1ø	OUTSIDE	1
SE	1	120	NA	7.2	LP-1	20A/120V/1P CB	2#12, 1#12G, 3/4"C	PLUG	BASEMENT	1

NOTES:
1. ELECTRICAL AND MECHANICAL SIZES FOR GENERAL REFERENCE ONLY, COORDINATE EXACT REQUIREMENTS WITH RESPECTIVE CONTRACTORS PRIOR TO INSTALLATION, VERIFY ALL LOCATIONS WITH RESPECTIVE CONTRACTORS, AND PROVIDE POWER CONNECTIONS ACCORDINGLY.
2. CONTRACTOR SHALL PROVIDE AN AMPERAGE AND VOLTAGE COORDINATION SHEET TO BE VERIFIED AND SIGNED BY ALL TRADES AND PARTIES SUPPLYING EQUIPMENT PRIOR TO INSTALLATION OF ANY EQUIPMENT FEEDS. SHEET SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR REVIEW WHEN COMPLETE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

LIGHTING FIXTURE SCHEDULE CONT.

TYPE	DESCRIPTION	LAMP QUANTITY	LAMP TYPE	FIXTURE VA	FIXTURE VOLTS	MANUFACTURER AND CATALOG NUMBER	MOUNTING
A	CEILING SURFACE MOUNTED INDUSTRIAL FIXTURE WITH WITH NEMA PREMIUM INSTANT-START ELECTRONIC BALLAST	2	32W T8	64	120	LITHONIA #L232MV-SERIES	CEILING SURFACE
C	18" DIAMETER PENDANT FIXTURE WITH 34" OVERALL HEIGHT, OPAL WHITE GLASS DIFFUSER, OIL RUBBED BRONZE FINISH, AND FUSING	4	42W TRT	168	120	OCL #SC1-P1AA-18-ORB-4TT42-120-34-FUS -SERIES	CEILING PENDANT
X	EMERGENCY EXIT SIGN WITH LED LAMPS, MATTE BLACK DIE-CAST ALUMINUM HOUSING, BRUSHED ALUMINUM FACE, STENCIL FACE TYPE, RED LETTERING, AND NICKEL-CADMIUM BATTERY	LED	LED	1.3	120	LITHONIA #LE-S-1-R-120/277-EL N-SERIES	WALL SURFACE
Z	EMERGENCY LIGHTING UNIT WITH WHITE THERMOPLASTIC HOUSING, (2) 9W/6V MR-24 COMPOSITE KRYPTON LAMP HEADS, AND MAINTENANCE-FREE LEAD-CALCIUM BATTERY	2	9W/6V MR-24 KRYPTON	18	120	LITHONIA #ELM618-SERIES	WALL SURFACE
REMOTE HEAD	EMERGENCY LIGHTING UNIT REMOTE FIXTURE WITH THERMOPLASTIC HOUSING, SINGLE ADJUSTABLE 6W/6V MR-24 COMPOSITE KRYPTON LAMP HEAD	1	6W/6V MR-24 KRYPTON	6	120	LITHONIA #ELA MR24-K0606-SERIES	EXTERIOR WALL SURFACE

NOTES:
1. COORDINATE ALL FIXTURE TYPES, QUANTITIES, AND LOCATIONS WITH ARCHITECT PRIOR TO PURCHASING.
2. ALL LIGHTING FIXTURES SHALL BE FURNISHED WITH INLINE FUSE, EXCEPT EXIT SIGNS AND EM LIGHTING.
3. COORDINATE ALL FIXTURE COLORS, STYLES, AND MOUNTING WITH ARCHITECT PRIOR TO PURCHASING.
4. PROVIDE 277-120V AUTO-XFRMRS FOR ALL FIXTURE WHICH REQUIRE 120V OPERATION, COORDINATE WITH MANUFACTURER AND PROVIDE ACCORDINGLY.
5. ALL FLUORESCENT AND H.I.D. LAMPS SHALL BE PHILLIPS ALTO/ALTO II SERIES ULTRA LOW MERCURY CONTENT TYPE, OR APPROVED EQUAL.

FGM ARCHITECTS
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MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

ELECTRICAL SCHEDULES

DRAWN: BMD

APPROVED: DBD

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
E-3

JOB NO. #13-1641.01

APPENDIX B

REFERENCE

(AR) EXISTING WINDOW TO BE REMOVED. PREP WINDOW OPENING AS REQUIRED TO ACCOMMODATE NEW WINDOW INSTALLATION.

(BR) EXISTING DOOR TO BE REMOVED. PREP DOOR OPENING AS REQUIRED TO ACCOMMODATE NEW DOOR INSTALLATION.

(CR) PREP EXISTING WOOD FLOORING AS REQUIRED TO ACCOMMODATE FUTURE REFINISHING.

1 FUTURE DEMOLITION REFERENCE KEY NOTES

SCALE: NTS

(1R) INSTALL WALL FINISH MATERIALS ON PLUMBING CHASE WALL. PROVIDE 5/8" MOISTURE RESISTANT GYP. BD. ON WET WALL SIDE AND STANDARD GYP. BD. ON OPPOSITE SIDE. WALL FINISH TO BE PAINTED IN COLOR AS SELECTED BY OWNER. REFER TO PARTITION TYPES, SHEET AR-11 FOR ADDITIONAL INFORMATION.

(2R) PREP EXISTING DOOR AS REQUIRED TO RESTORE FULL OPERATIONAL FUNCTIONALITY.

(3R) PREP WOOD STAIR AND HANDRAIL ASSEMBLY TO RECEIVE NEW PAINT FINISH. FINISH COLOR TO BE SELECTED BY OWNER.

(4R) INSTALL NEW DESIGN/BUILD PLEXIGLAS OR GLASS ENCLOSURE OVER EXISTING EXPOSED WALL. COORDINATE DISPLAY ENCLOSURE DIMENSIONS, LOCATION AND OTHER PERTINENT DETAILS AND REQUIREMENTS WITH OWNER PRIOR TO FINAL DESIGN OR FABRICATION.

(5R) NOT USED.

(6R) NOT USED.

(7R) NOT USED.

(8R) PROVIDE NEW BATT INSULATION TO BE INSTALLED WITHIN EXISTING EXTERIOR WALL PARTITION. PROVIDE VAPOR BARRIER TO BE INSTALLED OVER EXISTING STUD WALLS ONCE NEW WALL INSULATION IS IN PLACE. REFER TO SHEET AR-12 AND SPECIFICATIONS FOR DETAILED INFORMATION.

(9R) PROVIDE NEW LAYER OF GYP. BD. WALL FINISH OVER EXISTING WALL. PROVIDE NEW WOOD WAINSCOT PANEL, WOOD WALL BASE, AND WOOD CHAIR RAIL. SIZE, STYLE AND DIMENSIONS OF WOOD COMPONENTS TO MATCH EXISTING. PREP WOOD SURFACES AS REQUIRED TO RECEIVE PAINT. FINISH COLOR TO BE SELECTED BY OWNER. PROVIDE FINISH COAT OF PLASTER OVER GYP. BD. WALL IN AREA ABOVE WAINSCOT. PLASTER FINISH TO MATCH EXISTING WALL FINISH OR AS SELECTED BY OWNER. REFER TO INTERIOR ELEVATIONS, SHEET AR-9 FOR ADDITIONAL INFO.

(10R) INSTALL NEW CLOSED CELL SPRAY INSULATION WITHIN EXISTING WALL CAVITY. PATCH AND REPAIR WALL FINISH AS REQUIRED. REFER TO SPECIFICATIONS FOR DETAILED INFO.

(11R) INSTALL WALL FINISH MATERIALS ON WALL PARTITION, AS PER NOTED PARTITION TYPE. PROVIDE WOOD WAINSCOT PANEL, WOOD WALL BASE AND WOOD TOP RAIL IN SIZE, STYLE AND DIMENSIONS TO MATCH EXISTING ADJACENT WALLS, V.I.F. PREP WOOD SURFACES AS REQUIRED TO RECEIVE PAINT. FINISH COLOR TO BE SELECTED BY OWNER. PROVIDE FINISH COAT OF PLASTER OVER GYP. BD WALL IN AREA ABOVE WAINSCOT. PLASTER FINISH TO MATCH EXISTING WALL FINISH, OR AS SELECTED BY OWNER. REFER TO PARTITION TYPES, SHEET AR-10 FOR ADDITIONAL INFORMATION.

(12R) INSTALL WALL FINISH MATERIALS ON PARTIAL HEIGHT WALL PARTITION, AS PER NOTED PARTITION TYPE. WALL FINISH TO BE PAINTED IN COLOR AS SELECTED BY OWNER. REFER TO SHEET AR-11 FOR ADDITIONAL INFO.

(13R) PATCH AND REPAIR EXISTING PLASTER WALL FINISH AS REQUIRED. FINISH COLOR TO MATCH EXISTING, OR AS SELECTED BY OWNER.

(14R) PREP EXISTING WOOD WAINSCOT PANEL, WOOD WALL BASE AND WOOD TOP RAIL AS REQUIRED TO RECEIVE PAINT. FINISH COLOR TO BE SELECTED BY OWNER.

(15R) PREP EXISTING WOOD DOOR AS REQUIRED TO RECEIVE PAINT. FINISH COLOR TO BE SELECTED BY OWNER.

(16R) REINSTALL EXISTING WOOD DOOR. PREP DOOR AS REQUIRED TO RECEIVE PAINT. FINISH COLOR TO BE SELECTED BY OWNER.

(17R) REINSTALL EXISTING WOOD DOOR ARCHITECTURAL TRIM. PREP TRIM AS REQUIRED TO RECEIVE PAINT. FINISH COLOR TO BE SELECTED BY OWNER.

2 FUTURE BASEMENT AND FIRST FLOOR PLAN REFERENCE KEYNOTES

SCALE: NTS

(18R) INSTALL NEW SOLID WOOD PANEL DOOR (DOOR #2). DOOR SIZE, STYLE, DIMENSIONS, DESIGN AND HARDWARE TO MATCH ADJACENT INTERIOR EXISTING VESTIBULE DOOR, V.I.F. EXISTING FIXED TRANSOM ABOVE OPENING TO REMAIN. PREP NEW DOOR AND TRANSOM AS REQUIRED TO RECEIVE PAINT. FINISH COLOR TO BE SELECTED BY OWNER.

(19R) INSTALL NEW PAIR OF ENTRY DOORS (DOOR #1). DOOR SIZE AND DIMENSIONS TO MATCH EXISTING DOORS AND OPENING, V.I.F.. DOOR STYLE/PROFILE TO MATCH EXISTING REAR ENTRY DOOR. CONTRACTOR TO CONSULT WITH OWNER FOR DOOR HARDWARE REQUIREMENTS AND FOR ADDITIONAL INFO.

(20R) REINSTALL EXISTING OPENING WOOD ARCHITECTURAL TRIM OR PROVIDE AND INSTALL NEW WOOD DOOR ARCHITECTURAL TRIM, AS REQUIRED. NEW TRIM SIZE, STYLE/PROFILE, DIMENSIONS AND DESIGN TO MATCH EXISTING, V.I.F. PREP ALL TRIM AS REQUIRED TO RECEIVE PAINT. FINISH COLOR TO BE SELECTED BY OWNER.

(21R) INSTALL NEW FIXED, NON-OPERABLE SOLID WOOD DOOR. DOOR SIZE, STYLE/PROFILE, DIMENSIONS DESIGN , AND FAUX FIXED HARDWARE TO MATCH NEW AND EXISTING DOORS WITHIN COMMON INTERIOR VESTIBULE AREA. PROVIDE NEW FIXED TRANSOM ABOVE DOOR, COMPLETE WITH GLASS AND FRAME. TRANSOM SIZE, STYLE/PROFILE, DIMENSIONS AND DESIGN TO MATCH EXISTING TRANSOM ON OPPOSITE WALL OF EXISTING VESTIBULE AREA. PREP NEW DOOR AND TRANSOM AS REQUIRED TO RECEIVE PAINT. FINISH COLOR TO BE SELECTED BY OWNER.

(22R) INSTALL NEW DOUBLE HUNG OPERABLE WINDOW, SIZED TO FIT IN EXISTING ORIGINAL OPENING. VERIFY ALL WINDOW DIMENSIONS IN FIELD. PROVIDE FLASHING, CAULK AND SEALANT AS REQUIRED FOR A COMPLETE INSTALLATION. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

(23R) PREP EXISTING WOOD FLOOR AS REQUIRED TO ACCOMMODATE REFINISHING. PATCH ALL EXISTING FLOOR OPENINGS AS REQUIRED. NEW REPLACEMENT FLOOR PLANKS TO MATCH SIZE, SPECIES AND DIMENSIONS OF EXISTING FLOORING, V.I.F. REFINISH EXISTING WOOD FLOOR (SAND, STAIN, VARNISH, ETC.). FINISH STAIN COLOR TO BE SELECTED BY OWNER.

(24R) NOT USED.

3 FUTURE BASEMENT & FIRST FLOOR PLAN REFERENCE KEYNOTES, CTD.

SCALE: NTS

(25R) INSTALL NEW PENDANT TYPE LIGHT FIXTURE. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

(26R) NOT USED.

(27R) PROVIDE NEW BATT INSULATION TO BE INSTALLED BETWEEN EXISTING CEILING JOISTS. PROVIDE VAPOR BARRIER TO BE INSTALLED ON INTERIOR FACE OF EXISTING JOISTS. REFER TO SHEET AR-12 AND SPECIFICATIONS FOR DETAILED INFORMATION.

(28R) INSTALL NEW GYPSUM BOARD CEILING SYSTEM DIRECTLY TO UNDERSIDE OF EXISTING CEILING JOISTS. PROVIDE COAT OF PLASTER AS FINAL CEILING FINISH. FINISH COLOR TO MATCH EXISTING PLASTER CEILING, OR AS SELECTED BY OWNER.

(29R) PATCH AND REPAIR EXISTING PLASTER CEILING FINISH AS REQUIRED. FINISH COLOR TO MATCH EXISTING, OR AS SELECTED BY OWNER.

(30R) NOT USED.

4 FUTURE REFLECTED CEILING PLAN REFERENCE KEY NOTES

SCALE: NTS

(31R) REPAIR AND REPLACE EXISTING WOOD BASE TRIM AS REQUIRED THROUGHOUT BUILDING EXTERIOR. PREP REPLACEMENT TRIM AS REQUIRED TO RECEIVE PAINT. FINISH COLOR TO MATCH EXISTING, OR AS SELECTED BY OWNER.

(32R) PATCH, REPLACE AND REPAIR EXISTING WOOD SIDING AS REQUIRED THROUGHOUT BUILDING EXTERIOR. SIZE, SPACING AND DIMENSIONS OF REPLACEMENT SIDING TO MATCH EXISTING, V.I.F.. PREP REPLACEMENT SIDING AS REQUIRED TO RECEIVE PAINT. FINISH COLOR TO MATCH EXISTING, OR AS SELECTED BY OWNER.

(33R) PREP EXISTING WOOD SIDING, TRIM AND ADDITIONAL ORNAMENTATION AS REQUIRED TO RECEIVE PAINT. FINISH COLOR TO MATCH EXISTING BUILDING COLOR, OR AS SELECTED BY OWNER.

(34R) PROVIDE CAULK AND SEALANT TO EXISTING OPENINGS, PENETRATIONS, AND ADDITIONAL AREAS AS REQUIRED THROUGHOUT BUILDING.

(35R) INSTALL NEW WINDOW, SIZED TO FIT IN EXISTING ORIGINAL OPENING. VERIFY ALL WINDOW DIMENSIONS IN FIELD. PROVIDE FLASHING, CAULK AND SEALANT AS REQUIRED FOR A COMPLETE INSTALLATION. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

5 FUTURE EXTERIOR ELEVATION REFERENCE KEY NOTES

SCALE: NTS

FGM ARCHITECTS
CHICAGO OAK BROOK O'FALLON

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

PROJECT KEYNOTES (FOR REFERENCE ONLY)

DRAWN: AO

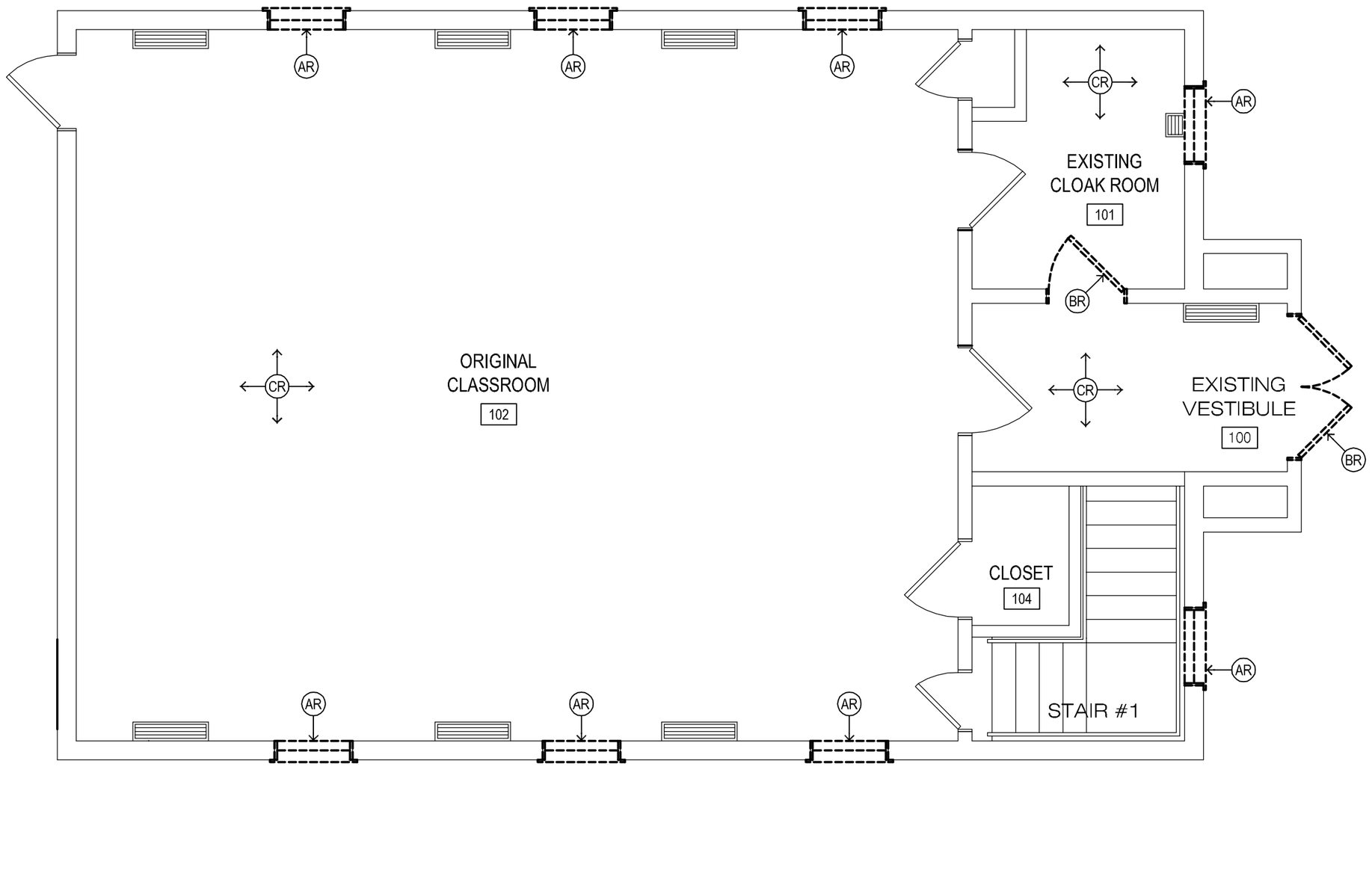
APPROVED: RL

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
AR-1

JOB NO. #13-1641.01



1 **FUTURE FIRST FLOOR DEMOLITION PLAN**

SCALE: 1/4" = 1'-0"

FGM ARCHITECTS
CHICAGO OAK BROOK O'FALLON

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

FIRST FLOOR DEMOLITION PLAN
(FOR REFERENCE ONLY)

DRAWN: AO

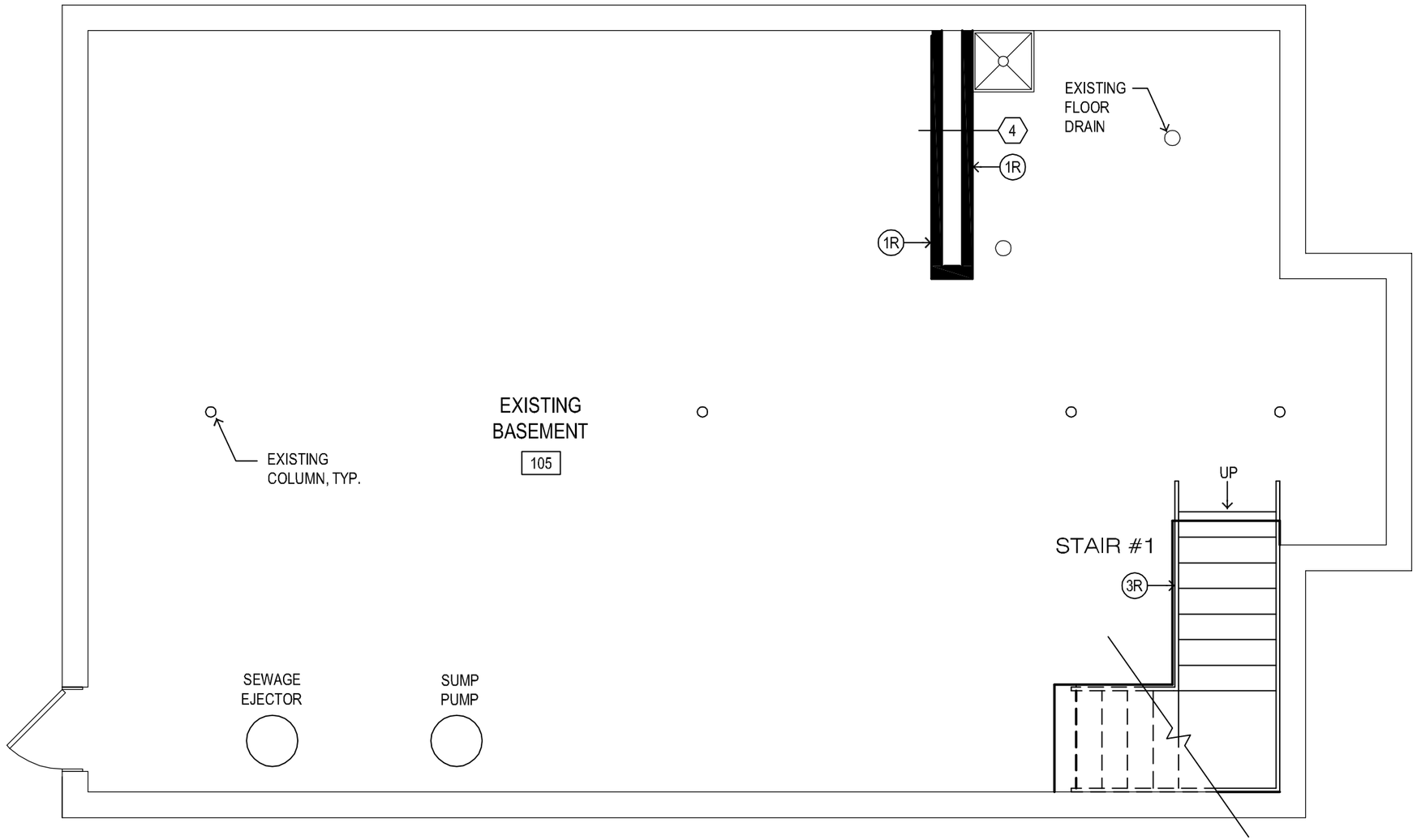
APPROVED: RL

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
AR-2

JOB NO. #13-1641.01



1 **FUTURE BASEMENT FLOOR PLAN**

SCALE: 1/4" = 1'-0"

FGM ARCHITECTS

CHICAGO OAK BROOK O'FALLON

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
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BASEMENT FLOOR PLAN (FOR REFERENCE ONLY)

DRAWN: AO

APPROVED: RL

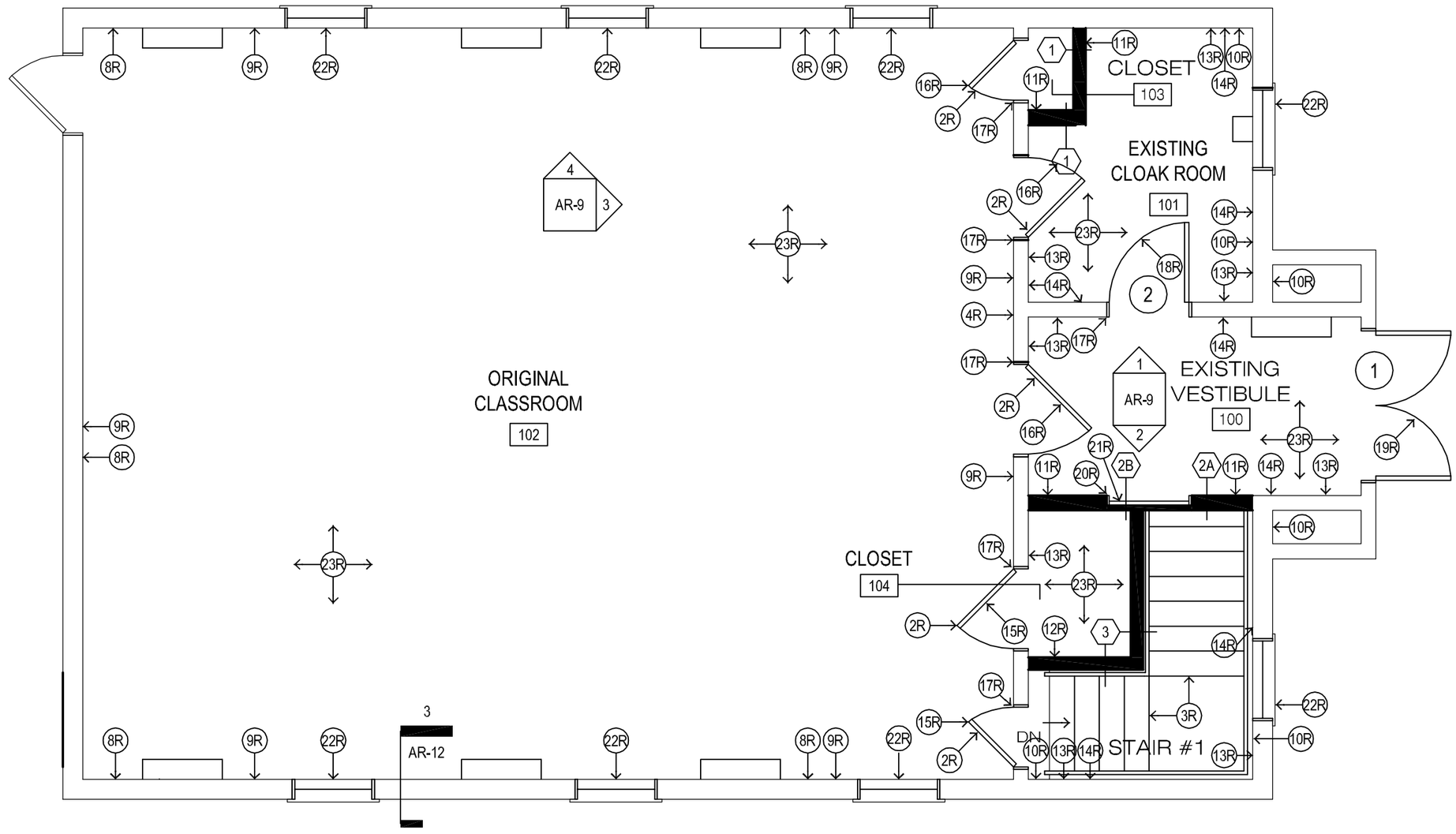
PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.

AR-3

JOB NO. #13-1641.01



1 **FUTURE FIRST FLOOR PLAN**

SCALE: 1/4" = 1'-0"

FGM ARCHITECTS
OAK BROOK
CHICAGO
OFALLON

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

FIRST FLOOR PLAN (FOR REFERENCE ONLY)

DRAWN: AO

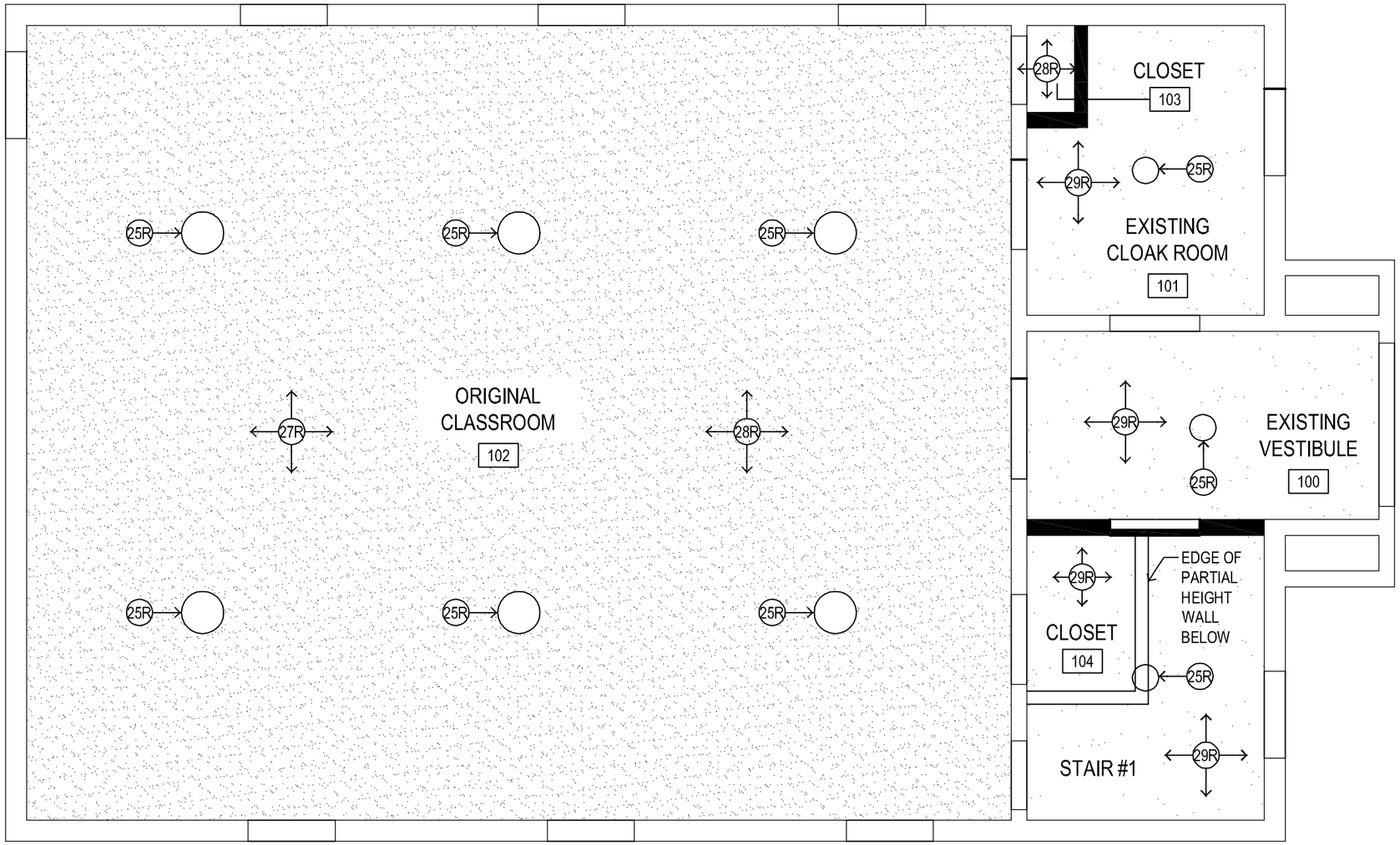
APPROVED: RL

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
AR-4

JOB NO. #13-1641.01



NORTH

1 **FUTURE FIRST FLOOR REFLECTED CEILING PLAN**

SCALE: 1/4" = 1'-0"

FGM ARCHITECTS
CHICAGO OAK BROOK O'FALLON

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

FIRST FLOOR REFLECTED CEILING PLAN
(FOR REFERENCE ONLY)

DRAWN: AO

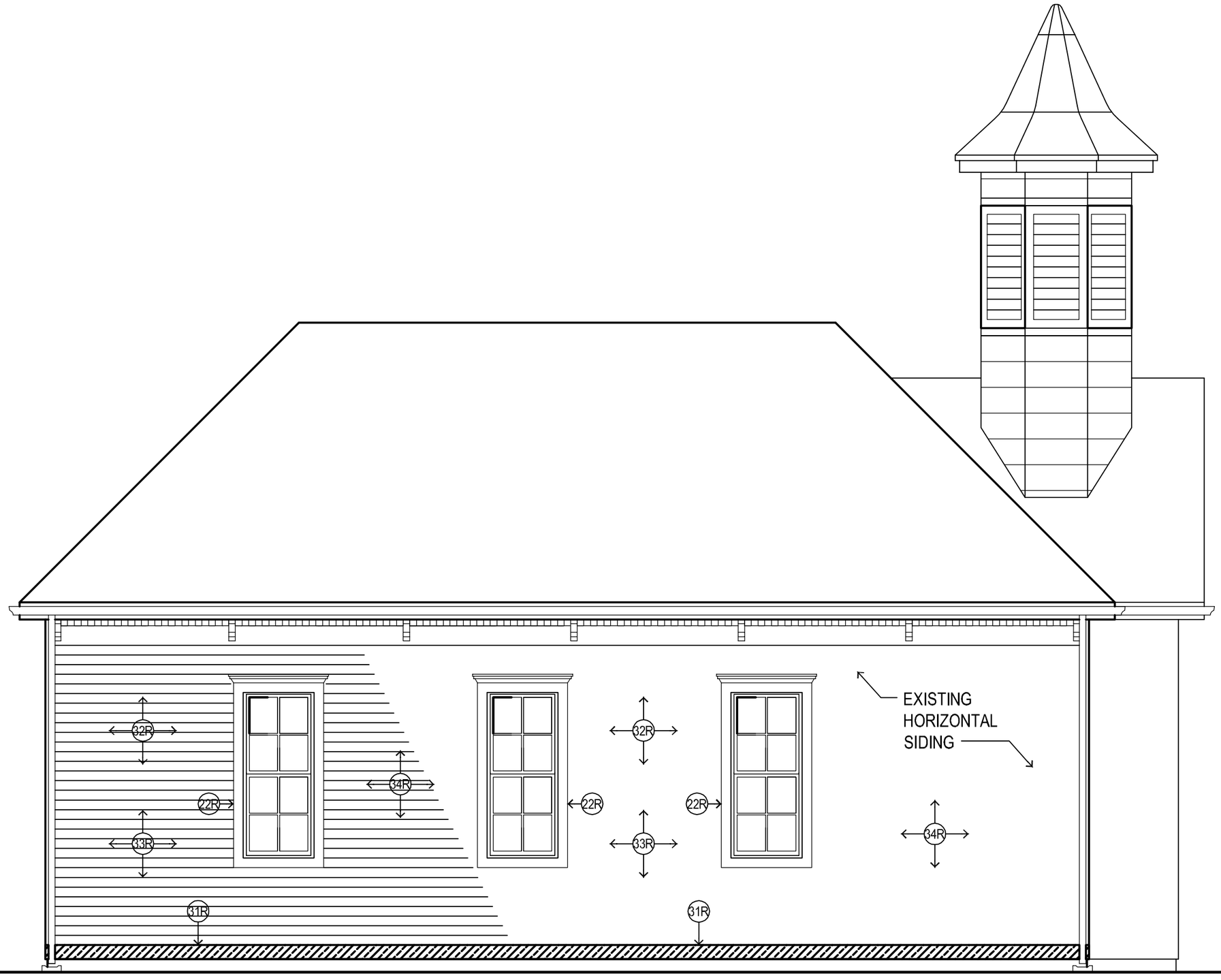
APPROVED: RL

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
AR-5

JOB NO. #13-1641.01



1 NORTH ELEVATION

SCALE: 1/4" = 1'-0"

FGM ARCHITECTS

CHICAGO OAK BROOK O'FALLON

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EXTERIOR ELEVATIONS (FOR REFERENCE ONLY)

DRAWN: AO

APPROVED: RL

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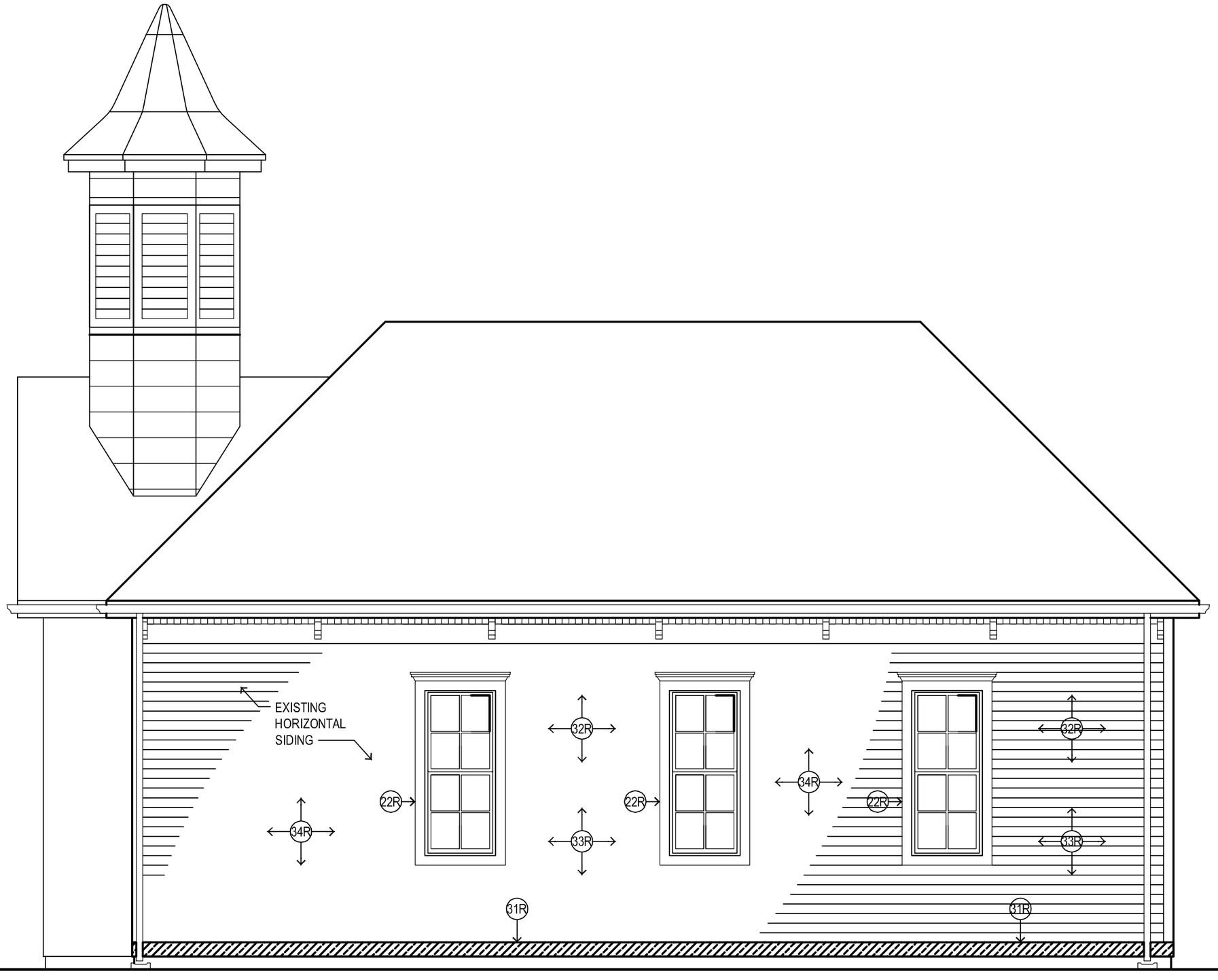
DATE: 8/28/2014

SHEET NO.

AR-6

JOB NO. #13-1641.01



1 SOUTH ELEVATION

SCALE: 1/4" = 1'-0"

FGM ARCHITECTS

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EXTERIOR ELEVATIONS (FOR REFERENCE ONLY)

DRAWN: AO

APPROVED: RL

PROFESSIONAL DESIGN FIRM
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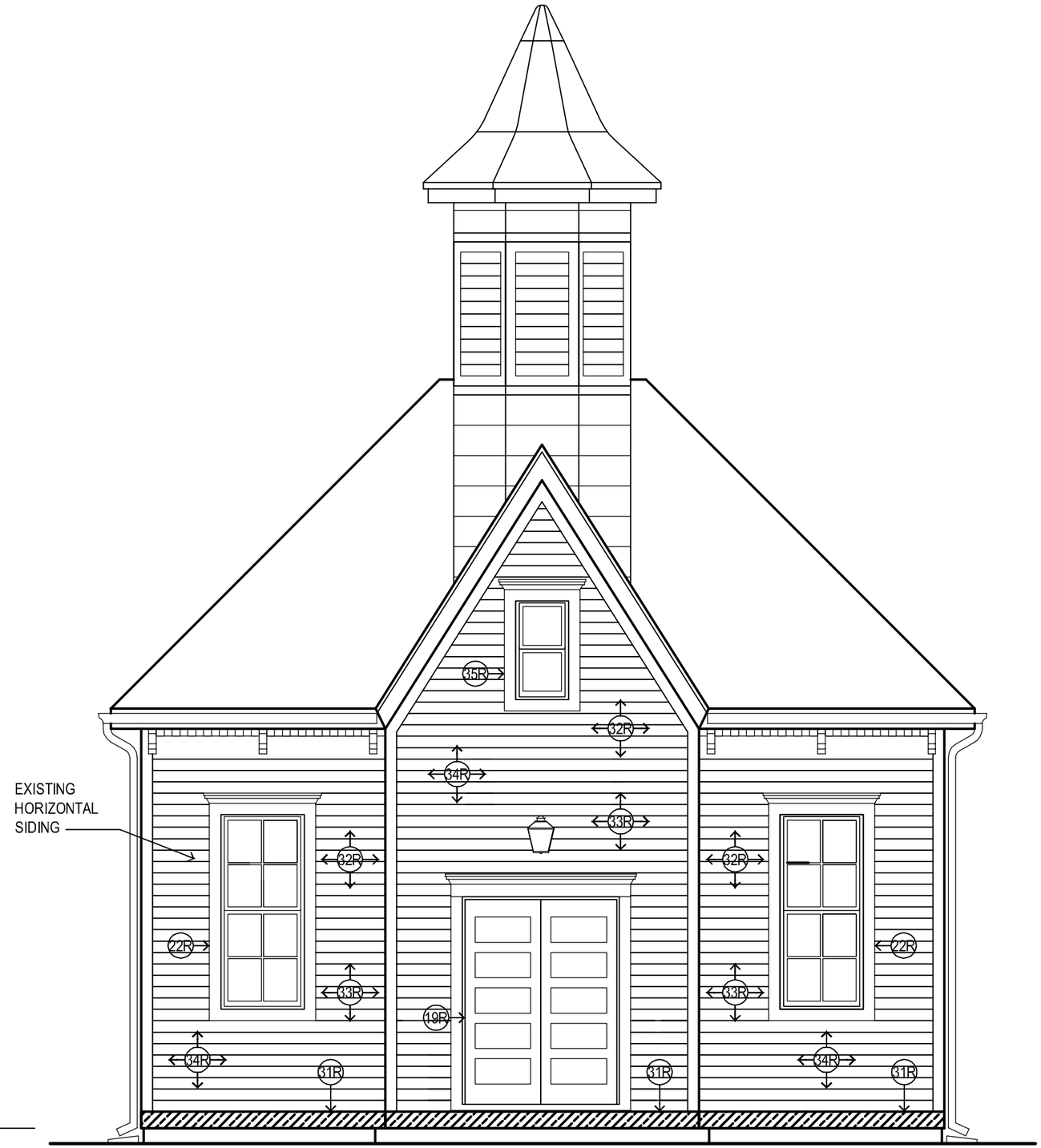
DATE: 8/28/2014

SHEET NO.

AR-7

JOB NO. #13-1641.01



1 **WEST ELEVATION**

SCALE: 1/4" = 1'-0"

FGM ARCHITECTS

CHICAGO · OAK BROOK · O'FALLON

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103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

EXTERIOR ELEVATIONS (FOR REFERENCE ONLY)

DRAWN: AO

APPROVED: RL

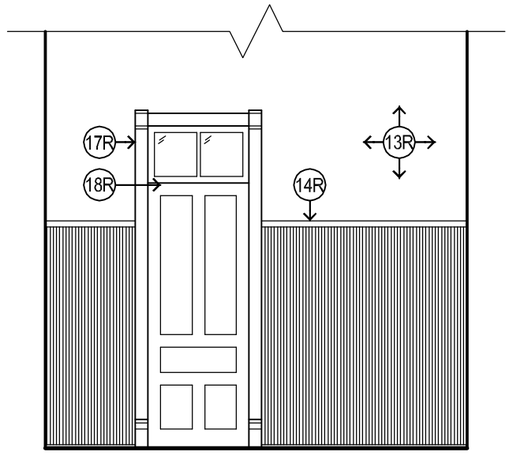
PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

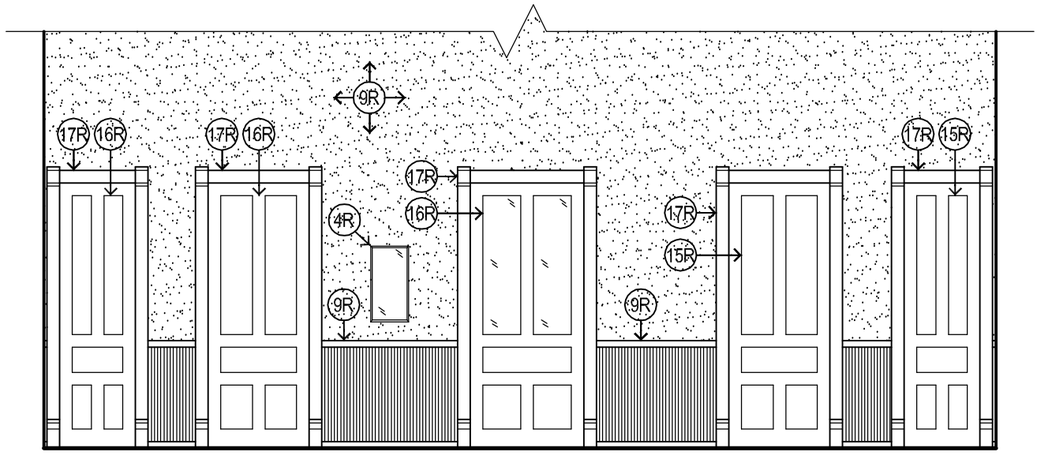
SHEET NO.

AR-8

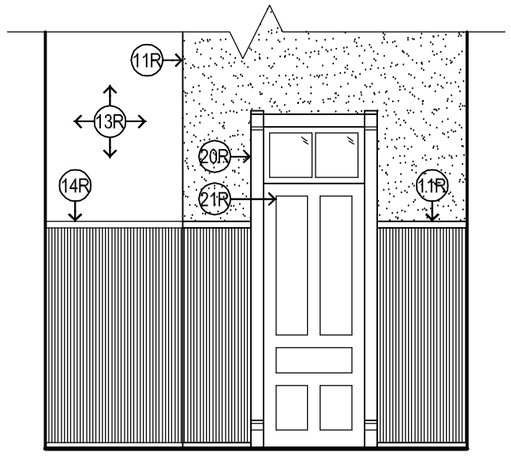
JOB NO. #13-1641.01



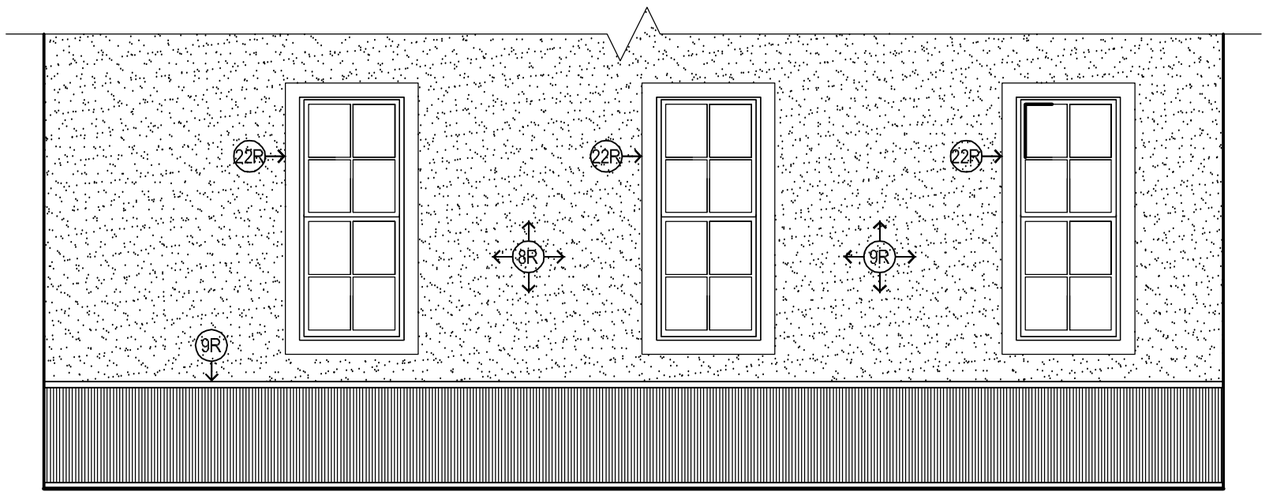
1	SOUTH ELEVATION VESTIBULE #100
	SCALE: 1/4" = 1'-0"



3	WEST ELEVATION ORIGINAL CLASSROOM #102
	SCALE: 1/4" = 1'-0"



2	NORTH ELEVATION VESTIBULE #100
	SCALE: 1/4" = 1'-0"



4	SOUTH ELEVATION ORIGINAL CLASSROOM #102
	SCALE: 1/4" = 1'-0"

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INTERIOR ELEVATIONS (FOR REFERENCE ONLY)

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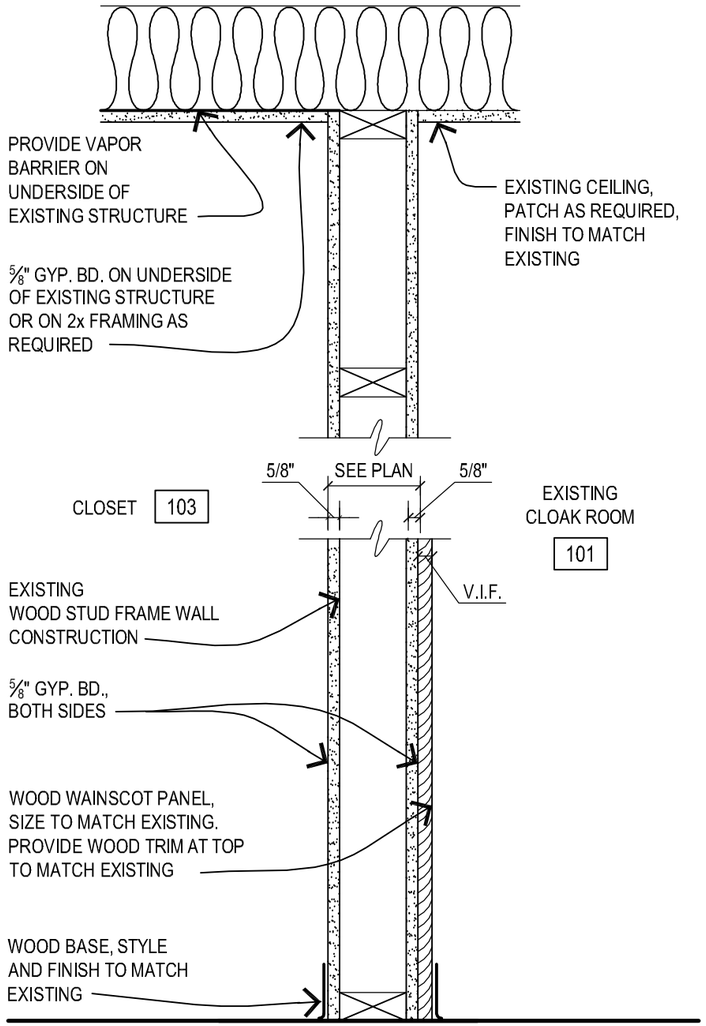
DATE: 8/28/2014

SHEET NO.
AR-9

JOB NO. #13-1641.01



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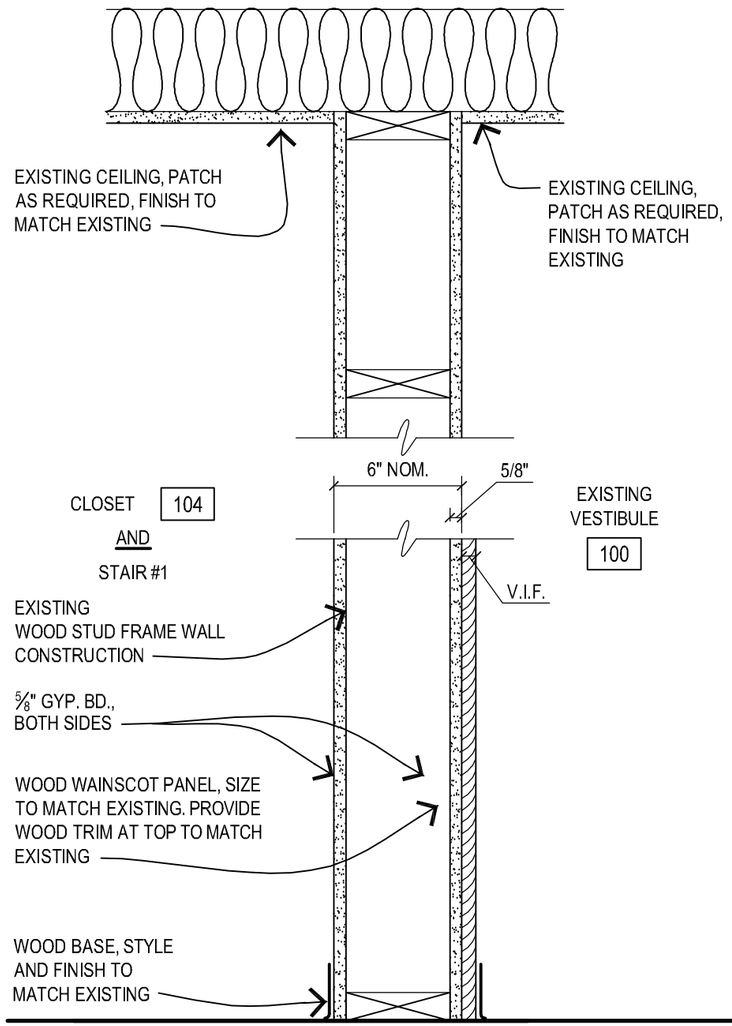

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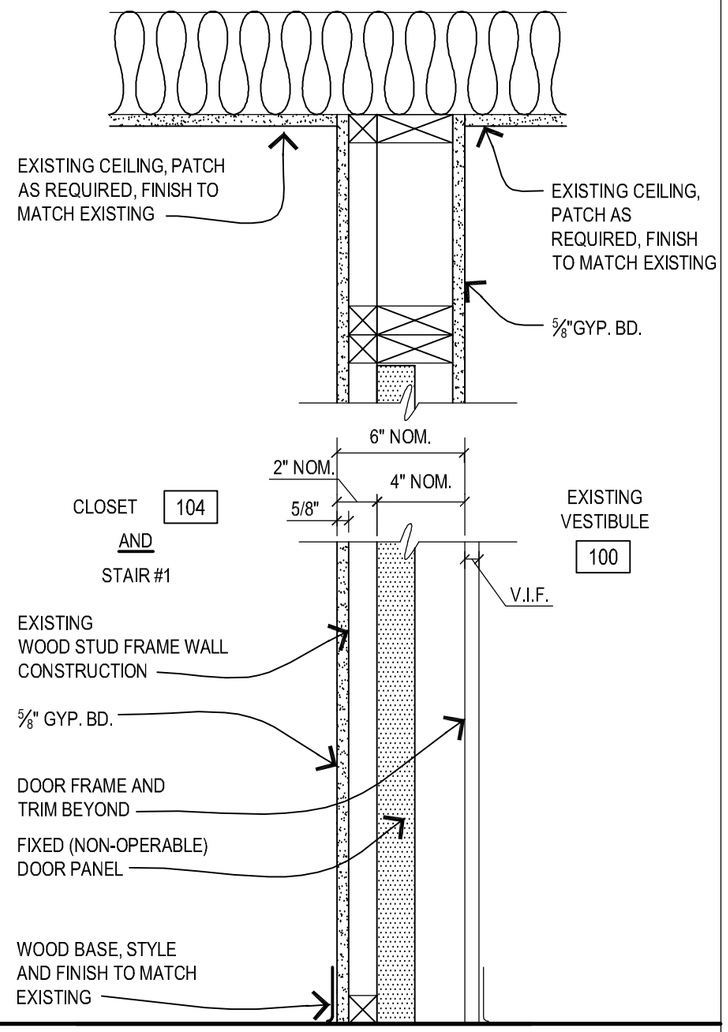

2B

1	**PARTITION TYPES**
	1-1/2" = 1'-0"

FGM ARCHITECTS
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PARTITION TYPES (FOR REFERENCE ONLY)

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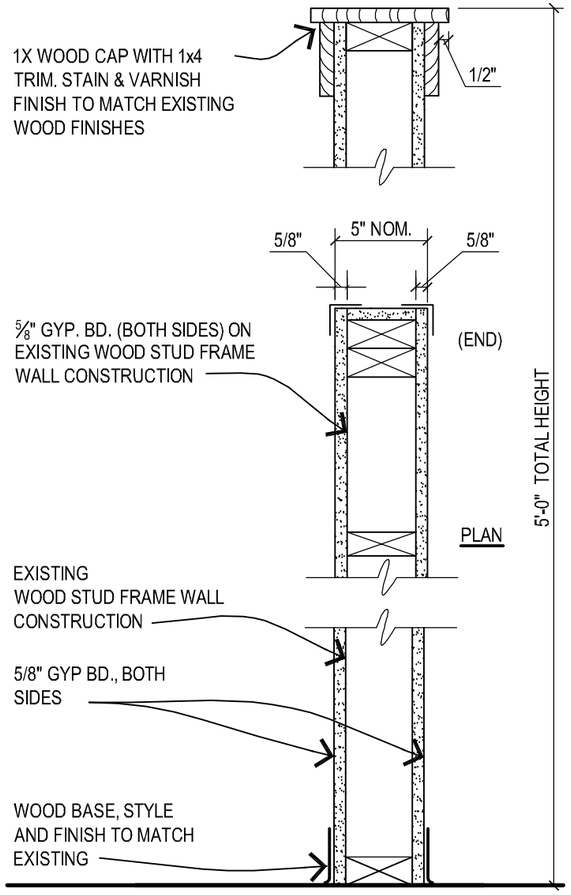
DATE: 8/28/2014

SHEET NO.
AR-10

JOB NO. #13-1641.01



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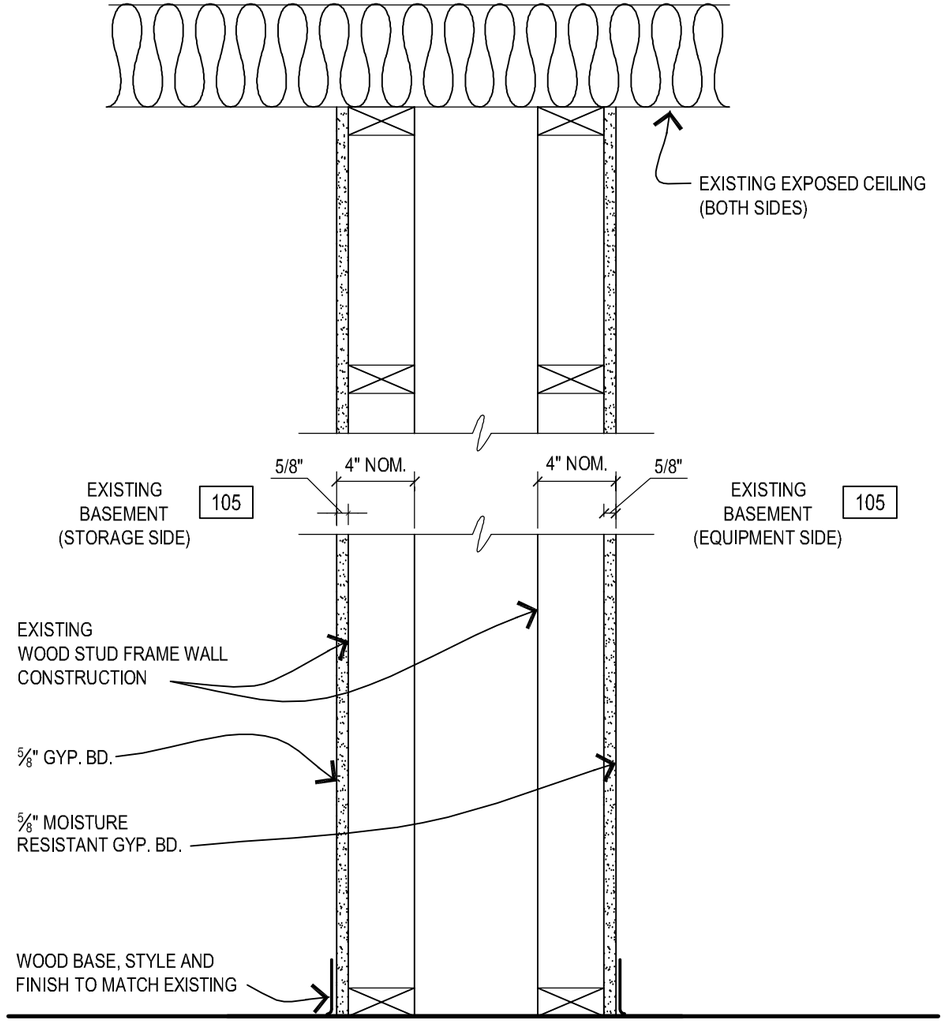

4

1	PARTITION TYPES
	1-1/2" = 1'-0"

FGM ARCHITECTS
OAK BROOK
CHICAGO
O'FALLON

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
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PARTITION TYPES (FOR REFERENCE ONLY)

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DATE: 8/28/2014

SHEET NO.
AR-11

JOB NO. #13-1641.01

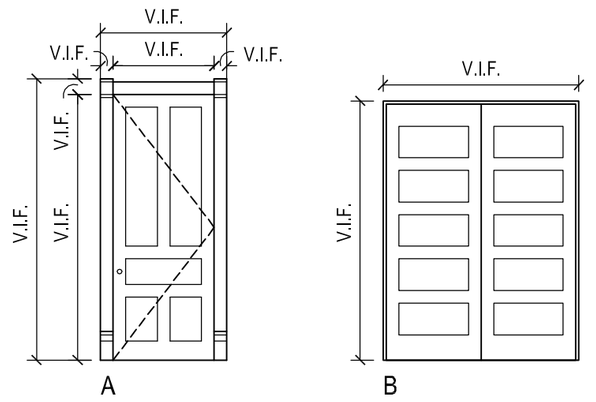
GENERAL NOTES

1. ALL WOOD DOORS TO BE PAINTED. COLORS TO BE SELECTED BY OWNER.
2. AT DOOR #1, ALLOW FOR 18" CLEAR ON THE PULL SIDE OF FRONT APPROACHED DOORS PER ILLINOIS ACCESSIBILITY CODE.
3. AT DOOR #1, ALLOW FOR 12" CLEAR ON THE PUSH SIDE OF FRONT APPROACHED DOORS PER ILLINOIS ACCESSIBILITY CODE.
4. AT DOOR #1, DOOR JAMBS TO BE MOUNTED W/ 4" CLEAR TO ADJACENT WALL CONSTRUCTION ON HINGE SIDE UNLESS OTHERWISE NOTED.
5. REFER TO ILLINOIS ACCESSIBILITY CODE FOR REQUIRED CLEARANCES FOR HINGE SIDE AND LATCH SIDE APPROACHED DOORS.
   NOTIFY ARCHITECT IF CLEARANCES ARE NOT OBTAINABLE.

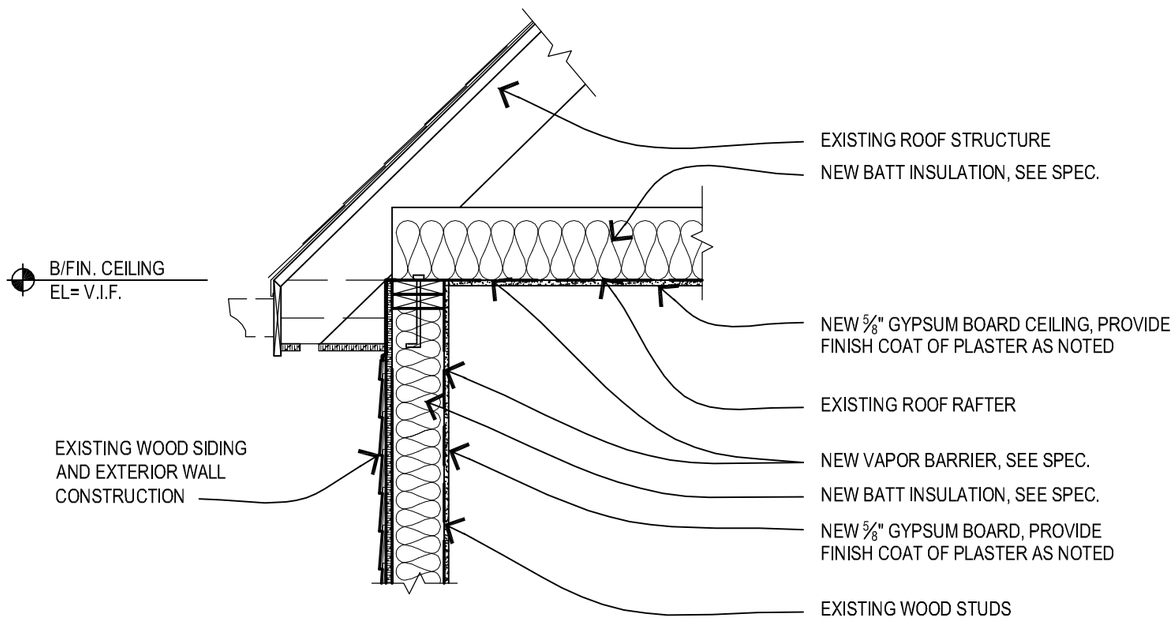
DOOR SCHEDULE

DOOR NO.	SIZE	TYPE	DOOR		FRAME		REMARKS
			MAT'L	FIN.	MAT'L	FIN.	
	FIRST FLOOR						
1	(2) V.I.F. x V.I.F.	B	V.I.F.	V.I.F.	V.I.F.	V.I.F.	DOORS TO MATCH EXISTING REAR ENTRY DOORS
2	V.I.F. x V.I.F.	A	WOOD	P	WOOD	P	DOORS TO MATCH EXISTING INTERIOR DOOR STYLE AND PROFILE

1 **DOOR SCHEDULE AND NOTES**
NOT TO SCALE



2 **DOOR AND FRAME TYPES**
SCALE: 1/4" = 1'-0"



3 **WALL SECTION DETAIL**
SCALE: 3/4" = 1'-0"

FGM ARCHITECTS
OAKBROOK
CHICAGO
OFALLON

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

DETAILS (FOR REFERENCE ONLY)

DRAWN: AO

APPROVED: RL

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
AR-12

JOB NO. #13-1641.01

- EXISTING DOOR TO BE REINSTALLED.
- NEW DOORS TO MATCH SIMILAR STYLE AND PROFILE OF EXISTING DOOR.

- EXISTING WOOD DOOR ARCHITECTURAL TRIM TO BE REINSTALLED.
- NEW TRIM TO MATCH SIMILAR STYLE AND PROFILE OF EXISTING TRIM.

- EXISTING WOOD ARCHITECTURAL TRIM AND TRANSOM TO REMAIN. SURFACES TO BE PREPARED TO RECEIVE PAINT.
- NEW DOORWAY AND TRANSOM ON OPPOSITE WALL TO MATCH SIZE, STYLE AND DIMENSION OF EXISTING.

- EXISTING WOOD WAINSCOT PANELS.
- NEW WAINSCOT TO MATCH SIMILAR SIZE, STYLE / PROFILE AND DIMENSIONS OF EXISTING PANELS.

- LOWER HEIGHT OF ORIGINAL WOOD WAINSCOT PANELS IN ORIGINAL CLASSROOM AREA.
- PROVIDE GLASS DISPLAY ENCLOSURE, PER OWNER'S REQUIREMENTS. REFER TO KEY NOTE #4R FOR ADDITIONAL INFORMATION.

- EXISTING WOOD WAINSCOT PANELS.
- NEW WAINSCOT, WOOD WALL BASE AND TOP RAIL TRIM TO MATCH SIZE, STYLE / PROFILE AND DIMENSIONS OF EXISTING PANELS.

- EXISTING EXTERIOR WOOD BASE TRIM TO BE REPAIRED AND REPLACED AS REQUIRED.

1	**REFERENCE PHOTOS**
	NOT TO SCALE

FGM ARCHITECTS
CHICAGO OAK BROOK O'FALLON

MOUNT PROSPECT HISTORICAL SOCIETY
CENTRAL SCHOOLHOUSE RESTORATION
103 S. MAPLE STREET MOUNT PROSPECT, IL 60056

REFERENCE PHOTOS (FOR REFERENCE ONLY)

DRAWN: AO

APPROVED: RL

PROFESSIONAL DESIGN FIRM
IL # 184-000350

DATE: 8/28/2014

SHEET NO.
AR-13

JOB NO. #13-1641.01