ELMCREST PARK COMMUNITY BUILDING

RAMSEY, MINNESOTA

PROJECT MANUAL

NO. 13-0110-01

DATE: OCTOBER 25, 2013

Studio 55 Architects, LLP
10700 Highway 55, suite 317
Plymouth, MN 55441
763.544.8370
studio55architects.com

SECTIONS 00002 & 00003
PROJECT DIRECTORY & CERTIFICATION

OWNER
City of Ramsey
Mark Riverblood
7550 Sunwood Drive NW
Ramsey, MN 55303
Phone: 763-427-1710

ARCHITECT
Studio 55 Architects, LLP
Bruce P. Bissonnette, AIA
10700 Highway 55, Ste. 317
Plymouth, MN 55441
Phone: 763-544-8370

Commission No. 13-0110-01

I hereby certify that these Specifications were prepared by me or under my direct supervision and that I am a duly registered Architect under the laws of the State of Minnesota.

23532 10/25/13

Bruce P. Bissonnette, AIA — Registration Number — Date
STUDIO 55 ARCHITECTS, LLP

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Document 00020 – Invitation to bid

Part 1 – General

Notice is hereby given that sealed bids for the construction of the Elmcrest Park Community Building will be received by the City of Ramsey at City Hall, 7550 Sunwood Drive NW, Ramsey, MN 55303 until 2:00 P.M. November 18, 2013, at which time they will be publicly opened and read aloud. Bid security in the amount of 5% of the base bid will be required to accompany bids. Bids received after that time will not be accepted and will be returned unopened.

1.1 General Description

A. Construction of a new 4,300 +/- s.f. wood frame park structure; exterior finishes include vertical cement fiber siding with battens, cultured stone, metal roofing, wood windows and aluminum storefront system. Structure consists of concrete block foundations, concrete slab on grade, wood framing including floor trusses and roof trusses. Interior finishes include, fiber reinforced gypsum wall board, polished concrete floors, quarry tile, ceramic tile, wood ceilings and painted walls.

1.2 Owner

A. City of Ramsey
Mark Riverblood
7550 Sunwood Drive NW
Ramsey, MN 55303
763-427-1710

1.3 Architect

A. Studio 55 Architects, LLP
Bruce P. Bissonnette, AIA
10700 Highway 55, Ste. 317
Plymouth, MN 55441
763-544-8370

1.4 Construction Manager

A. American Liberty Construction
Howard Jacobson
PO Box 547
5900 Main Street
Rockford, MN 55373
763-477-9900

1.5 Contract

A. Multiple subcontracts and material orders per bid packages will be issued for the work by the Construction Manager..

1.6 Pre-Bid Conference

a. A pre-bid conference will be held at the City Offices on November 6, 2013 at 10:00 a.m.

1.7 Examination and Procurement of Documents

A. Documents are on file at the following locations:
- Minneapolis Builders Exchange
- St. Paul Builders Exchange
- St. Cloud Builders Exchange
- Downloaded at www.questcdn.com

B. Contact Architect for addenda information.

C. All bidders are responsible for visiting the site and verifying existing conditions.

D. Any question regarding the intent of the drawings or specifications shall be brought to the Architects attention as soon as possible. If direction from the Architect cannot be obtained due to time or communication limitations, the greater quantity, higher quality or condition most favorable to the Owner shall be assumed.

E. The drawings and specifications are complementary to one another. If anything is shown on the drawings or specified in the specifications it shall be considered to be in both and included in the contractors bid.

1.8 Other Conditions

A. Bids may not be withdrawn during the 60 day period immediately following the date of receipt of bids.

B. All contractors are responsible for visiting the site and verifying existing conditions.

C. Owner reserves the right to waive irregularities and to reject any or all bids.

1.9 Contact

a. During the bidding period contact the architect to answer questions pertaining to the bidding documents.

Parts 2 and 3 not used

END OF SECTION

Section 00030
Advertisement for Bids

Elmcrest Park
Ramsey, Minnesota

BIDS RECEIVED UNTIL: 2:00 P.M. NOVEMBER 18, 2013

Sealed bids for the construction of the Elmcrest Park Community Building will be received by the City of Ramsey at City Hall, 7550 Sunwood Drive NW, Ramsey, MN 55303 until 2:00 P.M. November 18, 2013, at which time they will be publicly opened and read aloud.

General Description
Construction of a new 4,300 +/- s.f. wood frame park structure; exterior finishes include vertical cement fiber siding with battens, cultured stone, metal roofing, wood windows and aluminum storefront system. Structure consists of concrete block foundations, concrete slab on grade, wood framing including floor trusses and roof trusses. Interior finishes include, fiber reinforced gypsum wall board, polished concrete floors, quarry tile, ceramic tile, wood ceilings and painted walls.

The bids will be received for multiple bid packages (27) to include general, mechanical and electrical construction.

Bids shall be submitted in exact accordance with bidding documents (including instructions to bidders and proposal forms) and contract documents (including drawings and specifications) as prepared by Studio 55 Architects, LLP, 10700 Highway 55, Ste 317, Plymouth, MN 55441.

Bidding documents and proposed contract documents may be inspected after October 28, 2013, at the following; Minneapolis Builders Exchange, St. Paul Builders Exchange, and St. Cloud Builders Exchange and Quest CDN for a download fee of $10 by selecting this project and entering BidDoc Number 2981429 on the Search Projects page. For assistance and free membership registration, contact QuestCDN at (952) 233-1632 or info@questcdn.com

A Pre-Bid Conference will be held at City Hall on November 6, 2013 at 10:00 a.m.

Each bid shall be accompanied by a bidders bond or a certified check made payable to the Owner for an amount equal to 5% of the bid as bid security.

No bid may be withdrawn within 60 days after opening of bids.

The Owner reserves the right to accept or reject any or all bids and to waive any informalities or irregularities in bidding.

Dated

Published:
Anoka County Union November 1, 2013 and November 8, 2013.

Document 00300 – Bid/Sub Bid Form

Date:

Project: Elmcrest Park Community Building
Ramsey, MN

Bid To:

Bid From:

_____
(Name of firm or company submitting bid)

_____
(Address of firm or company submitting bid)

_____
(City, State, Zip Code)

_____
(Contact person, telephone number, email)

The undersigned, having carefully examined the site of the work and the bidding and contract documents and other conditions affecting the work, proposes to furnish in compliance with these documents, all work described by the contract documents for the Elmcrest Park Community Building located in Ramsey, MN.

Base Bid – Bid Package # _____ Description _____

Lump-sum bid of _____ Dollars

Acknowledgements
In submitting this bid, we understand that the right is reserved by the Owner to accept or reject any or all bids and that this bid may not be withdrawn for a period of 60 calendar days after the bid date.

Acknowledgement of Addenda
We here by acknowledge receipt of Addenda numbers _____

Bidder Identification

( ) We are incorporated in the State of _____
( ) We are a Partnership
( ) We are a Proprietorship

Company Name: _____

By: _____

Signed: _____

Title: _____

Company Address: _____

_____

_____

_____

License No.: _____

Federal Employer
Identification Number: _____

Refer to attached required bid pack break down sheet

A bidder may submit a bid on any number of Bid Categories listed below. A separate bid must be submitted on a lump sum basis for each Bid Category listed. For example, if bidding on three categories, a bidder submits three individual sealed bids. Partial bids will not be accepted.

CONSTRUCTION MANAGER SHALL PROVIDE FOR ALL SUBCONTRACTOR USE - General building permit, special inspections, testing, temporary sanitary facilities, waste disposal containers, ground snow removal, temporary construction entrance, construction water source, office trailer, survey layout of foundations and elevation, temporary heat after building is enclosed.

ALL SUBCONTRACT (S) TRADES SHALL PROVIDE – Drinking water, daily clean-up, waste removal to roll off container, permits, fees and licensing if required, secure material storage, extension cords and all necessary tools and equipment for a complete installation, roof and floor snow removal, temporary heat and cover until building is enclosed for your work.

MATERIALS ONLY BIDS (M) – Shall include field measuring prior to fabrication, delivery to jobsite, 7.275% sales tax, material returns for unused material at 100% credit and free pick up or shipping.

Bid package No. 1 includes twenty-seven (27) bid categories. They are as follows:

02300 EARTHWORK (S) – Includes perimeter silt fence, catch basin protection, stripping sod and dispose of offsite, strip and stockpiling topsoil (protect stockpile), cut and fill to subgrade, foundation excavation, backfill and compaction, import and place 6” sand cushion for floor slabs, exterior slabs and sidewalks, F & I 10 mil vapor barrier, final grade topsoil to 6” depth minimum at +/- 1/10”, remove excess soils from site.

02500 UTILITIES (S) – Includes connect water line to existing waterline, provide curb stop, install waterline into building mechanical room and provide valve, disinfect, test for bacteria. Connect sanitary sewer from building foundation wall to drainfield connection. Underground bore beneath existing parking lot.

02600 SEPTIC SYSTEM (S) – Includes perculation testing, design certification, stripping septic site, piping, sand, rock, gravel, cover topsoil, seeding, holding tank, pump, disconnect, control box, alarm, shut-off, testing and certification. Complete septic system design will be issued by addendum.

03300 CONCRETE (S) – Includes concrete footings, reinforcing, floor slabs, stoop slab, exterior slabs and sidewalks concrete sealer on exposed slabs. Provide alternate price for poured foundations, fireplace foundation, stoop foundation, reinforcing, foundation insulation and heat and cover for foundation construction.

03400 POLISHED CONCRETE (S) – Includes polishing and sealing concrete floors as shown on finish schedule. Temporary power connection if required.

04200 MASONRY (S) – Includes stone veneer, mortar, precast sills, lintels and column caps, fireplace hearth stone, water resistive barrier behind stone, flashing and weeps. Provide alternate price for masonry foundations, fireplace foundation, stoops, reinforcing, core fill, bond beams, foundation insulation and heat and cover for foundation construction.

05500 STEEL FABRICATION (M) – Includes columns, anchor bolts, beams, lintels.

06000 ROUGH AND FINISH LUMBER (M) – Includes framing lumber, LVL’s, trusses, stairs, sheathing, blocking, Simpson style connectors, baseplate anchor bolts, water and air resistive barriers, interior paneling and trim, baseboard trim, 15# tar paper for roof, delivered to the jobsite, tax included.

06100 CARPENTRY (S) – Installation only of 05500 Steel Fabrication, 06000 Rough and Finish Lumber, 06400 Architectural Woodwork, 08100 HM Doors and Hardware, 08500 Wood Windows (and window sill flashing), 10000 Toilet Partitions and Accessories.

06400 ARCHITECTURAL WOODWORK (M) – Includes SSM materials for window sills.

07200 INSULATION (S) – Includes insulation in roof and walls, attic ventilation baffles, vapor barrier in roof and walls, adequate accessories and sealant at outlets, switches and other penetrations.

07400 METAL PANELS (S) – Includes high temperature underlayment, metal panels, trim, continuous, ridge ventilator, cupola, drip edge, roof to wall flashing, plumbing vent stacks (4 ea.), window sill flashing (material only).

07600 CEMENT BOARD SIDING AND TRIM (S) – Includes cement board siding, battens, trim, nails, flashing at precast concrete sills; window and door heads; wall base, fill all nail holes, caulk all cement board to cement board joints.

07900 CAULKING (S) – Includes wall to foundation joint, sidewalk to foundation (and stone) joint, exterior and interior HM door frames, windows, vanity tops, window sills.

08100 HM DOORS AND HARDWARE (M) – Includes door frames, leafs, hardware and temporary cylinders. Includes temporary cylinders for aluminum entrance doors and Concession coiling door.

08300 COILING STEEL DOORS (S) – Includes coiling door, door hoods, track and weather-stripping. Install temporary cylinder provided by others. Concession coiling door to Picnic Area is insulated.

08400 STOREFRONT ALUMINUM WINDOWS AND DOORS (S) – Includes storefront aluminum framing, glazing, doors and hardware, caulking, install cylinders provided by others, remove all stickers and bumpers and clean glass at time of installation.

08500 WOOD WINDOWS (M) – Includes wood windows, extended jambs screens and flashing tape.

09250 GYPSUM DRYWALL (S) – Incudes gypsum board, taped and sanded, all necessary trim, Level 4 finish for all areas.

09300 TILE (S) – Includes ceramic wall and quarry floor tile, base, bullnose cap, grout and caulk.

09600 CARPET AND BASE (S) – Includes carpet, vinyl base, adhesive and minor floor patching & leveling.

09900 PAINTING (S) – Includes exterior cement board and exposed unfinished metals, interior gypsum board, hollow metal doors and frames, coiling steel doors, staining and sealing interior and exterior woodwork

10000 TOILET PARTITIONS AND ACCESSORIES (M) – Includes toilet and urinal partitions, toilet accessories, janitors room accessories, fire extinguishers and cabinets, interior room signs.

11400 FOOD SERVICE EQUIPMENT (S) – Includes 2 each stainless steel custom counters at Concessions coiling doors, three compartment sink with faucets, traps and drains, and $3000 allowance for tables and shelving.

15400 PLUMBING (S) – Includes connection to sanitary sewer at building line, connection to water in Mechanical Room, purchase water meter from City, connection to gas at meter (meter by others), plumbing, water, waste, vent and gas piping, plumbing fixtures and equipment, grease trap, pipe insulation, water heater and tempering valves, hose bibs.

15800 HAVC (S) – Includes heating, air conditioning and ventilating equipment, ductwork, duct insulation, louvers, grilles and registers, exhaust piping and exterior trim, manual control dampers, thermostat, venting water heater, copper condensate lines.

16000 ELECTRICAL (S) – Includes temporary electric service and connection to jobsite trailer, underground electric from transformer to building, meter socket, CT cabinet, service panel, time clock, occupancy sensors, photo cell, interior and exterior lights, switches, outlets, pipe and wire, grounding, power for HVAC and Plumbing, rough in security and power at exterior doors, and building telephone.

Plumbing Specifications:
This is a “Design – Build” plumbing contract. The work includes all necessary plumbing drawings, riser diagrams and other design information and certification required by the Department of Labor and Industry to obtain a building permit. All code required plumbing construction whether listed below or not is to be included in the plumbing bid. The cost of DOLI review is to be included, as well as City of Ramsey plumbing permit fees. The minimum Owner requirements are as follows:
All supply, waste and vent piping, cleanouts, traps, ball valves only, hammer arresters, hangers, and brackets.
2 each ADA wall hung toilets with manual flush valves.
2 each wall hung toilets with manual flush valves.
1 each ADA wall hung urinal with carrier and manual flush valve.
1 each ADA wall hung urinal with carrier and manual flush valve.
4 each wall hung lavatories with concealed arm carriers, chrome ADA handles and insulated traps. Provide tempering valves.
1 each fiberglass janitors sink with chrome faucet.
1 each fiberglass mop sink with chrome wall mount faucet with bucket holder.
5 each floor drains with brushed nickel covers.
Floor clean outs per code with brushed nickel covers.
Wall hung stainless steel NSF hand sink and gooseneck chrome faucet and insulated trap.
Wall hung high /low drinking fountain with cooling and bottle filler.
40 gallon natural gas water heater, .07 EF Rated, vented to outside air.
2 each Woolford keyed hosebibs.
2 each interior hosebibs.
1 each 3” diameter grease trap in floor mounted
Supply, waste and vent piping for three compartment sink. Faucet, trap and drain provided by others and installed by this plumber.
Natural gas piping for water heater and furnace, with valves, unions, dirt legs, etc.
Order and coordinate installation of the gas meter by Centerpointe Energy. Coordinate pressure and size with HVAC subcontractor.

HVAC Specifications:
This is a “Design – Build” HVAC contract. The work includes all necessary HVAC drawings, and other design information and certification required by the City of Ramsey to obtain a building permit. All code required HVAC construction whether listed below or not is to be included in the HVAC bid. The cost of City of Ramsey HVAC permit fees is to be included. The minimum Owner requirements are as follows:
100,000 BTU 95% minimum efficiency forced air upflow furnance.
5 Ton 17.5 Seer minimum air conditioning condenser / coil.
Supply and return ductwork, with manual dampers.
Baked enamel grilles and registers.
Restroom ventilation fans, sized for code air exchanges.
Concession Area ventilation fan, 500 CFM.

Electrical Specifications:
This is a “Design – Build” Electrical contract. The work includes all necessary electrical drawings, and other design information and certification required by the City of Ramsey and the State of Minnesota to obtain a building permit. All code required electrical construction whether listed below or not is to be included in the electrical bid. The cost of the State of Minnesota permit fees is to be included. The minimum Owner requirements are as follows:
120 / 240 V single phase 200 amp service panel

12 each 3 way light switches
2 each 3 way light switches for dual switching Lobby lights
4 each single light switches
4 each occupancy sensors
14 exterior duplex GFI receptacles
2 each exterior quad GFI receptacles
3 each interior duplex GFI receptacles
2 each interior quad floor receptacles
22 each interior duplex receptacles
8 each interior quad receptacles
8 LED emergency exit lights which illuminate exterior stoop
3 LED emergency exit lights
15 each compact fluorescent can lights in Lobby 103
21 each 2 lamp T8 wrap fluorescent lights in 102, 103, 104, 105, 109, 201
7 each 2 lamp T8 strip fluorescent lights in 106, 107, 108
6 each high pressure sodium lights in 010
Power wiring to furnace and AC unit.
Power wiring to 3 each exhaust fans. Interlock restroom fans with occupancy sensor. Interlock Concession area exhaust fan with light switch.

In using the Bid Pack Breakdown Form the Contractor acknowledges that the form is not an all-inclusive list of materials, products, labor, means, methods, and or techniques required for completion of the project. It is the Contractors responsibility to include all required items necessary to deliver the completed project as outlined in the project construction plans and specifications. In preparing a bid, fill in the bid category on this form that you are bidding and attached it to Document 00300 – Bid/Sub Bid Form.

BID PACKS BREAKDOWN FORM

02300 EARTHWORK (S)	
TOTAL	$

02500 UTILITIES (S)	
TOTAL	$

02600 SEPTIC SYSTEM (S)	
TOTAL	$

03300 CONCRETE (S)	
TOTAL	$

03400 POLISHED CONCRETE (S)	
TOTAL	$

04200 MASONRY (S)	
TOTAL	$

05500 STEEL FABRICATION (M)	
TOTAL	$

06000 ROUGH & FINISH LUMBER (M)	
TOTAL	$

06100 CARPENTRY (S)	
TOTAL	$

06400 ARCHITECTURAL WOODWORK (M)	
TOTAL	$

07200 INSULATION (S)	
TOTAL	$

07400 METAL PANELS (S)	
TOTAL	$

07600 CEMENT BOARD SIDING & TRIM (S)	
TOTAL	$

07900 CAULKING (S)	
TOTAL	$

08100 HM DOORS & HARDWARE (M)	
TOTAL	$

08300 COILING STEEL DOORS (S)	
TOTAL	$

08400 STOREFRONT ALUM. WINDOWS & DOORS (S)	
TOTAL	$

08500 WOOD WINDOWS (M)	
TOTAL	$

09250 GYPSUM DRYWALL (S)	
TOTAL	$

09300 TILE (S)	
TOTAL	$

09600 CARPET & BASE (S)	
TOTAL	$

09900 PAINTING (S)	
TOTAL	$

10000 TOILET PARTITIONS (M)	
TOTAL	$

11400 FOOD SERVICE EQUIPMENT (S)	
TOTAL	$

15400 PLUMBING (S)	
TOTAL	$

15800 HVAC (S)	
TOTAL	$

16000 ELECTRICAL (S)	
TOTAL	$

SECTION 00500
FORM OF AGREEMENT

AIA Document A101 "Standard Form of Agreement Between Owner and Contractor," where the Basis of Payment is a Stipulated Sum, 2007 Edition is included herein by reference and shall be used as the form of agreement between the Owner and the Contractor.
Retainage will be 5% until final payment.

SECTION 00700
GENERAL CONDITIONS

The General Conditions of the Contract for Construction are in AIA Document A201, 2007 edition, included herein by reference.

SECTION 00800
SUPPLEMENTARY CONDITIONS

PARAGRAPH 1.1

Add the following new paragraphs to Paragraph 1.1:

1.1.9 Approved. When the words "approved," "satisfactory," "proper" or "as directed" are used, approval by the Architect shall be understood.

1.1.10 Provide. When the word "provide" including derivatives thereof is used, it shall mean to properly fabricate, complete, transport, deliver, install, erect, construct, test and furnish all labor, materials, equipment, apparatus, appurtenances, and all items and expenses necessary to properly complete in place, ready for operation or use under the terms of the Specifications.

1.1.11 Addenda. Addenda are written or graphic instruments issued prior to the execution of the Contract which modify or interpret the bidding documents, including the Drawings and Specifications, by additions, deletions, clarifications or corrections.

1.1.12 Bulletins. Bulletins are written or graphic instruments issued by the Architect after the execution of the Contract which request a proposal from the Contract that, if accepted by the Owner, will cause the execution of a Change Order to modify the Contract Documents.

1.1.13 Knowledge. The terms "knowledge," "recognize" and "discover," their respective derivatives and similar terms in the Contract Documents, as used in reference to the Contractor, shall be interpreted to mean that which the Contractor knows (or should know), recognizes (or should recognize) and discovers (or should discover) in exercising the care, skill, and diligence required by the Contract Documents. Analogously, the expression "reasonably inferable" and similar terms in the Contract Documents shall be interpreted to mean reasonably inferable by a Contractor familiar with the Project and exercising the care, skill and diligence required of the Contractor by the Contract Documents.

PARAGRAPH 1.2

Add the following language to the end of Paragraph 1.2.3:

In the event of inconsistencies within or between parts of the Contract Documents, or between the Contract Documents and applicable standards, codes and ordinances, the contractor shall (1) provide the better quality or greater quantity of Work or (2) comply with the more stringent requirement; either or both in accordance with the Architect's interpretation. The terms and conditions of this Paragraph 1.2.3, however, shall not relieve the Contractor of any of the obligations set forth in Paragraphs 3.2 and 3.7.

.1 On the Drawings, given dimensions shall take precedence over scaled measurements, and large scale drawings over small scale drawings.

.2 Before ordering any materials or doing any Work, the Contractor and each Subcontractor shall verify measurements at the Project site and shall be responsible for the correctness of such measurements. No extra charge or compensation will be allowed on account of differences between actual dimensions and the dimensions indicated on the Drawings. Any difference which may be found shall be submitted to the Architect for resolution before proceeding with the Work.

.3 If a minor change in the Work is found necessary due to actual field conditions, the Contractor shall submit detailed drawings of such departure for approval by the Architect before making the change.

Add the following clauses as Paragraph 1.2.4:

.1 Whenever a product is specified in accordance with a Federal Specification, an ASTM Standard, an American National Standards Institute Specification, or other Association Standard, the Contractor shall present an affidavit from the manufacturer when requested by the Architect or required in the Specifications, certifying that the product complies with the particular Standard or Specification. When requested by the Architect or specified, support test data shall be submitted to substantiate compliance.

.2 Whenever a product is specified or shown by describing proprietary items, model numbers, catalog numbers, manufacturer, trade names, or similar reference, no substitutions may be made unless accepted prior to execution of the Contract or if accepted as a change in the Work in accordance with Paragraphs 3.4.2. When two or more products are shown or specified, the Contractor has the option to use either of those shown or specified.

PARAGRAPH 3.2

Add the following clauses to Paragraph 3.2.2:

.1 The exactness of grades, elevations, dimensions, or locations given on any Drawings issued by the Architect, or the work installed by other contractors, is not guaranteed by the Architect or the Owner.

.2 The Contractor shall, therefore, satisfy itself as to the accuracy of all grades, elevations, dimensions and locations. In all cases of interconnection of its Work with existing or other work, it shall verify at the site all dimensions relating to such existing or other work. Any errors due to the Contractor's failure to so verify all such grades, elevations, locations or dimensions shall be promptly rectified by the Contractor without any additional cost to the Owner.

Add the following paragraphs to the end of Paragraph 3.2:

3.2.5 Except as to any reported errors, inconsistencies or omissions, and to concealed or unknown conditions defined in Paragraph 4.3.6, by executing the Agreement, the Contractor represents the following:

.1 The Contract Documents are sufficiently complete and detailed for the Contractor to (1) perform the Work required to produce the results intended by the Contract Documents and (2) comply with all the requirement of the Contract Documents.

.2 The Work required by the Contract Documents, including, without limitation, all construction details, construction means, methods, procedures and techniques necessary to perform the Work, use of materials, selection of equipment and requirements of product manufacturers are consistent with: (1) good and sound practices within the construction industry; (2) generally prevailing and accepted industry standards applicable to Work; (3) requirements of any warranties applicable to the Work; and (4) all laws, ordinances, regulations, rules and orders which bear upon the Contractor's performance of the Work.

PARAGRAPH 3.4

Add the following paragraphs to the end of Paragraph 3.4:

3.4.4 The Contractor shall only employ labor on the Project or in connection with the Work capable of working harmoniously with all trades, crafts and any other individuals associated with the Project. The Contractor shall also use its best efforts to minimize the likelihood of any strike, work stoppage or other labor disturbance.

.1 If the Work is to be performed by trade unions, the Contractor shall make all necessary arrangements to reconcile, without delay, damage or cost to the Owner and without recourse to the Architect or the Owner, any conflict between the Contract Documents and any agreements or regulations of any kind at any time in force among members or councils which regulate or distinguish what activities shall not be included in the work of any particular trade.

.2 In case the progress of the Work is affected by any undue delay in furnishing or installing any items or materials or equipment required under the Contract Documents because of such conflict involving any such labor agreement or regulation, the Owner may require that other material or equipment of equal kind and quality be provided pursuant to a Change Order or Construction Change Directive.

PARAGRAPH 3.5

Add the following paragraph to Paragraph 3.5:

3.5.1 The Contractor agrees to assign to the Owner at the time of final completion of the Work, any and all manufacturer's warranties relating to materials and labor used in the Work and further agrees to perform the Work in such manner so as to preserve any and all such manufacturer's warranties.

PARAGRAPH 3.7

Delete Paragraph 3.7.1 and substitute the following language:

3.7.1 Except as set forth in Paragraph 2.2.3, the Contractor shall secure and pay for, and, as soon as practicable, furnish the Owner with copies or certificates of all permits and fees (excluding SAC and WAC fees), licenses and inspections necessary for the proper execution and completion of the Work, including, without limitation, all building permits. All connection charges, assessments or inspection fees as may be imposed by any municipal agency or utility company are included in the Contract Sum and shall be the Contractor's responsibility.

In the second line of Paragraph 3.7.2, add the words "and all other requirements" between the words "orders" and "of." Add the following language to the end of Paragraph 3.7.2:

The Contractor shall procure and obtain all bonds required of the Owner or the Contractor by the municipality in which the Project is located or by any other public or private body with jurisdiction over the Project. In connection with such bonds, the Contractor shall prepare all applications, supply all necessary back-up material and furnish the surety with any required personal undertakings. The Contractor shall also obtain and pay all charges for all approvals for street closings, parking meter removal and other similar matters as may be necessary or appropriate from time to time for the performance of the Work.

PARAGRAPH 3.12

Add the following paragraph to the end of Paragraph 3.12:

3.12.11 All shop drawings for any architectural, structural, mechanical or electrical work must be submitted to, and approved by, the Architect. The Contractor represents and warrants that all shop drawings shall be prepared by persons and entities possessing expertise and experience in the trade for which the shop drawing is prepared and, if required by the Architect or applicable law, by a licensed engineer.

PARAGRAPH 3.13

Add the following paragraphs to Paragraph 3.13:

3.13.2 Only materials and equipment which are to be used directly in the Work shall be brought to and stored on the Project site by the Contractor. After equipment is no longer required for the Work, it shall be promptly removed from the Project site. Protection of construction materials and equipment stored at the Project site from weather, theft, damage and all other adversity is solely the responsibility of the Contractor.

3.13.3 The Contractor and any entity for whom the Contractor is responsible shall not erect any sign on the Project site without the prior written consent of the Owner, which may be withheld in the sole discretion of the Owner.

3.13.4 Contractor shall ensure that the Work, at all times, is performed in a manner that affords reasonable access, both vehicular and pedestrian, to the site of the Work and all adjacent areas. The Work shall be performed, to the fullest extent reasonably possible, in such a manner that public areas adjacent to the site of the Work shall be free from all debris, building materials and equipment likely to cause hazardous conditions. Without limitation of any other provision of the Contract Documents, Contractor shall use its best efforts to minimize any interference with the occupancy or beneficial use of (1) any areas and buildings adjacent to the site of the Work or (2) the Building in the event of partial occupancy, as more specifically described in Paragraph 9.9.

PARAGRAPH 7.2

Add the following paragraph to the end of Paragraph 7.2:

7.2.2 Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Work which is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change and any and all adjustments to the Contract Sum and the construction schedule. In the event a Change Order increases the Contract Sum, Contractor shall include the Work covered by such Change Orders in Applications for Payment as if such Work were originally part of the Contract Documents.

PARAGRAPH 9.3

Add the following clause to the end of Paragraph 9.3.1.:

.3 Each Application for Payment shall be accompanied by the following, all in form and substance satisfactory to the Owner:

(1) a current Contractor's lien waiver and duly executed and acknowledged sworn statement showing all Subcontractors and materialmen with whom the Contractor has entered into subcontracts, the amount of each such subcontract, the amount

requested for any Subcontractor and materialmen in the requested progress payment and the amount to be paid to the Contractor from such progress payment, together with similar sworn statement from all such Subcontractors and materialmen;

(2) duly executed waivers of mechanics' and materialmen's liens from all Subcontractors and, when appropriate, from materialmen and lower tier Subcontractors establishing payment or satisfaction of payment of all amounts requested by the Contractor on behalf of such entities or persons in any previous Application for Payment; and

(3) all information and materials required to comply with the requirements of the Contract Documents or reasonably requested by the Owner or the Architect. If required by the Owner's title insurer, if any, the Contractor shall execute a personal gap undertaking in form and substance satisfactory to such title insurer.

Revise Paragraph 9.3.2 to read:

Payment will be made on account of materials delivered and suitably stored at the site only. No payment shall be made for material stored off-site. No payment will be made for materials delivered so early as to jeopardize their installed condition.

PARAGRAPH 9.4

In the first sentence, delete the word "seven" and add the word "ten."

PARAGRAPH 9.6

Add the following language to the end of Paragraph 9.6.2:

Notwithstanding anything in this Paragraph 9.6.2 to the contrary, the Owner may elect, in the Owner's sole discretion, to make any payment requested by the Contractor on behalf of a Subcontractor. The Contractor and such Subcontractor shall be responsible for the allocation and disbursement of funds included as part of any such joint payment. In no event shall any joint payment be construed to create any (1) contract between the Owner and a subcontractor of any tier, (2) obligations form the Owner to such subcontractor, or (3) rights in such subcontractor against the Owner.

PARAGRAPH 9.7

In the first sentence, delete the word "seven" and add the word "ten."

In Paragraph 9.7, change "seven" to "ten" in second line."

Add the following paragraph to Paragraph 9.7:

9.7.1 If the Owner is entitled to reimbursement or payment from the Contractor under or pursuant to the Contract Documents, such payment shall be made promptly upon demand by the Owner. Notwithstanding anything contained in the Contract Documents to the contrary, if the Contractor fails to promptly make any payment due the Owner, or the Owner incurs any costs and expenses to cure any default of the Contractor to correct defective Work, the Owner shall have an absolute right to offset such amount against the Contract Sum and may, in the Owner's sole discretion, elect either to: (1) deduct an amount equal to that which the Owner is entitled from any payment then or thereafter due the Contractor from the Owner, or (2) issue a written notice to the Contractor reducing the Contract Sum by an amount equal to that which the Owner is entitled.

PARAGRAPH 9.10

Add the following language to the end of Paragraph 9.10.1:

All warranties and guarantee required under or pursuant to the Contract Documents shall be assembled and delivered by the Contractor to the Architect as part of the final Application for Payment. The final Certificate for Payment will not be issued by the Architect until all warranties and guarantees have been received and accepted by the Owner.

PARAGRAPH 10.2

Add the following language to the end of Paragraph 10.2.3:

The Contractor shall also be responsible, at the Contractor's sole cost and expense, for all measures necessary to protect any property adjacent to the Project and improvements therein. Any damage to such property or improvements shall be promptly repaired by the Contractor.

Add the following clause 10.2.4.1 to subparagraph 10.2.4:

10.2.4.1 When such use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the work, the Contractor shall give the Owner reasonable advance notice of their intended use.

Add the following paragraphs to the end of Paragraph 10.2:

10.2.9 When all or a portion of the work is suspended for any reason, the Contractor shall securely fasten down all coverings and protect the Work, as necessary, from injury by any cause.

10.2.10 The Contractor shall promptly report in writing to the Owner and Architect all accidents arising out of or in connection with the Work which cause death, personal injury, or property damage, giving full details and statements of any witnesses. In addition, if death, serious personal injuries, or serious property damages are caused, the accident shall be reported immediately by telephone or messenger to the Owner and the Architect.

PARAGRAPH 11.1

Add the following Paragraphs to the end of Paragraph 11.1.1:

11.1.1.9 Liability Insurance shall include all major divisions of coverage and be on a comprehensive basis, including:

1. Premises Operations (including X-C/U as applicable).
2. Independent Contractor's Protective.
3. Products & Completed Operations.
4. Personal Injury Liability with Employment Exclusion deleted.
5. Contractual including specified provision for Contractor's obligation under Paragraph 4.18.
6. Owned, non-owned and hired motor vehicles.
7. Broad Form Property Damage including Completed Operations.
8. Umbrella Excess Liability.
9. If the General Liability coverages are provided by a Commercial General Liability Policy on a claims-made basis, the policy date or Retroactive Date shall predate the Contract; the termination date of the policy or applicable extended reporting period shall be no earlier than that termination date of overages required to be maintained after final payment, certified in accordance with Paragraph 9.10.2.
10. Builders Risk.

Add the following Paragraph the end of Paragraph 11.1.2:

11.1.2.1 The insurance required by Paragraph 11.1.1 shall be written for not less than the following, or greater if required by law:

1. Worker's Compensation
   - A. State: Statutory
   - B. Applicable Federal (e.g., Longshoremen, harbor work, work at or outside U.S. Boundaries): Statutory
   - C. Maritime: $NA
   - D. Employer's Liability: $500,000/500,000/500,000
   - E. Benefits Required by Union Labor Contracts: All Applicable
2. Comprehensive General Liability (including premises-Operations; Independent Contractors' Protective; Products and Completed Operations; Broad Form Property Damage):
   - A. Bodily Injury: $500,000 each Occurrence; $1,000,000 Aggregate, Products and Completed Operations or; $1,000,000 Combined Single Limit.
   - B. Property Damage: $500,000 each Occurrence; $1,000,000 Aggregate.
   - C. Products and Completed Operations Insurance shall be maintained for a minimum of two (2) years after final payment and Contractor shall continue to provide evidence of such coverage to Owner on an annual basis during the aforementioned period.
   - D. Property Damage Liability Insurance shall include coverage for the following hazards:
     - 1) X (Explosion);
     - 2) C (Collapse);
     - 3) U (Underground)
   - E. Contractual Liability:
     - 1) Bodily Injury: $500,000 each Occurrence.
     - 2) Property Damage: $500,000 each occurrence; $1,000,000 Aggregate.
   - F. Personal Injury, with Employment Exclusion deleted: $1,000,000 Annual Aggregate.
3. Comprehensive Automobile Liability:
   - A. Bodily Injury: $500,000 CSL each Person; $500,000 CSL each Accident.
   - B. Property Damage: $500,000 CSL each Occurrence.
4. Aircraft Liability (owned and non-owned) when applicable, with the following limits:
   - A. Bodily Injury: $NA each Person; $NA each Occurrence.
   - B. Property Damage: $NA each Occurrence.
5. Watercraft Liability (owned and non-owned) when applicable, with the following limits:
   - A. Bodily Injury: $NA each Person, $NA each Occurrence.
   - B. Property Damage: $NA each Occurrence
6. Umbrella Excess Liability: $2,000,000 Over Primary Insurance.

Add the following Paragraphs:

11.1.5 Approval of the insurance by the Owner or Architect shall not relieve or decrease the Liability of the Contractors hereunder. It is to be understood that the Owner or Architect do not in any way represent that the insurance or the limits of insurance specified in these articles are sufficient or adequate to protect the contractors' interests or liabilities, but are merely minimums. Furnish Certificates of Insurance which specifically set forth evidence of all coverage required of the Contractor, on form AIA G705, attached. Furnish to the Owner copies of all endorsements that are subsequently issued amending coverage or limits.

11.1.6 Prior to award, the Contractor shall file a complete "Package" of certificate insurance signed by the insurer or certified copies of all insurance policies with the Owner. None of this insurance required hereunder shall be canceled, changed, or allowed to lapse until the Contract has been completed and the work accepted. In the event of cancellation, change or expiration, thirty (30) days' notice shall be given the Owner and other insured parties by the insurance company or companies validated by an authorized representative of the insurer. Each policy of insurance shall contain the clause: "In the event of cancellation or expiration of the policy or of any change in the policy of any nature, thirty (30) days' advance written notice will be sent to the Owner." No work under the Contract will be started until insurance certificates or policies have been field.

11.1.7 Where special or unusual hazards peculiar to this Project are foreseeable, the Contractor shall take such steps as are necessary to insure themselves against the hazards and be responsible for any damage, including water, which results from the occurrence of the hazards in connection with this Project.

PARAGRAPH 11.3

Paragraph 11.3.1 is amended by adding three additional sentences as follows:

"Unless otherwise provided, all property insurance purchased under Part 11.3 shall have a deductible limit of no greater than $5,000. The Owner and Contractors each will assume their own losses under the deductible. The Contractors' tools and equipment shall be their responsibility.

PARAGRAPH 11.4

Delete Paragraph 11.4.2 and substitute the following Paragraph:

11.4.2 The Contractor shall furnish a Performance Bond and Labor and Material Payment Bond meeting all statutory requirements of the State of Minnesota, in form and substance satisfactory to the Owner and, without limitation, complying with the following specific requirements:

.1 Except as otherwise required by statute, the form and substance of such bonds shall be satisfactory to the Owner in the Owner's sole judgment;

.2 Bonds shall be executed by a responsible surety licensed in Minnesota, with a Best's rating of no less than A/XII and shall remain in effect for period of not less than two (2) years following the date of Substantial Completion or the time required to resolve any items of incomplete Work and the payment of any disputed amounts, whichever time period is longer;

.3 The Performance Bond and the Labor and Material Payment Bond shall each be in an amount equal to the Contract Sum, less any sum for materials purchased directly or furnished by the Owner;

.4 The Contractor shall require the attorney in fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of his power of attorney indicated the monetary limit of such power;

.5 Every Bond under this Paragraph 11.4.1 must display the Surety's Bond Number. A rider including the following provisions shall be attached to each Bond:

(1) Surety hereby agrees that it consents to and waives notice of any addition, alteration, omission, change, or other modification of the Contractor Documents which, singularly or in the Aggregate, does not exceed twenty-five percent (25%) of the Contract Sum. Except as to increases in the Contractor Sum in excess of the percentage set forth above in this Clause 11.4.1.5(1), any other addition, alteration, change, extension of time, or other modification of the Contractor Documents, or a forbearance on the part of either the Owner or the Contractor to the other, shall not release the Surety of its obligations hereunder and notice to the Surety of such matters is hereby waived.

(2) Surety further agrees that in event of any default by the Owner in the performance of the Owner's obligations to the Contractor under the Contract, the Contractor or Surety shall cause written notice of such default (specifying said default in detail) to be given to the Owner, and the Owner shall have thirty (30) days from time after receipt of such notice within which to cure such default, or such additional reasonable period of time as may be required if the nature of such default is such that it cannot be cured within thirty (30) days. Such Notice of Default shall be sent by certified or registered U.S. Mail, return receipt required, first class postage prepaid, to Lender and the Owner.

(3) Surety agrees that it is obligated under the bonds to any successor, grantee or assignee of the Owner.

Add the following Paragraphs to Paragraph 11.4:

11.4.3 The Contractor shall keep the surety informed of the progress of the Work, and, where necessary, obtain the surety's consent to, or waiver of: (1) notice of changes in the Work; (2) request for reduction or release of retention; (3) request for final payment; and (4) any other materials required by the surety. The Owner shall be notified by the Contractor, in writing, of all communications with the surety. The Owner may, in the Owner's sole discretion, inform surety of the progress of the Work and obtain consents as necessary to protect the Owner's rights, interest, privileges and benefits under and pursuant to any bond issued in connection with the Work.

The following is a supplement to the General Conditions and Standard Form of Agreement between Owner and Contractor (AIA Document A101) dated 2007.

Worker’s Compensation - Requirement of M.S.A. § 176.182

Contractor represents and warrants that it has, and will maintain during the performance of this agreement, workers’ compensation insurance coverage required pursuant to M.S. § 176.181, subd. 2, and that the certificate of insurance or the written order of the Commissioner of Commerce permitting self insurance of worker’s compensation insurance coverage provided to City prior to execution of this agreement is current and in force and effect.

Note: This provision is required pursuant to M.S.A. § 176.182 which prohibits a municipality from entering into any contract for the doing of any public work before receiving from all other contracting parties acceptable evidence of compliance with the Worker’s Compensation Insurance Coverage requirement of § 176.181, subd. 2.

Income Tax Withholding - Requirement of M.S.A. § 290.97

No final payment shall be made to Contractor until Contractor has provided satisfactory evidence to City that Contractor and each of its subcontractors has complied with the provisions of M.S. § 290.92 relating to withholding of taxes upon wages. A certificate by the Commissioner of Revenue shall satisfy this requirement.

Note: This provision is required pursuant to M.S. § 290.979 and applies to any city making final settlement with any contractor under a contract requiring the employment of employees for wages by the contractor and by subcontractors.

Audits - Requirement of M.S. § 16B.06, subd. 4

The books, records, documents and accounting procedures and practices of the Contractor or other parties relevant to this agreement are subject to examination by the City and either the Legislative Auditor or the State Auditor as appropriate.

Note: This provision is required pursuant to M.S. § 16B.06, subd. 4, in a contract or in connection with any disbursement of public funds to a provider of services or a grantee made by or under the supervision of a city.

SECTION 01010
SUMMARY OF ALL WORK

PART 1 - GENERAL

1.1 PROJECT TITLE

A. Elmcrest Park Community Building
Ramsey Minnesota

1.2 DOCUMENTS

A. Architectural drawings, as indexed at Sheet A.1, dated October 25, 2013 and Project Manual dated October 25, 2013.

1.3 THE WORK

A. The work consists of providing all labor and materials necessary for the complete construction of the Project.

B. All contractors and subcontractors shall be bound by the information and requirements provided by the complete set of drawings and specifications.

SECTION 01152
APPLICATIONS FOR PAYMENT

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included: Comply with procedures described in this Section when applying for progress payment and final payment under the Contract.

B. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

2. The Contract Sum and the schedule for payments are described in the Form of Agreement.

3. Payments upon Substantial Completion and Completion of the Work are described in the General Conditions and in Section 01700 of these Specifications.

4. The Architect's approval of applications for progress payment and final payment may be contingent upon the Architect's approval of status of Project Record Documents as described in Section 01720 of these Specifications.

1.2 QUALITY ASSURANCE

A. Prior to start of construction, secure the Architect's approval of the schedule of values required to be submitted under Paragraph 9.2 of the General Conditions, and further described in Section 01370 of these Specifications.

1.3 SUBMITTALS

A. Formal submittal: Unless otherwise directed the Architect:

1. Make formal submittal of request for payment by filling in the agreed data, by typewriter or neat lettering in ink, on AIA Document G702, "Application and Certificate for Payment," plus continuation sheet or sheets.

2. Sign and notarize the Application and Certificate for Payment.

3. Submit the original of the Application and Certificate for Payment, plus two identical copies of the continuation sheet or sheets, to the Architect.

SECTION 01310
CONSTRUCTION SCHEDULES

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included: To assure adequate planning and execution of the Work so that the Work is completed within the number of calendar days allowed in the Contract, and to assist the Architect in appraising the reasonableness of the proposed schedule and in evaluating progress of the Work, prepare and maintain the schedules and reports described in this Section.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
   2. Requirements for progress schedule: General Conditions.

1.2 QUALITY ASSURANCE

A. Employ a scheduler who is thoroughly trained and experienced in compiling construction schedule data, and in preparing and issuing periodic reports as required below.

B. Perform data preparation, analysis, charting, and updating in accordance with standards approved by the Architect.

C. Reliance upon the approved schedule:
   1. The construction schedule as approved by the Architect will be an integral part of the Contract and will establish interim completion dates for the various activities under the Contract.
   2. Should any activity not be completed within 15 days after the stated scheduled date, the Owner shall have the right to require the Contractor to expedite completion of the activity by whatever means the Owner deems appropriate and necessary, without additional compensation to the Contractor.
   3. Should any activity be 30 days or more behind schedule, the Owner shall have the right to perform the activity or have the activity performed by whatever method the Owner deems appropriate.
   4. Costs incurred by the Owner and by the Architect in connection with expediting construction activity under this Article shall be reimbursed by the Contractor.

5. It is expressly understood and agreed that failure by the Owner to exercise the option either to order the Contractor to expedite an activity or to expedite the activity by other means shall not be considered to set a precedent for any other activities.

1.3 SUBMITTALS

A. Construction schedule: Within fifteen days (15) calendar days after the Contractor has received the Owner's Notice to Proceed, submit one reproducible copy and four prints of a construction schedule .

B. Periodic reports: On the first working day of each month following the submittal described in Paragraph 1.3-A above, submit four prints of the construction schedule updated .

PART 2 - PRODUCTS

2.1 CONSTRUCTION ANALYSIS

A. Graphically show by bar-chart the order and interdependence of all activities necessary to complete the Work, and the sequence in which each activity is to be accomplished, as planned by the Contractor and the Contractor's project field superintendent in coordination with all subcontractors whose work is shown on the diagram.

SECTION 01340
SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included: Make submittals required by the Contract Documents, and revise and resubmit as necessary to establish compliance with the specified requirements.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
   2. Individual requirements for submittals also may be described in pertinent Sections of these Specifications.

C. Work not included:
   1. Unrequired submittals will not be reviewed by the Architect.
   2. The Contractor may require the subcontractors to provide drawings, setting diagrams, and similar information to help coordinate the Work, but such data shall remain between the Contractor and the subcontractors and will not be reviewed by the Architect.

1.2 QUALITY ASSURANCE

A. Coordination of submittals:
   1. Prior to each submittal, carefully review and coordinate all aspects of each item being submitted.
   2. Verify that each item and the submittal for it conform in all respects with the specified requirements.
   3. By affixing the Contractor's signature to each submittal, certify that this coordination has been performed.

1.3 SUBMITTALS

A. Make submittals of Shop Drawings, Samples, and other items in accordance with the provisions of this Section.

PART 2 - PRODUCTS

2.1 SHOP DRAWINGS

A. Scale and measurements: Make Shop Drawings accurately to a scale sufficiently large to show all pertinent aspects of the item and its method of connection to the Work.

B. Types of prints required:
   1. Submit Shop Drawings in the form of one sepia transparency of each sheet plus two blueline or blackline prints of each sheet.
   2. Submittals received by the Architect without General Contractor's checking and review stamp will be returned.
   3. Submittals received without reproducible will be not checked. They will be returned within 3 days of receipt of reproducible.

C. Review comments of the Architect will be shown on the sepia transparency when it is returned to the Contractor. The Contractor may make and distribute such copies as are required for the Contractor's purposes.

2.2 MANUFACTURER'S LITERATURE

A. Where contents of submitted literature from manufacturers includes data not pertinent to the submittal, clearly show which portions of the contents is being submitted for review.

B. Submit the number of copies which are required to be returned, plus one copy which will be retained by the Architect, one copy for consultant Engineer and copies necessary for maintenance manuals specified in Section 01730 - Maintenance Data.

2.3 SAMPLES

A. Provide Sample or Samples identical to the precise article proposed to be provided. Identify as described under "Identification of submittals" below.

B. Number of Samples required:
   1. Unless otherwise specified, submit Samples in the quantity which is required to be returned, plus one which will be retained by the Architect.
   2. By prearrangement in specific cases, a single Sample may be submitted for review and, when approved, be installed in the Work at a location agreed upon by the Architect.

2.4 COLORS AND PATTERNS

A. Unless the precise color and pattern is specifically called out in the Contract Documents, and whenever a choice of color or pattern is available in the specified products, submit accurate color and pattern charts to the Architect for selection.

PART 3 - EXECUTION

3.1 IDENTIFICATION OF SUBMITTALS

A. Consecutively number all submittals.
   1. When material is resubmitted for any reason, transmit under a new letter of transmittal and with a new transmittal number.
   2. On re-submittals, cite the original submittal number for reference.

B. Accompany each submittal with a letter of transmittal showing all information required for identification and checking.

C. On at least the first page of each submittal, and elsewhere as required for positive identification, show the submittal number in which the item was included.

D. Maintain an accurate submittal log for the duration of the Work, showing current status of all submittals at all times. Make the submittal log available to the Architect for review upon request.

3.2 GROUPING OF SUBMITTALS

A. Unless otherwise specified, make submittals in groups containing all associated items to assure that information is available for checking each item when it is received.
   1. Partial submittals may be rejected as not complying with the provisions of the Contract.
   2. The Contractor may be held liable for delays so occasioned.

3.3 TIMING OF SUBMITTALS

A. Make submittals far enough in advance of scheduled dates for installation to provide time required for reviews, for securing necessary approvals, for possible revisions and re-submittals, and for placing orders and securing delivery.

B. In scheduling, allow at least ten working days for review by the Architect following his/her receipt of the submittal.

3.4 ARCHITECT'S REVIEW

A. Review by the Architect:
   1. Review by the Architect does not relieve the Contractor from responsibility for errors which may exist in the submitted data.
   2. The Architect will review and take action on submittals in accordance with the General Conditions.
   3. Deviations, changes, or questions must be noted, highlighted or "bubbled" to receive action. Deviations will be accepted only as indicated in "Changes in the Work." Accepted Shop Drawings do not constitute approval for changes in the work.

B. Revisions:
   1. Make revisions required by the Architect.
   2. If the Contractor considers any required revision to be a change, he/she shall so notify the Architect as provided for in Paragraph 4.3.7 of the General Conditions.
   3. Make only those revisions directed or approved by the Architect.

SECTION 01345
SUBSTITUTIONS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included: Submit supporting data for substitutions proposed in the Contract Documents.

B. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

2. Individual requirements for submittals also may be described in pertinent Sections of these Specifications.

1.2 QUALITY ASSURANCE

A. Substitutions:

1. The Contract is based on the standards of quality established in the Contract Documents. Substitutions will be considered only when listed at time of bidding, on the form provided therefore in the bidding documents, and when substantiated by the Contractor's submittal of required data within 35 calendar days after award of the Contract.

2. The following products do not require further approval except for interface within the work.

a. Products specified by reference to standard specifications such as ASTM and similar standards.

b. Products specified by manufacturer's name and catalog model number.

3. Do not substitute materials, equipment, or methods unless such substitution has been specifically approved in writing for this Work by the Architect.

C. "Or equal":

1. Where the phrase "or equal," or "or equal as approved by the Architect," occurs in the Contract Documents, do not assume that the materials, equipment, or methods will be approved as equal unless the item has been specifically so approved for this Work by the Architect.

2. The decision of the Architect shall be final.

PART 2 - PRODUCTS & SUBMITTALS

2.1 SUBSTITUTION DESCRIPTION

A. Include the following identification:
1. Project name
2. Drawing number
3. Specification section

B. Provide the following:

1. Description of change
2. Reason for change
3. Improvement to the Project
4. Change to scope of work
5. Compatibility with other products
6. Impact on codes or regulatory requirements

2.2 MANUFACTURER'S LITERATURE & SAMPLES

A. Where contents of submitted literature from manufacturers includes data not pertinent to the submittal, clearly show which portions of the contents is being submitted for review.

B. Provide Sample or Samples identical to the precise article proposed to be provided. Identify as described under "Identification of submittals" below.

C. Make submittals far enough in advance of scheduled dates for installation to provide time required for reviews, for securing necessary approvals, for possible revisions and re-submittals, and for placing orders and securing delivery.

PART 3 - EXECUTION

3.1 ARCHITECT'S REVIEW

A. Review by the Architect does not relieve the Contractor from responsibility for errors which may exist in the submitted data.

B. The Architect will review the substitution for suitability with the Project.

C. Substitutions approved prior to bid date will be acknowledged by addendum.

D. Substitutions approved after contract award will be incorporated by Change Order in accordance with the General Conditions.

SECTION 01370
SCHEDULE OF VALUES

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included: Provide a detailed breakdown of the agreed Contract Sum showing values allocated to each of the various parts of the Work, as specified herein and in other provisions of the Contract Documents.

B. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

2. Schedule of values is required to be compatible with the "continuation sheet" accompanying applications for payment, as described in Section 01152.

1.2 QUALITY ASSURANCE

A. Use required means to assure arithmetical accuracy of the sums described.

B. When so required by the Architect, provide copies of the subcontracts or other data acceptable to the Architect, substantiating the sums described.

1.3 SUBMITTALS

A. Prior to first application for payment, submit a proposed schedule of values to the Architect.

1. Meet with the Architect and determine additional data, if any, required to be submitted.

2. Secure the Architect's approval of the schedule of values prior to submitting first application for payment.

SECTION 01410
TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included:

1. Provide testing and inspecting, complete, as described in this Section and elsewhere in the Contract Documents.

B. Related Work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions and Sections in Division 1 of these Specifications.
2. Requirements for testing may be described in various Sections of these Specifications.

1.2 QUALITY ASSURANCE

A. Provide the services of a soil engineer and a testing laboratory approved by the Architect.

B. Upon completion of each test and/or inspection, promptly distribute copies of test or inspection reports to the Architect, to governmental agencies requiring submission of such reports, and to such other persons as directed by the Architect.

PART 2 - PRODUCTS

2.1 PAYMENT FOR TESTING

A. Include within the Contract Sum an amount sufficient to cover all testing and inspecting required under this Section of these Specifications, and to cover all testing and inspecting required by governmental agencies having jurisdiction.

B. The Owner will pay for all testing and inspecting specifically requested by the Architect over and above those described in Paragraph 2.1-A above.

C. When initial tests requested by the Architect indicate non-compliance with the Contract Documents, costs of initial tests associated with that non-compliance will be deducted by the Owner from the Contract Sum, and subsequent retesting occasioned by the non-compliance shall be performed by the same testing laboratory and the costs thereof shall be paid by the Contractor.

2.2 SPECIFIC TESTS AND INSPECTIONS

A. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Architect.

B. Tests include, but are not necessarily limited to, those described in detail in Part 3 of this Section.

PART 3 - EXECUTION

3.1 TAKING SPECIMENS

A. Except as may be specifically otherwise approved by the Architect, have the testing laboratory secure and handle all samples and specimens for testing.

3.2 COOPERATION WITH TESTING LABORATORY

A. Provide access to the Work at all items and at all locations where the Work is in progress. Provide facilities for such access to enable the laboratory to perform its functions properly.

3.3 SOIL INSPECTING AND TESTING

A. Make required inspections and tests including, but not necessarily limited to:
   1. Visually inspect on-site and imported fill and backfill, making such tests and retests as are necessary to determine compliance with the Contract requirements and suitability for the proposed purpose;
   2. Make field density tests on samples from in-place material as required;
   3. As pertinent, inspect and test the scarifying and re-compacting of cleaned subgrade; inspect the progress of excavating, filling, and grading; make 90% density tests at fills and backfills; and verify compliance with provisions of the Contract Documents and governmental agencies having jurisdiction.

B. Make and distribute necessary reports and certificates.

3.4 CONCRETE INSPECTING AND TESTING

A. Laboratory design mix:
   1. Provide mix design in accordance with ACI 613.
   2. Provide designs for all mixes prepared by a licensed Civil Engineer.

B. Molded concrete cylinders:
   1. Provide three test cylinders for each 150 cu yds, or fraction thereof, of each class of concrete of each day's placement.

2. Test one cylinder at seven days, one at 28 days, and one when so directed.
3. Report the mix, slump, gage, location of concrete in the structure, and test results.
4. Take specimens and make tests in accordance with the applicable ASTM standard specifications.

C. Core tests:
1. Provide only when specifically so directed by the Architect because of low cylinder test results.
2. Cut from locations directed by the Architect, securing in accordance with ASTM C42, and prepare and test in accordance with ASTM C39.

D. Placement inspections:
1. On concrete over 2,500 psi, provide continuous or other inspection as required by governmental agencies having jurisdiction.
2. Throughout progress of concrete placement, make slump tests to verify conformance with specified slump.
3. Using all required personnel and equipment, throughout progress of concrete placement verify that finished concrete surfaces will have the level or slope that is required by the Contract Documents.

3.5 CONCRETE REINFORCEMENT INSPECTING AND TESTING

A. Prior to use, test all reinforcement steel bars for compliance with the specified standards.
1. Material identified by mill test reports, does not require additional testing. Require the supplier to furnish mill test reports.
2. Tag identified steel at the supplier's shop. When steel arrives at the job site without such tags, test it as unidentified steel.

B. Unidentified steel:
1. Have the testing laboratory select samples consisting of two pieces, each 18" long, of each size.
2. Have the testing laboratory make one tensile test and one bend test for each 2-1/2 tons or fraction thereof of each size of unidentified steel.

C. Provide continuous inspection for all welding of reinforcement steel.

D. Provide observation of placement of reinforcement steel.

3.6 STRUCTURAL STEEL INSPECTING AND TESTING

A. Prior to use, test all structural steel for compliance with the specified standards.
1. Material identified by mill test reports does not require additional testing. Require the supplier to furnish mill test reports.

2. Tag identified steel at the supplier's shop. When steel arrives at the job site without such tags, test it as unidentified steel.

B. Unidentified steel:
   1. Have testing laboratory make one tensile test an done bend test for each five tons or fraction thereof of each shape and size of unidentified structural steel.

C. Shop welding in unapproved shops:
   1. Provide qualified testing laboratory inspector.
   2. On single pass welds, inspect after completion of welding and prior to painting.
   3. On multiple pass welds, and on butt welds with cove pass on the back side, provide continuous inspection.

D. Field welding: Provide continuous inspection by a qualified testing laboratory inspector.

3.7 GOVERNMENT MANDATED INSPECTIONS

A. In addition to the inspections required above, provide inspections during construction on the following types of work:

B. Concrete: During the taking of test specimens and placing of reinforced concrete and pneumatically placed concrete except:
   1. For foundation concrete when the structural design is based on a f/c no greater than 2,500 psi.
   2. Nonstructural slabs on grade, including prestressed slabs on grade when effective prestress in concrete is less than 150 pounds per square inch.
   3. Site work concrete full-supported on earth and concrete where no special hazard exists.

C. Bolts installed in concrete: During installation of bolts and placing of concrete around such bolts when stress increases are utilized as noted.

D. Reinforcing steel and prestressing steel:
   1. During all stressing and grouting of prestressed concrete.
   2. During placing of reinforcing steel, placing of tendons and prestressing steel for all concrete required to have special inspection by Item No. 1.
   3. Exception: The special inspector need not be present during entire reinforcing steel and prestressing steel placing operations, provided he has inspected for conformance with the approved plans, prior to the closing of forms or the delivery of concrete to the job site.

E. Welding: All structural welding, including welding of reinforcing steel.
   1. Exceptions:

a. When welding is done in an approved fabricator's shop.

b. When approved by the building official, single-pass fillet weld when stressed to less than 50 percent of allowable stresses and floor and roof deck welding and welded studs when used for structural diaphragm or composite systems may have periodic inspections in accordance with the code. For periodic inspection, the inspector shall check qualifications of welders at the start of work and then make final inspection of all welds for compliance prior to completion of welding.

F. High-Strength Bolting: During all bolt installations and tightening operations.

1. Exceptions:

a. The special inspector need not be present during the entire installation and tightening operation, provided he has:

1) Inspected the surfaces and bolt type for conformance to plans and specifications prior to star of bolting.

2) And will, upon completion of all bolting, verify the minimum specified bolt tension for 10 percent of the bolts for each connection with a minimum of two bolts per connection.

b. In bearing-type connections when threads are not required by design to be excluded from the shear plane, inspection prior to or during installation will not be required.

G. Structural masonry: During preparation of masonry wall prisms, sampling and placing of all masonry units, placement of reinforcement, inspection of grout space, immediately prior to closing of cleanouts, and during all grouting operations.

1. Exceptions:

a. Special inspection need not be provided when design stresses have been adjusted to permit noncontinuous inspection.

b. For hollow-unit masonry where the f'm is not more than 1,500 psi for concrete units special inspection for placing of units may be performed on a periodic basis.

3.8 WAIVER OF INSPECTION AND/OR TESTS

A. Specified inspections and/or tests may be waived only by the specific approval of the Architect, and such waivers will be expected to result a credit to the Owner equal to normal cost of such inspection and/or test.

SECTION 01500
TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included: Provide temporary facilities and controls over and above those present at site needed for the Work including, but not necessarily limited to:

1. Temporary utilities such as heat, water, electricity, and telephone;
2. Field office for the Contractor's personnel;
3. Enclosures such as tarpaulins, barricades, and canopies.

B. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
2. Except that equipment furnished by subcontractors shall comply with requirements of pertinent safety regulations, such equipment normally furnished by the individual trades in execution of their own portions of the Work are not part of this Section.
3. Permanent installation and hookup of the various utility lines are described in other Sections.

1.2 PRODUCT HANDLING

A. Maintain temporary facilities and controls in proper and safe condition throughout progress of the Work, and where there are connected to existing facilities in existing building.

1.3 ENCLOSURES

A. Provide and maintain for the duration of construction all scaffolds, tarpaulins, canopies, warning signs, steps, platforms, bridges, and other temporary construction necessary for proper completion of the Work in compliance with pertinent safety and other regulations.

PART 2 - EXECUTION

2.1 MAINTENANCE AND REMOVAL

A. Maintain temporary facilities and controls as long as needed for safe and proper completion of the Work.

B. Remove such temporary facilities and controls as rapidly as progress of the Work will permit, or as directed by the Architect.

SECTION 01640
PRODUCT HANDLING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included: Protect products scheduled for use in the Work by means including, but not necessarily limited to, those described in this Section.

B. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
2. Additional procedures also may be prescribed in other Sections of these Specifications.

1.2 QUALITY ASSURANCE

A. Include within the Contractor's quality assurance program such procedures as are required to assure full protection of work and materials.

1.3 MANUFACTURER'S RECOMMENDATIONS

A. Except as otherwise approved by the Architect, determine and comply with manufacturers' recommendations on product handling, storage, and protection.

1.4 PACKAGING & PROTECTION

A. Deliver products to the job site in their manufacturer's original container, with labels intact and legible.

1. Maintain packaged materials with seals unbroken and labels intact until time of use.
2. Promptly remove damaged material and unsuitable items from the job site, and promptly replace with material meeting the specified requirements, at no additional cost to the Owner.

B. The Architect may reject as non-complying such material and products that do not bear identification satisfactory to the Architect as to manufacturer, grade, quality, and other pertinent information.

C. Protect finished surfaces, including jambs and soffits of openings used as passageways, through which equipment and materials are handled.

SECTION 01700
CONTRACT CLOSEOUT

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included: Provide an orderly and efficient transfer of the completed Work to the Owner.

B. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
2. Activities relative to Contract closeout are described in the General Conditions.
3. "Substantial Completion" is defined in Paragraph 9.8.1 of the General Conditions.

1.2 QUALITY ASSURANCE

A. Prior to requesting inspection by the Architect, use adequate means to assure that the Work is completed in accordance with the specified requirements and is ready for the requested inspection.

1.3 PROCEDURES

A. Substantial Completion:

1. Prepare and submit the list required by the first sentence of Paragraph 9.8.1 of the General Conditions.
2. Within a reasonable time after receipt of the list, the Architect and Owner will inspect to determine status of completion.
3. When the Architect and Owner concur that the Work is substantially complete:
   a. The Architect will prepare a "Certificate of Substantial Completion" on AIA form G704, accompanied by the Contractor's list of items to be completed or corrected, as verified by the Architect.
   b. The Architect will submit the Certificate to the Owner and to the Contractor for their written acceptance of the responsibilities assigned to them in the Certificate.

B. Final Completion:

1. Prepare and submit the notice required by the first sentence of Paragraph 9.9.1 of the General Conditions.
2. Verify that the Work is complete including, but not necessarily limited to, the items mentioned in Paragraph 9.9.2 of the General Conditions.
3. Certify that:
    a. Contract Documents have been reviewed.
    b. Work has been inspected for compliance with the Contract Documents.
    c. Work has been completed in accordance with the Contract Documents.
    d. Equipment and systems have been tested as required, and are operational;
    e. Work is completed and ready for final inspection.

C. Closeout submittals include, but are not necessarily limited to:

1. Project Record Documents described in Section 01720.
2. Operation and maintenance data for items so listed in pertinent other Sections of these Specifications and for other items when so directed by the Architect;
3. Warranties and bonds;
4. Keys and keying schedule;
5. Spare parts and materials extra stock;
6. Evidence of compliance with requirements of governmental agencies having jurisdiction including, but not necessarily limited to:
    a. Certificates of Inspection;
    b. Certificates of Occupancy;
7. Certificates of Insurance for products and completed operations;
8. Evidence of payment and release of liens;
9. List of subcontractors, service organizations, and principal vendors, including names, addresses, and telephone numbers where they can be reached for emergency service at all times including nights, weekends, and holidays.

1.4 INSTRUCTION

A. Instruct the Owner's personnel in proper operation and maintenance of systems, equipment, and similar items which were provided as part of the Work.

SECTION 01710
CLEANING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included: Throughout the construction period, maintain the buildings and site in a standard of cleanliness as described in this Section.

B. Related work:
1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
2. In addition to standards described in this Section, comply with requirements for cleaning as described in pertinent other Sections of these Specifications.

1.2 QUALITY ASSURANCE

A. Conduct daily inspection, and more often if necessary, to verify that requirements for cleanliness are being met.

B. In addition to the standards described in this Section, comply with pertinent requirements of governmental agencies having jurisdiction.

PART 2 - PRODUCTS

2.1 CLEANING MATERIALS AND EQUIPMENT

A. Use only the cleaning materials and equipment which are compatible with the surface being cleaned, as recommended by the manufacturer of the material.

PART 3 - EXECUTION

3.1 PROGRESS CLEANING

A. General:
1. Retain stored items in an orderly arrangement allowing maximum access, not impeding traffic or drainage, and providing required protection of materials.
2. Do not allow accumulation of scrap, debris, waste materials, and other items not required for construction of this Work.
3. At least twice each month, and more often if necessary, completely remove all scrap, debris, and waste material from the job site.

4. Provide adequate storage for all items awaiting removal from the job site, observing requirements for fire protection and protection of the ecology.

3.2 FINAL CLEANING

A. "Clean," for the purpose of this Article, and except as may be specifically provided otherwise, shall be interpreted as meaning the level of cleanliness generally provided by skilled cleaners using commercial quality building maintenance equipment and materials.

B. Prior to completion of the Work, remove from the job site all tools, surplus materials, equipment, scrap, debris, and waste. Conduct final progress cleaning as described in Article 3.1 above.

C. Structures:
   1. Exterior:
      a. Visually inspect exterior surfaces and remove all traces of soil, waste materials, smudges, and other foreign matter.
      b. Remove all traces of splashed materials from adjacent surfaces.
      c. If necessary to achieve a uniform degree of cleanliness, hose down the exterior of the structure.
      d. In the event of stubborn stains not removable with water, the Architect may require light sandblasting or other cleaning at no additional cost to the Owner.
   2. Interior:
      a. Visually inspect interior surfaces and remove all traces of soil, waste materials, smudges, and other foreign matter.
      b. Remove all traces of splashed materials from adjacent surfaces.
      c. Remove paint droppings, spots, stains, and dirt from finished surfaces.
   3. Glass: Clean inside and outside.
   4. Polished surfaces: To surfaces requiring routine application of buffed polish, apply the polish recommended by the manufacturer of the material being polished.

D. Schedule final cleaning as approved by the Architect to enable the Owner to accept a completely clean Work.

3.3 CLEANING DURING OWNER'S OCCUPANCY

A. Should the Owner occupy the Work or any portion thereof prior to its completion by the Contractor and acceptance by the Owner, responsibilities for interim and final cleaning shall be as determined by the Architect in accordance with the General Conditions of the Contract.

SECTION 01720
PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included:

1. Throughout progress of the Work, maintain an accurate record of changes in the Contract Documents.
2. Upon completion of the Work, transfer the recorded changes to a set of Record Documents.

B. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
2. Other requirements affecting Project Record Documents may appear in pertinent other Sections of these Specification.

1.2 QUALITY ASSURANCE

A. Delegate the responsibility for maintenance of Record Documents to one person on the Contractor's staff as approved by the Architect.

B. Accuracy of records:

1. Thoroughly coordinate changes within the Record Documents, making adequate and proper entries on each page of Specifications and each sheet of Drawings and other Documents where such entry is required to show the change properly.
2. Accuracy of records shall be such that future search for items shown on the Contract Documents may rely reasonably on information obtained from the approved Project Record Documents.

C. Make entries within 24 hours after receipt of information that the change has occurred.

1.3 PRODUCT HANDLING

A. Maintain the job set of Record Documents completely protected from deterioration and from loss and damage until completion of the Work and transfer of all recorded data to the final Project Record Documents.

B. In the event of loss of recorded data, use means necessary to again secure the data to the Architect's approval.
   1. Such means shall include, if necessary in the opinion of the Architect, removal and replacement of concealing materials.
   2. In such case, provide replacements to the standards originally required by the Contract Documents.

SECTION 01730
OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included: To aid the continued instruction of operating and maintenance personnel, and to provide positive source of information regarding the products incorporated into the Work, furnish and deliver the data described in this Section and in pertinent other Sections of these Specifications.

B. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

2. Required contents of submittals also may be amplified in pertinent other Sections of these Specifications.

1.2 QUALITY ASSURANCE

In preparing data required by this Section, use only personnel who are thoroughly trained and experienced in operation and maintenance of the described items, completely familiar with the requirements of this Section, and skilled in technical writing to the extent needed for communicating the essential data.

1.3 SUBMITTALS

A. Comply with pertinent provisions of Section 01340.

B. Submit two copies of a preliminary draft of the proposed Manual or Manuals to the Architect for review and comments.

C. Unless otherwise directed in other Sections, or in writing by the Architect, submit three copies of the final Manual to the Architect prior to indoctrination of operation and maintenance personnel.

SECTION 02100
SITE PREPARATION

PART 1 - GENERAL

1.1 WORK INCLUDED

A. This Section includes all labor, materials, and equipment necessary for clearing the site in preparation for earthwork and building construction.

B. The extent of site clearing is shown on the drawings. Site clearing work includes, but is not limited to, the following:

1. Clearing the site and removing excess soil.

2. Removal of trees & stumps is by Owner.

PART 2 - EXECUTION

2.1 SITE CLEARING

A. Remove vegetation, improvements, or obstructions interfering with installation of new construction. Removal includes stumps and roots.

2.2 DISPOSAL OF WASTE MATERIAL

A. Remove waste materials and unsuitable and excess topsoil from the Owner's property and dispose of properly.

B. Clean up trash and debris caused by clearing operations under this Section, keeping premises, parking lots and streets clean and neat at all times.

SECTION 02220
GRADING, EXCAVATING, BACKFILLING, AND COMPACTING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included: Excavate, backfill, compact, and grade the site to the elevations shown on the Drawings, as specified herein, and as needed to meet the requirements of the construction shown in the Contract Documents.

1. Excavate, backfill & grade the site area designated on drawings.

B. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.2 QUALITY ASSURANCE

A. Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Use equipment adequate in size, capacity, and numbers to accomplish the work of this Section in a timely manner.

C. In addition to complying with requirements of governmental agencies having jurisdiction, comply with the directions of the soil engineer.

1.3 PRODUCT HANDLING

A. Comply with pertinent provisions of Section 01640.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. Fill and backfill materials:

1. Provide soil materials free from organic matter and deleterious substances, containing no rocks or lumps over 6" in greatest dimension, and with not more than 15% of the rocks or lumps larger than 2-3/8" in their greatest dimension.
2. Fill material is subject to the approval of the soil engineer, and is that material removed from excavations or imported from off-site borrow areas, predominantly granular, non-expansive soils free from roots and other deleterious matter.
3. Do not permit rocks having a dimension greater than 1" in the upper 12" of fill or embankment.
4. Cohesionless material used for structural backfill: Provide sand, free from organic material and other foreign matter, and as approved by the soil engineer.
5. Where granular base is called for under building slabs, provide aggregate complying with requirements of Section 03300.

2.2 TOPSOIL

A. Provide subgrade at 6" below finish grade.

B. Provide finish grade with 6" of topsoil.

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 PROCEDURES

A. Utilities:
   1. Unless shown to be removed, protect active utility lines shown on the drawings or otherwise made known to the Contractor prior to excavating. If damaged, repair or replace at no additional cost to the Owner.
   2. If active utility lines are encountered, and are not shown on the Drawings or otherwise made known to the Contractor prior to excavating. If damaged, repair or replace at no additional cost to the Owner.
   3. If service is interrupted as a result of work under this Section, immediately restore service by repairing the damaged utility at no additional cost to the Owner.
   4. If existing utilities are found to interfere with the permanent facilities being constructed under this Section, immediately notify the Owner and secure his/her instructions.
   5. Coordinate and cooperate with the Owner furnished utilities and permanent relocation of utilities.

B. Protection of persons and property:
   1. Barricade open holes and depressions occurring as part of the Work, and post warning lights on property adjacent to or with public access.
   2. Operate warning lights during hours from dusk to dawn each day and as otherwise required.
   3. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations in this Section.

C. Dewatering:
   1. Remove all water, including rain water, encountered during trench and sub-structure work to an approved location by pumps, drains, and other approved methods.
   2. Keep excavations and site construction area free from water.

D. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.

E. Maintain access to adjacent areas at all times.

3.4 EXCAVATING

A. Perform excavating of every type of material encountered within the limits of the Work to the lines, grades, and elevations indicated and specified herein.

B. Satisfactory excavated materials:
   1. Transport to, and place in, fill or embankment areas within the limits of the Work.

C. Unsatisfactory excavated materials:
   1. Excavate to a distance below grade as directed by the soil engineer, and replace with satisfactory materials.
   2. Include excavation of unsatisfactory materials, and replacement by satisfactory materials, as parts of the work of this Section.

D. Surplus materials:
   1. Dispose of unsatisfactory excavated material, and surplus satisfactory excavated material, away from the site at disposal areas arranged and paid for by the Contractor.

E. Excavation of rock:
   1. Where rocks, boulders, granite, or similar material is encountered, and where such material cannot be removed or excavated by conventional earth moving or ripping equipment, take required steps to proceed with

the general grading operations of the Work, and remove or excavate such material by means by which will neither cause additional cost to the Owner nor endanger buildings or structures whether on or off the site.

2. Do not use explosives without written permission from the Architect.

F. Excavate and backfill in a manner and sequence that will provide proper drainage at all times.

G. Borrow:

1. Obtain material required for fill or embankment in excess of that produced within the grading limits of the Work from borrow areas selected and paid for by the Contractor and approved by the soil engineer.

H. Unauthorized excavation:

1. Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations of dimensions without specific instruction from the Architect or the soil engineer.
2. Under footings, foundations, or retaining walls:

a. Fill unauthorized excavations by extending the indicated bottom elevation of the footing or base to the excavation bottom, without altering the required top elevation.

b. When acceptable to the soil engineer, lean concrete fill may be used to bring the bottom elevation to proper position.

3. Elsewhere, backfill and compact unauthorized excavations as specified for authorized excavations, unless otherwise directed by the soil engineer.

I. Stability of excavations:

1. Slope sides of excavations to 1:1 or flatter, unless otherwise directed by the soil engineer.
2. Shore and brace where sloping is not possible because of space restrictions or stability of the materials being excavated.
3. Maintain sides and slopes of excavations in a safe condition until completion of backfilling.

J. Shoring and bracing:

1. Provide materials for shoring and bracing as may be necessary for safety of personnel, protection of work, and compliance with requirements of governmental agencies having jurisdiction.
2. Maintain shoring and bracing in excavations regardless of the time period excavations will be open.
3. Carry shoring and bracing down as excavation progresses.

3.5 FILLING AND BACKFILLING

A. Backfill excavations as promptly as progress of the Work permits, but not until completion of the following.

1. Acceptance of construction below finish grade including, where applicable, damp-proofing and waterproofing.
2. Inspecting, testing, approving, and recording locations of underground utilities.
3. Removing concrete formwork.
4. Removing shoring and bracing, and backfilling of voids with satisfactory materials.
5. Removing trash and debris.
6. Placement of horizontal bracing on horizontally supported walls.

C. Ground surface preparation:
1. Remove vegetation, debris, unsatisfactory soil materials, obstruction, and deleterious matter from ground surface prior to placement of fills.
2. Plow, strip, or break up sloped surfaces steeper than one vertical to four horizontal so that fill material will bond with existing surface.
3. When existing ground surface has a density less than that specified under "compacting" for the particular area, break up the ground surface, pulverize, moisture-condition to the optimum moisture content, and compact to required depth and percentage of maximum density.

D. Placing and compacting:
1. Place backfill and fill materials in layers not more than 8 inches in loose depth.
2. Before compacting, moisten or aerate each layer as necessary to provide the optimum moisture content.
3. Compact each layer to required percentage of maximum density for area.
4. Do not place backfill or fill material on surfaces that are muddy, frozen, or containing frost or ice.
5. Place backfill and fill materials evenly adjacent to structures, to required elevations.
6. Take care to prevent wedging action of backfill against structures by carrying the material uniformly around the structure to approximately the same elevation in each lift.

3.6 GRADING

A. General:
1. Uniformly grade the areas within limits of grading under this Section, including adjacent transition areas.

SECTION 03100
CONCRETE FORMWORK

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included: Provide formwork in accordance with provisions of this Section for cast-in-place concrete shown on the Drawings or required by other Sections of these Specifications.

B. Related work:
1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
2. Section 02220 - Excavating, Backfilling & Compacting
3. Section 03200 - Concrete Reinforcement
4. Section 03300 - Cast-in-place Concrete

1.2 QUALITY ASSURANCE

A. Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Design of formwork is the Contractor's responsibility.

C. Standards: In addition to complying with pertinent regulations of governmental agencies having jurisdiction, comply with pertinent provisions of ACI 347.

1.3 SUBMITTALS

A. Comply with pertinent provisions of Section 01340.

B. Product data: Within 30 calendar days after the Contractor has received the Owner's Notice to Proceed, submit manufacturer's data and installation instructions for proprietary materials including form coatings, ties, and accessories, and manufactured form systems if used.

1.4 PRODUCT HANDLING

A. Comply with pertinent provisions of Section 01640.

PART 2 - PRODUCTS

2.1 FORM MATERIALS

A. Except for metal forms, use new materials. Materials may be re-used during progress of the Work, provided they are completely cleaned and reconditioned, re-coated for each use, and capable of producing formwork of the required quality.

B. For footings and foundations, use Douglas Fir boards or planks secured to wood or steel stakes, substantially constructed to shapes indicated and to support the required loads.

C. For studs, wales, and supports, use Standard grade or better Douglas Fir, dimensions as required to support the loads but not less than 2" x 4".

D. Wall forms:
   1. Exposed concrete surfaces:
      a. Use 3/4" minimum thickness Douglas Fir plywood, grade B/B, class I or II, exterior, sanded both sides, complying with PS-1.
      b. Seal edges and coat both faces with colorless coating which will not affect application of applied finishes.
   2. Unexposed concrete surfaces:
      a. Use 1" x 6" shiplap Douglas Fir boards, surfaced one side and two edges, or 3/4" minimum thickness Douglas Fir plywood, grade B/B ply form class I or II, sanded both sides, mill-oiled.

2.2 FORM TIES

A. Hold inner and outer forms for vertical concrete together with combination steel ties and spreaders approved by the Architect.
   1. Space ties symmetrically in tiers and rows, each tier plumb from top to bottom and each row level.
   2. At horizontal pour lines, locate ties not more than 6" below the pour lines. Tighten after concrete has set and before the next pour is made.
   3. For exposed concrete surfaces, provide form ties of removable type with she-bolts equipped with permanent plugs and a system approved by the Architect for fixing the plugs in place.

2.3 DESIGN OF FORMWORK

A. General:

1. Design, erect, support, brace, and maintain formwork so that it will safely support vertical and lateral loads that might be applied, until such loads can be supported by the concrete structure.
2. Carry vertical and lateral loads to ground by formwork system and in-place construction that has attained adequate strength for that purpose.
3. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation, and position.
4. Design forms and falsework to include assumed values of live load, dead load, weight of moving equipment operated on the formwork, concrete mix, height of concrete drop, vibrator frequency, ambient temperature, foundation pressures, stresses, lateral stability, and other factors pertinent to safety of the structure during construction.
5. Provide shores and struts with positive means of adjustment capable of taking up formwork settlement during concrete placing operations, using wedges or jacks or a combination thereof.
6. Provide trussed supports when adequate foundations for shores and struts cannot be secured.
7. Support form materials by structural members spaced sufficiently close to prevent objectionable deflection.
8. Fit forms placed in successive units for continuous surfaces to accurate alignment, free from irregularities, and within the allowable tolerances.
9. Provide formwork sufficiently tight to prevent leakage of cement paste during concrete placement. Solidly butt joints, and provide backup material at joints as required to prevent leakage and prevent fins.
10. Provide camber in formwork as required for anticipated deflections due to weight and pressures of fresh concrete and construction loads.

2.4 EARTH FORMS

A. Side forms for footings may be omitted, and concrete may be placed directly against excavation, only when requested by the Contractor and approved by the Architect.

B. When omission of forms is accepted, provide additional concrete 1" on each side of the minimum design profiles and dimensions shown on the Drawings.

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 FORM CONSTRUCTION

A. General:
1. Construct forms complying with ACI 347 to the exact sizes, shapes, lines, and dimensions shown, and as required to obtain accurate alignment, location, grades, and level and plumb work in the finished structure.
2. Provide for openings, offsets, key ways, recesses, moldings, reglets, chamfers, blocking, screeds, bulkheads, anchorages, inserts, and other features as required.

B. Fabrication:
1. Fabricate forms for easy removal without hammering or prying against concrete surfaces.
2. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces.
3. Kerf wood inserts for forming key ways, reglets, recesses, and the like, to prevent swelling and assure ease of removal.
4. Provide top forms for inclined surfaces where so directed by the Architect.

C. Forms for exposed concrete:
1. Drill forms to suite ties being used, and to prevent leakage of cement paste around tie holes. Do not splinter forms by driving ties through improperly prepared holes.
2. Provide sharp, clean corners at intersecting planes, without visible edges or offsets. Back the joints with extra studs or girts to maintain true, square intersections.
3. Use extra studs, wales, and bracing to prevent objectionable bowing of forms between studs, and to avoid bowed appearance in concrete. Do not use narrow strips of form material which will produce bow.

D. Corner treatment:
1. Unless shown otherwise, form chamfers with 3/4" x 3/4" strips, accurately formed and surfaced to produce uniformly straight lines and tight edges.
2. Extend terminal edges to required limit, and miter the chamfer strips at changes in direction.

E. Locate control joints as indicated on the Drawings and, where required but not shown on the Drawings, as approved by the Architect.

F. Provisions for other trades:

1. Provide openings in concrete formwork to accommodate work of other trades.
2. Verify size and location of openings, recesses, and chases with the trade requiring such items.
3. Accurately place and securely support items to be built into the concrete.

3.3 FORM COATINGS

A. Coat form contact surfaces with form coating compound before reinforcement is placed.
   1. Do not allow excess form coating material to accumulate in the forms or to come in contact with surfaces which will bond to fresh concrete.
   2. Apply the form coating material in strict accordance with its manufacturer's recommendations.

3.4 REMOVAL OF FORMS

A. General:
   1. Do not disturb or remove forms until the concrete has hardened sufficiently to permit form removal with complete safety.
   2. Do not remove shoring until the member has acquired sufficient strength to support its own weight, the load upon it, and the added load of construction.
   3. Do not strip floor slabs in less than two days.
   4. Do not strip vertical concrete in less than seven days.

B. Finished surfaces:
   1. Exercise care in removing forms from finished concrete surfaces so that surfaces are not marred or gouged, and that corners are true, sharp, and unbroken.
   2. Release sleeve nuts or clamps, and pull the form ties neatly.
   3. Do not permit steel spreaders, form ties, or other metal to project from, or be visible on, any concrete surface except where so shown on the Drawings.
   4. Solidly pack form tie holes, rod holes, and similar holes in the concrete. For packing, use the cement grout specified in Section 03300 of these Specifications, flushing the holes with water before packing, screeding off flush, and grinding to match adjacent surfaces.

SECTION 03200
CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included: Provide concrete reinforcement where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
   2. Section 03100: Concrete Form Work.
   3. Section 03300: Cast-in-place concrete.

1.2 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Comply with pertinent provisions of the following, except as may be modified herein.
   1. ACI 318;
   2. CRSI "Manual of Standard Practice."

1.3 SUBMITTALS

A. Comply with pertinent provisions of Section 01340.

B. Product data: Within 35 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
   1. Materials list of items proposed to be provided under this Section;
   2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
   3. Shop Drawings showing details of bars, anchors, and other items, if any, provided under this Section.

1.4 PRODUCT HANDLING

A. Comply with pertinent provisions of Section 01640.

B. Delivery and storage:

1. Use necessary precautions to maintain identification after bundles are broken.
2. Store in a manner to prevent excessive rusting and fouling with dirt, grease, and other bond-breaking coatings.

PART 2 - PRODUCTS

2.1 REINFORCEMENT MATERIALS AND ACCESSORIES

A. Bars:
1. Provide deformed billet steel bars complying with ASTM A615, using grades shown on the Drawings.
2. Where grades are not shown on the Drawings, use grade 60.
3. Provide epoxy coated bars for the bars at main piers.

B. Steel wire:
1. Comply with ASTM A82.
2. For tie wire, comply with Fed Spec QQ-W-461, annealed steel, black, 16 gage minimum.

C. Welded wire fabric:
1. Provide welded steel, complying with ASTM A185.

D. Welding electrodes:
1. Comply with AWS A5.1, low hydrogen, E70 series.

E. Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcement in place:
1. Use wire bar type supports complying with CRSI recommendations, unless otherwise shown on the Drawings.
2. Do not use wood, brick, or other non-complying material.
3. For slabs on grade, use supports with sand plates or horizontal runners where base material will not support chair legs.
4. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with either hot-dip galvanized or plastic-protected legs.

2.2 FABRICATION

A. General:
1. Fabricate reinforcing bars to conform to the required shapes and dimensions, with fabrication to tolerances complying with the CRSI Manual.
2. In case of fabricating errors, do not straighten or re-bend reinforcement in a manner that will weaken or injure the material.
3. Reinforcement with any of the following defects will not be acceptable.

a. Bar lengths, depths, and/or bends exceeding the specified fabrication tolerances;
b. Bends or kinks not shown on the Drawings;
c. Bars with reduced cross-section due to excessive rusting or other cause.

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 INSTALLATION

A. General:
1. Comply with the specified standards for detail and method of placing reinforcement and supports, except as may be modified herein.
2. Clean reinforcement to remove loose rust and mill scale, earth, and other materials which reduce or destroy bond with concrete.
3. Position, support, and secure reinforcement against displacement by form work, construction, and concrete placing operations.
4. Locate and support reinforcement by metal chairs, runners, bolsters, spacers, and hangers, as required.
5. Place reinforcement to obtain minimum coverage for concrete protection.
6. Arrange, space, and securely tie bars and bar supports together with the specified tie wire.
7. Set wire ties so twisted ends are directed away from exposed concrete surfaces.

B. Install welded wire fabric in as long lengths as practicable, lapping adjoining pieces at least one full mesh.

C. Provide sufficient numbers of supports, and of strength to carry the reinforcement.

D. Do not place reinforcing bars more than 2" beyond last leg of any continuous bar support.

E. Do not use supports as bases for runways for concrete conveying equipment and similar construction loads.

3.3 SPLICES

A. Lap splices:

1. Tie securely with the specified wire to prevent displacement of splices during placement of concrete.

B. Splice devices:
   1. Obtain the Architect's approval prior to using splice devices.
   2. Install in accordance with manufacturer's written instructions.
   3. Splice in a manner developing at least 125% of the yielding strength of the bar.

C. Welding:
   1. Perform in accordance with AWS D1.4-79.

D. Do not splice bars except at locations shown on the Drawings, except as otherwise specifically approved by the Architect.

3.4 TESTING

A. Samples:
   1. Samples for physical tests of reinforcement will consist of at least two pieces, each 18" long, of each size of reinforcement steel, selected by the testing agency from material at the building site or at the fabricator's or supplier's yard.
   2. Material to be sampled at the building site shall have been delivered thereto at least 72 hours before it is needed.

B. Tests:
   1. Where samples are taken from bundles as delivered from the mill, with the bundles identified as to heat number, and provided mill analyses accompany the report, then one tensile test and one bend test will be made from a specimen of each ten tons or fraction thereof of each size of reinforcement steel.
   2. Where positive identification of the heat number cannot be made, or where random samples are taken, then one series of tests will be made from each 2-1/2 tons or fraction thereof of each size of reinforcement steel.
   3. Payment for testing is described in Section 01410 of these Specifications.

SECTION 03300
CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included: Provide cast-in-place concrete, including formwork and reinforcement, where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

B. Related Work: Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.2 QUALITY ASSURANCE

A. Use adequate number of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of type work of this Section.

B. Comply with "Specifications for Structural Concrete for Buildings," ACI 301, except as may be modified herein.

C. ACI 318 "Building Code Requirements for Reinforced Concrete."

D. ACI 306R - latest edition "Cold Weather Concreting."

E. Provide access for, and cooperate with, the inspector and testing laboratory described in Section 01410 of these Specifications.

F. Provide concrete mix designs prepared by an independent testing laboratory.

G. Do not commence placement of concrete until mix designs have been reviewed and approved by the Architect and all governmental agencies having jurisdiction, and until copies of the approved mix designs are at the job site and the batch plant.

H. Notify Architect and Owner prior to placement of footing concrete, pavement concrete, slab concrete, or wall concrete.

I. Tolerances: Troweled finish interior slabs - depression between high spots: do not exceed 1/4" under a 10'-0" straight edge.

J. Compression tests:

1. Prepare standard 6" diameter concrete compression test cylinders in the field in accordance with ASTM C31 - latest edition and C172 - latest edition. The cylinder shall be delivered to the testing laboratory for curing and testing in accordance with ASTM C31 - latest edition and C39 - latest edition.
2. At least 1 set of test cylinders shall be made for each day's pour in excess of 1 cubic yard for each type of concrete. If a day's pour exceeds 25 cubic yards, 1 set of test cylinders shall be made for each additional 50 cubic yards or fraction thereof.
3. Cylinder set consists of 4 cylinders, 3 for lab use and one for field control; allow no damage to cylinders.
    a. Mark cylinders with consecutive numbers, date cast, locations, slump, air content, contractor name and project.
    b. Keep cylinders at 60 degrees F. to 80 degrees F for first 24 hours.
    c. After 24 hours, place filed control cylinder at placement location under identical protection and curing procedures; transport remaining three cylinders to laboratory.
    d. Cylinders will be tested as follows: 1 cylinder at 7 days for information and 2 cylinders at 28 days for acceptance.
4. The strength level shall be considered satisfactory so long as the averages of all sets of 34 consecutive strength test results equal or exceed the specified strength f'c and no individual strength test result falls below the specified f'c by more than 500 psi.
5. In cases where samples have not been taken or tests conducted as specified or the strength of the laboratory test cylinders for a particular portion of the structure fails to meet the requirements of ACI 318, Section 4.8, for evaluation of concrete strength, the Architect/Engineer shall have the right to order compressive and flexural test specimens taken from the hardened concrete according to ASTM C42 - latest edition, load tests according to ACI 318, Chapter 29 or such other tests as may be necessary to clearly establish the strength of the concrete and such tests shall be paid by the Contractor.
6. If test results do not achieve the required level, the Architect/Engineer reserves the right to order the mix design changed to a lower water-cement ratio so that the required strength level is achieved.

K. Slump tests: Provide slump tests taken by an independent laboratory. Take one test of a first load of the day and one random load during the day. If a load falls, reject the load and test each subsequent load of the day.

1.3 SUBMITTALS

A. Mix designs:
1. All mix designs shall be proportioned in accordance with Section 4.3 (field experience) or Section 4.4 (trail batches) of ACI 318 - latest edition. Submit proposed mix design within 20 days after Notice to Proceed and include:

a. All ingredients listed by weight.
b. Quantities, type and name of admixtures.
c. Standard deviation analysis or trail batch test results.

2. All proposed mix designs must be accompanied by standard deviation analysis or trail batch test data.
3. Distribute approved mix designs to testing laboratory, batch plant, job site, and governmental agencies having jurisdiction.

B. Compliance reports:
1. Submit substantive data to verify conformance when materials are specified by ASTM procedure number.

C. Test cylinders:
1. Submit test cylinders to testing agency.
2. Distribute test reports (1 copy) to the Architect.

D. Slump tests: Distribute test reports (1 copy) to the Architect.

1.4 PRODUCT HANDLING

A. Comply with pertinent provisions of Section 01640.

PART 2 - PRODUCTS

2.1 FORMS

A. Design, erect, support, brace, and maintain formwork so it will safely support vertical and lateral loads which might be applied until such loads can be supported safely by the concrete structure.

B. Construct forms to the exact sizes, shapes, lines, and dimensions shown, and as required to obtain accurate alignment, location, grades, and level and plumb work in the finished structure.

2.2 REINFORCEMENT

A. See Section 03200 - Reinforcement.

2.3 CONCRETE

A. Comply with the following as minimums:
1. Portland cement: ASTM C150, type I. Use the same manufacturer throughout the project.
2. Aggregate, general:
a. ASTM C33 with no shale or other deleterious materials, uniformly graded and clean;
b. Do not use aggregate known to cause excessive shrinkage.

3. Aggregate, coarse: Crushed rock or washed gravel with minimum size of 3/4", and with a maximum size of 1-1/2" (footings), 1" (pavements), 3/4" all other concrete (3/8" topping on precast).
4. Aggregate, fine: Natural washed sand of hard and durable particles varying from fine to particles passing a 3/8" screen, of which at least 12% shall pass a 50-mesh screen.
5. Water: Clean and potable.
6. Admixtures: Secure prior approval of Architect.
7. Provide the following slumps:
   a. Slab on grade 3".
   b. All others 4".

B. Provide concrete with the compressive strengths shown on the Drawings. If not indicated provide 3,000 psi for footings. Provide 4,000 psi for exterior concrete, and interior slab on grade, and topping on precast concrete slabs.

C. Water cement ratio: All concrete exposed to freeze/thaw conditions, deicers or required to be water tight shall have a water-cement ratio of 0.45 maximum. Other concrete shall have maximum water-cement ratio of 0.53 maximum.

2.5 CURING COMPOUND AND SEALING COMPOUND

A. After final troweling and surface water glaze has disappeared apply "L&M Cure" by L&M Construction Chemicals.

B. "Seal Hard" by L&M Construction Chemicals.

2.6 NON-SHRINK GROUT

A. Euco NS (non-metallic) by the Euclid Chemical Company and Masterflow 117 (non-metallic) by Master Builders. The grout shall conform to CRO-C-621 - latest edition, "Corps. of Engineers Specifications for Non-Shrink Grout."

2.7 MIXES

A. ASTM C-94 - latest edition.

B. Mix concrete only in quantities for immediate use.

C. Do not re-temper or use set concrete.

D. Each truck shall have time of departure from mixing plant stamped on ticket. 1 hour is the maximum time between time concrete mix is placed in truck and the placing of concrete mix in forms.

2.8 WATER STOPS

A. "Greenstreak" 748 PVC dumbbell in size to suit joint.

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 REINFORCING

A. Comply with the following, as well as the specified standards, for details and methods of reinforcing placement and supports.
   1. Clean reinforcement and remove loose dust and mill scale, earth, and other materials which reduce bond or destroy bond with concrete.
   2. Position, support, and secure reinforcement against displacement by forms, construction, and the concrete placement operations.
   3. Place reinforcement to obtain the required coverage for concrete protection.
   4. Install welded wire fabric in as long lengths as practicable, lapping adjoining pieces one full mesh minimum.
   5. Unless otherwise shown on the Drawings, or required by governmental agencies having jurisdiction, lap bars 42 diameters minimum.

3.3 EMBEDDED ITEMS

A. Do not embed piping, other than electrical conduit, in structural concrete.
   1. Locate conduit to maintain maximum strength of the structure.
   2. Increase the thickness of the concrete if the outside diameter of the conduit exceeds 30% of the thickness of the concrete.

B. Set bolts, inserts, and other required items in the concrete, accurately secured so they will not be displaced, and in the precise locations needed.

3.4 MIXING CONCRETE

A. Transit mix the concrete in accordance with provisions of ASTM C94.

B. Do not use concrete that has stood for over 30 minutes after leaving the mixer, or concrete that is; not placed within 60 minutes after water is first introduced into the mix.

3.5 PLACING CONCRETE

A. Preparation:
   1. Remove foreign matter accumulated in the forms.

2. Rigidly close openings left in the formwork.
3. Wet wood forms sufficiently to tighten up cracks. Wet other material sufficiently to maintain workability of the concrete.
4. Use only clean tools.

B. Conveying:
1. Perform concrete placing at such a rate that concrete which is being integrated with fresh concrete is still plastic.
2. Deposit concrete as nearly as practicable in its final location so as to avoid separation due to rehandling and flowing.
3. Do not use concrete which becomes non-plastic and unworkable, or does not meet required quality control limits, or has been contaminated by foreign materials.
4. Remove rejected concrete from the job site.

C. Placing concrete in forms:
1. Deposit concrete in horizontal layers not deeper than 24", and avoid inclined construction joints.
2. Remove temporary spreaders in forms when concrete has reached the elevation of the spreaders.

D. Placing concrete slabs:
1. Deliver concrete with maximum slump.
2. Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until the placing of a panel or section is completed.
3. Bring slab surfaces to the correct level with a straightedge, and then strike off.
4. Use bullfloats or darbies to smooth the surface, leaving the surface free from bumps and hollows.
5. Do not sprinkle water on the plastic surface. Do not disturb the slab surface prior to start of finishing operations.

3.6 CONSOLIDATION

A. General:
1. Consolidate each layer of concrete immediately after placing, by use of internal concrete vibrators supplemented by hand spading, rodding, or tamping.
2. Do not vibrate forms or reinforcement.
3. Do not use vibrators to transport concrete inside the forms.
4. Comply with ACI 309.

3.7 JOINTS

A. Construction joints:

1. Do not use horizontal construction joints except as may be shown on the Drawings.
2. If additional construction joints are found to be required, secure the Architect's approval of joint design and location prior to start of concrete placement.
3. Apply specified curing compound to vertical face to act as bond breaker.

B. Expansion joints:
1. Do not permit reinforcement or other embedded metal items that are being bonded with concrete (except dowels in floors bonded on only one side of the joints) to extend continuously through any expansion joint.
2. Fill expansion joints full depth with expansion joint material approved by the Architect.

C. Sawn joints:
1. Sawcut joints into slabs within 12 hours of pouring, or as dictated by mix design to prevent cracking or spalling.

3.8 CONCRETE FINISHING

A. Except as may be shown otherwise on the Drawings, provide the following finishes at the indicated locations.
1. Scratch finish: Apply to monolithic slab surfaces that are to receive concrete floor topping or mortar setting bed.
2. Float finish: Apply to monolithic slab surfaces that are to receive trowel finish and other finishes specified hereinafter, and to slab surfaces which are to be covered with insulation.
3. Trowel finish: Apply to monolithic slab surfaces that are to be exposed to view, unless otherwise shown, and to slab surfaces that are to be covered with resilient flooring, carpeting, paint, or other thin-film finish coating system.
4. Non-slip broom finish: Apply to walks, stairs, drives, ramps, and similar pedestrian and vehicular areas.

B. Finishing:
1. Formed concrete:
a. Tops of forms:
1) Strike concrete smooth at tops of forms.
2) Float to texture comparable to formed surfaces.
b. Formed surfaces:
1) As-cast finish.
2) Patch tie holes and defects after form removal.
3) Remove fins from surfaces.
2. Flatwork:
a. General:
1) Strike off and level concrete.

2) Do not work surface until ready for floating.
3) Power float surface on disappearance of water sheen.
4) Hand float areas inaccessible to power float.

b. Troweled finish:
1) Power trowel surface to smooth finish.
2) Hand trowel areas inaccessible to power trowel.
3) Apply specified curing and sealing compound immediately after troweling.

c. Finish concrete at areas to receive topping to insure proper bond with topping.

3.9 COLD WEATHER CONCRETING

A. Place concrete in cold weather as defined in Section 1.1 of ACI 306R, "Cold Weather Concreting."

B. Only accelerators approved by Architect/Engineer prior to use will be allowed.

3.10 PROTECTION

A. Keep rubber tired machines off floor for 3 days after placement.

B. Allow no full construction traffic on floors for 14 days after placement.

C. Keep floors, when used, cleaned of nails, sand, and other abrasive materials.

3.11 REPAIR OF DEFECTIVE AREAS

A. With prior approval of the Architect/Engineer, as to method and procedure, all repair of defective areas shall conform to ACI 301, Chapter 9, except that the specified bonding compound must be used.

B. All structural repairs shall be made with prior approval of the Architect/Engineer, as to method and procedure, using the specified epoxy adhesive and/or epoxy mortar.

3.12 NON-SHRINK GROUT

A. All column base plates, equipment bases and other locations so noted on the structural drawings, shall be grouted with the specified non-shrink non-metallic grout.

3.13 CURING

A. On vertical surfaces: After stripping of formwork, remove releasing agent and apply a coat of curing compound.

B. On floors provide curing agent and seal/hardener as directed by manufacturer.

C. Verify with Owner use of sealers compatible with installation of Owner furnished tile and finishes.

SECTION 03351 - POLISHED CONCRETE FINISHING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: This Section specifies polished concrete.

B. Related Sections:

C. 1. Section 03300 Cast-in-Place Concrete.

1.2 REFERENCES

A. American Concrete Institute (ACI):

1. ACI 302.1R Guide for Concrete Floor and Slab Construction.

B. ASTM International:

1. ASTM C309 Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
2. ASTM C171 Standard Specification for Sheet Materials for Curing Concrete.
3. ASTM C779 Standard Test Method for Abrasion Resistance of Horizontal Concrete Surfaces.

C. Reunion Internationale des Laboratoires D'Essais et de Recherches sur les Materiaux et les Constructions (RILEM):

1. Rilem Test Method 11.4 Standard Measurement of Reduction of Moisture Penetration Through Horizontal Concrete Surfaces.

D. National Floor Safety Institute (NFSI):

1. NFSI Test Method 101-A Standard for Evaluating High-Traction Flooring Materials, Coatings, and Finishes.

1.3 SYSTEM DESCRIPTION

A. Performance Requirements: Provide polished flooring that has been selected, manufactured and installed to achieve the following:

1. Abrasion Resistance: ASTM C779, Method A, high resistance, no more than 0.008 inch (0.20 mm) wear in 30 minutes.
2. Reflectivity: Increase of 35% as determined by standard gloss meter.
3. Waterproof Properties: Rilem Test Method 11.4, 70% or greater reduction in absorption.
4. High Traction Rating: NFSI 101-A, non-slip properties.

B. Design Requirements:

1. Hardened Concrete Properties:

a. Minimum Concrete Compressive Strength: 3500 psi (24 MPa).
b. Normal Weight Concrete: No lightweight aggregate.
c. Non-air entrained.

2. Placement Properties:

a. Natural concrete slump of 4 1/2 inches - 5 inches (114 - 127 mm). Admixtures may be used.
b. Flatness Requirements:

1) Overall FF 40.
2) Local FF 20.

3. Hard-Steel Troweled (3 passes) Concrete: No burn marks. Finish to ACI 302.1R, Class 5 floor.

a. Class 6 floors, special colored mineral aggregate hardener with repeated hard steel trowel finish.

4. Curing Options:

a. Membrane forming curing compounds (ASTM C309, Type 1, Class B, all resin, dissipating cure).

1) Acrylic curing and sealing compounds not recommended.

b. Sheet membrane (ASTM C171); polyethylene film not recommended.
c. Damp Curing: Seven day cure.

1.4 ACTION SUBMITTALS

A. Shop Drawings: Indicate information on shop drawings as follows:

1. Typical layout including dimensions and floor grinding schedule.
2. Plan view of floor and joint pattern layout.
3. Areas to receive colored surface treatment.
4. Hardener, sealer, densifier in notes.

B. Product Data: Submit product data, including manufacturer's SPEC-DATA product sheet, for specified products.

1. Material Safety Data Sheets (MSDS).
2. Preparation and concrete grinding procedures.
3. Colored Concrete Surface, Dye Selection Guides.

1.5 INFORMATION SUBMITTALS

A. Quality Assurance:

1. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties as cited in 1.03 Performance Requirements.
2. Certificates:

a. Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
b. Letter of certification from the National Floor Safety Institute confirming the system has been tested and passed phase Two Level of certification when tested by Method 101-A.
c. Current contractor's certificate signed by manufacturer declaring contractor as an approved installer of polishing system.

3. Manufacturer's Instructions: Manufacturer's installation instructions.

1.6 CLOSEOUT SUBMITTALS

A. Warranty: Submit warranty documents specified.

1. Include:

a. Manufacturer's instructions on maintenance renewal of applied treatments.
b. Protocols and product specifications for joint filing, crack repair and/or surface repair.

1.7 QUALITY ASSURANCE

A. Qualifications:

1. Installer experienced in performing work of this section who has specialized in installation of work similar to that required for this project.
2. Installer trained and holding current certification for FGS PermaShine installation.
3. Manufacturer Qualifications: Manufacturer capable of providing field service representation during construction and approving application method.

B. Regulatory Requirements.

1. NFSI Test Method 101-A Phase Two Level High Traction Material.

C. Mock-Ups:
1. Mock-Up Size: 100 S.F. sample panel at jobsite at location as directed under conditions similar to those which will exist during actual placement.
2. Mock-up will be used to judge workmanship, concrete substrate preparation, operation of equipment, material application, color selection and shine.
3. Allow 24 hours for inspection of mock-up before proceeding with work.
4. When accepted, mock-up will demonstrate minimum standard of quality required for this work.

D. Preinstallation Meetings: Conduct a preinstallation meeting to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements. Review the following:

1. Environmental requirements.
2. Scheduling and phasing of work.
3. Coordinating with other work and personnel.
4. Protection of adjacent surfaces.
5. Surface preparation.
6. Repair of defects and defective work prior to installation.
7. Cleaning.
8. Installation of polished floor finishes.
9. Application of liquid hardener, densifier.
10. Protection of finished surfaces after installation.

1.8 WARRANTY

A. Project Warranty: Refer to Contract Conditions for project warranty provisions.

B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and does not limit, other rights Owner may have under Contract Documents.

C. Warranty: Commencing on date of acceptance by Owner.

1.9 MAINTENANCE

A. Comply with manufacturer's written instructions to maintain installed product.

PART 2 - PRODUCTS

2.1 Polished Concrete Finishing Products

A. Manufacturer: L & M Construction Chemicals, Inc.

1. Contact: 14851 Calhoun Rd., Omaha, NE 68152-1140; Telephone: (800) 362-3331, (402) 453-6600; Fax: (402) 453-0244; E-mail: info@lmcc.com; website: www.lmcc.com, www.fgs-permashine.com.

B. Proprietary Products/Systems:

1. Hardener, Sealer, Densifier: Proprietary, water based, odorless liquid, VOC compliant, environmentally safe chemical hardening solution leaving no surface film.

a. Acceptable Material: L & M Construction Chemicals, Inc., FGS Hardener Plus.

2. Joint Filler: Semi-rigid, 2-component, self-leveling, 100% solids, rapid curing, polyurea control joint and crack filler with Shore A 80 or higher hardness.

a. Acceptable Material: L & M Construction Chemicals, Inc., Joint Tite 750.

3. Oil Repellent Sealer: Ready to use, silane, siloxane and fluoropolymers blended water based solution sealer, quick drying, low-odor, oil and water repellent, VOC compliant and compatible with chemically hardened floors.

a. Acceptable Material: L & M Construction Chemicals, Inc., Petrotex.

4. Concrete Dyes: Fast-drying dye, packaged in premeasured units ready for mixing with VOC exempt solvent; formulated for application to polished cementitious surfaces.

a. Acceptable Material: L & M Construction Chemicals, Inc., Vivid Concrete Dyes.

5. Cleaning Solution: Proprietary, mild, highly concentrated liquid concrete cleaner and conditioner containing wetting and emulsifying agents; biodegradable, environmentally safe and certified High Traction by National Floor Safety Institute (NFSI).

a. Acceptable Material: L & M Construction Chemicals, Inc., FGS Concrete Conditioner.

6. Finish: Standard High gloss (HG-1), 1500 grit
7. Color: To be selected by Owner

2.2 SOURCE QUALITY CONTROL

A. Ensure concrete finishing components and materials are from single manufacturer.

PART 3 - EXECUTION

3.1 MANUFACTURERS INSTRUCTIONS

A. Compliance: Comply with manufacturer's written data, including product technical bulletins, product catalog installation instructions, product carton installation instructions and L & M Construction Chemicals, Inc., SPEC-DATA sheets.

B. Use only L & M certified FGS/PermaShine installers.

3.2 PREPARATION

A. Ensure surfaces are clean and free of dirt and other foreign matter harmful to performance of concrete finishing materials.

B. Examine surface to determine soundness of concrete for polishing.

C. General Contractor to remove surface contamination.

3.3 INSTALLATION

A. Floor Surface Polishing and Treatment:

1. Provide polished concrete floor treatment in entirety of slab indicated by drawings. Provide consistent finish in all contiguous areas.
2. Apply floor finish prior to installation of fixtures and accessories.
3. Diamond polish concrete floor surfaces with power disc machine recommended by floor finish manufacturer. Sequence with coarse to fine grit using dry method.

    a. Comply with manufacturer's recommended polishing grits for each sequence to achieve desired finish level. Level of sheen shall match that of approved mock-up.
    b. Expose aggregate in concrete surface only as determined by approved mock-up.
    c. All concrete surfaces shall be as uniform in appearance as possible.

4. Dyed and Polished Concrete (option):

    a. Locate demarcation line between dyed surfaces and other finishes.
    b. Polish concrete to final finish level.
    c. Apply diluted dyes to polished concrete surface.
    d. Allow dye to dry.
    e. Remove residue with dry buffer; reapply as necessary for desired result.

5. Apply FGS Hardener Plus, Hardener, Densifier As Follows:

a. First coat at 250 ft^2/gal (6.25 m^2/L).
b. Second coat at 350 ft^2/gal (8.75 m^2/L).
c. Follow manufacturer's recommendations for drying time between successive coats.

6. Remove defects and repolish defective areas.
7. Finish edges of floor finish adjoining other materials in a clean and sharp manner.

3.4 ADJUSTMENTS

A. Polish to higher gloss those areas not meeting specified gloss levels per mock-up.

B. Fill joints flush to surface.

3.5 FINAL CLEANING

A. Mechanically scrub treated floors for seven days with soft to medium pads with approved cleaning solution.

B. Upon completion, General Contractor must remove surplus and excess materials, rubbish, tools and equipment.

3.6 PROTECTION

A. Protect installed product from damage during construction

END OF SECTION

SECTION 04220
UNIT MASONRY

PART 1 – GENERAL

1.1 DESCRIPTION

A. Work included: Provide masonry units where shown on Drawings and specified herein.

1. Concrete Masonry Units

2. Bravissi sculptured masonry veneer; size: 4″ x 8″ x 16″; pattern F, by Anchor Block Company.

3. Satin fine finish masonry veneer; size: 4″ x 4″ x 12″, by Anchor Block Company.

B. Related Work:

1. Section 03300 - Cast -In-Place Concrete

1.2 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.3 SUBMITTALS

A. Comply with pertinent provisions of Section 01340.

B. Product data:

1. Materials list of items proposed to be provided under this Section;

1.4 PRODUCT HANDLING

A. Comply with pertinent provisions of Section 01640.

B. Store masonry units above ground on level platforms which allow air circulation under the stacked units.

C. Cover and protect against wetting prior to use.

PART 2 - PRODUCTS

2.1 MASONRY UNITS

A. Hollow load-bearing concrete masonry units complying with ASTM C90, grade N, type I.

2.2 MORTAR

A. Ingredients:
   1. Portland cement: Comply with ASTM C150, type I.
   2. Lime:
      a. Provide hydrated lime complying with ASTM C207, or quicklime complying with ASTM C5.
      b. When quicklime is used, slake and then screen through a 16 mesh sieve. After slaking and screening, but before using, store and protect for not less than ten days.
   3. Aggregate: Provide clean, sharp, well graded aggregate free from injurious amounts of dust, lumps, shale, alkali, surface coatings, and organic matter, and complying with ASTM C144.
   4. Admixtures: Do not use admixtures unless specifically approved in advance by the Architect.
   5. Water: Provide water free from deleterious amounts of acids, alkalis, and organic materials.

B. Mixing:
   1. Provide mortar type "M" or type "S", as designated on the Drawings or otherwise directed by the Architect, and in accordance with ASTM C270.
   2. Proportions:
      a. For type "M" mortar, provide one part portland cement to 1/4 part hydrated lime and 3-3/4 parts sand by volume.
      b. For type "S" mortar, provide one part portland cement to 1/2 part hydrated lime and 4-1/2 parts sand by volume.
   3. Mechanically mix in a batch mixer for not less than three minutes, using only sufficient water to produce a mortar which is spreadable and of a workable consistency.
   4. Re-temper mortar with water as required to maintain high plasticity.
      a. On mortar boards, re-temper only by adding water within a basin formed with mortar, and by working the mortar into the water.
      b. Discard and do not use mortar which is unused after 1-1/2 hours following initial mixing.
   5. Measure ingredients in mixing box measuring 12"x12"x12". Mortar mixed without accurate proportions will be rejected.

2.3 GROUT

A. Ingredients:
   1. Portland cement: Comply with ASTM C150, type I.
   2. Aggregate: Provide clean, sharp, well graded aggregate free from injurious amounts of dust, lumps, shale, alkali, surface coatings, and organic matter.
   3. Admixtures: Do not use admixtures unless specifically approved in advance by the Architect.
   4. Water: Provide water free from injurious amounts of acids, alkalis, and organic materials.

B. Mixing:
   1. Provide "fine grout" or "coarse grout" as designated on the Drawings or otherwise directed by the Architect, and in accordance with ASTM C476.
   2. When the minimum grout compressive strength is required to be more than 2000 psi, provided laboratory design mix prepared as required for design mixes of concrete under Section 03300 of these Specifications.
   3. Proportions:
      a. For "fine grout," provide one part portland cement to 2-1/4 parts minimum to 3 parts maximum of damp loose sand, with sufficient water to achieve fluid consistency.
      b. For "coarse grout," provide one part portland cement to 3 parts maximum of damp loose sand to two parts coarse aggregate, with sufficient water to achieve fluid consistency.

   4. "Fluid consistency" is interpreted as meaning as fluid as possible for pouring intimately in place without segregation.

C. Use "fine grout" where called for on the Drawings, where the grout space is less than 3" in its least dimension, and where otherwise directed by the Architect or required by governmental agencies having jurisdiction.

2.4 MISCELLANEOUS MATERIALS

A. Through-wall flashing: 20-mil thick, polyvinyl chloride sheeting; American Cyanamid Wascoseal, B.F. Goodrich BFG Vinyl Water Barrier, Rubber and Plastics Compound Company Nervastral Seal-Proof H-D or Sandell Nuflex PVC Flashing. Furnish manufacturer's adhesive of type recommended for the particular installation.

B. Extruded polystyrene insulation: Fed. Spec. HH-I-524C, Type IV.

C. Adhesive: To adhere insulation and seal joints, type recommended by manufacturer.

D. Rope wicks: 1/4" diameter polyester cord with cotton core.

E. Compressible joint filler: Closed cell, soft neoprene gasket, cut to size.

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 ENVIRONMENTAL CONDITIONS

A. Do not place masonry units when air temperature is below 40 degrees F.

B. Protect masonry construction from direct exposure to wind and sun when erected in ambient air temperature of 99 degrees F in the shade, with relative humidity less than 50%.

3.3 INSTALLATION

A. General

1. Do not commence installation of the work of this Section until horizontal and vertical alignment of foundation is within 1" of plumb and the lines shown on the Drawings.

2. Lay only dry masonry units.

3. Use masonry saws to cut and fit masonry units.

4. Set units plumb, true to line, and with level courses accurately spaced.

5. Clean the top surface of foundation free from dirt, debris, and laitance, and expose the aggregate prior to start of installing first course.

6. Accurately fit the units to plumbing, ducts, openings, and other interfaces, neatly patching all holes.

7. Keep the walls continually clean, preventing grout and mortar stains. If grout does run over, clean immediately.

8. Unless otherwise shown on the Drawings, provide running bond; with vertical joints located at center of masonry units in the alternate course below.

9. Do not use chipped or broken units. If such units are discovered in the finished wall, the Architect may require their immediate removal and replacement with new units at no additional cost to the Owner.

10. Build-in through-wall flashing as detailed in Drawings. Set top 6" of flashing in mastic to back-up. Seal laps, fasteners, and lap-top edges with mastic. Install rope wicks spaced approximately 2'-0" on center in head joints above through-wall flashing.

11. Construct control joints and expansion joints.

12. Build in loose structural steel lintels, beams and anchor bolts.

C. CONCRETE BLOCK

1. Lay concrete block in running bond with 3/8" wide joints unless otherwise indicated on the Drawings.

2. Lay the first course of concrete block above footings, foundations and concrete slabs in a full bed of mortar. Lay successive courses with divided bed joints. Butter head joints on both faces, and shove into place to squeeze out excess mortar. Clean mortar from exposed faces immediately and keep free of droppings.

3. Continuously reinforce concrete block walls and composite brick and block walls with joint reinforcing placed in mortar joints not over 16" on center vertically. Embed side rods in full mortar bed. Lap reinforcing 6" minimum.

4. Tool exposed joints in concrete block work to a smooth, dense, surface. Cut concealed joints flush.

5. Construct control joints for concrete block walls using keyed concrete block.

E. CONCRETE BLOCK LINTELS AND BOND BEAMS

1. Provide reinforced concrete block lintels and bond beams where shown on Drawings.

F. REINFORCED MASONRY WALLS

1. Reinforce masonry walls with vertical reinforcing where indicated on the Drawings. Lay concrete block so cells are stacked. Support bars to maintain clearance between bars and block shells. Fill with 3,000 psi concrete as specified in Section 03300, Cast-In-Place Concrete.

G. CLEANING

1. Cut out and re-point defective mortar joints.

2. Upon completion of the work, clean exposed masonry to remove laitance, excess mortar, efflorescence and stains. Do not use muriatic acid or proprietary cleaning compounds without the prior approval of the Architect. Do not use metal cleaning tools and brushes or abrasive powders.

SECTION 04730
SIMULATED STONE VENEER

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Manufactured stone veneer, and application materials.

B. Related Sections:
   1. Division, 6
   2. Division, 7

C. Alternates:
   1. Reference Section 01 23 00–Alternates.

1.02 REFERENCES

A. American Concrete Institute (ACI).

B. American Society for Testing and Materials (ASTM):

1.03 SUBMITTALS

A. Reference Section 01 33 00–Submittal Procedures; submit following items:
   1. Product Data: Manufactured masonry and application materials
   2. Samples: Panel containing full-size samples of specified manufactured masonry showing full range of colors and textures **complete with specified mortar**.
      a. Actual size of masonry sample approximately 12 by 12 inches (300 by 300 mm).
   3. Quality Assurance/Control Submittals:
      a. Qualifications:
         1) Proof of manufacturer qualifications.
         2) Proof of installer qualifications.

B. Field Samples: Provide in a location selected by Architect showing representative sample of installed product including penetration and termination details, corner detail, and mortar color and tooling.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Reference Section 01 66 00–Product Storage and Handling Requirements.

B. Follow manufacturer’s instructions.

C. Store moisture-sensitive materials in weather protected enclosures.

1.05 PROJECT/SITE CONDITIONS

A. Environmental Requirements: Maintain materials and ambient temperature in area of installation at minimum 40 degrees F (4 degrees C) prior to, during, and for 48 hours following installation.

1.06 WARRANTY

A. Special Warranty: Provide manufacturer's standard limited warranty against defects in manufacturing for a period of 40 years following date of Substantial Completion.

1.07 MAINTENANCE

A. Extra Materials: Furnish extra manufactured stone material in a variety of shapes and sizes in quantity equal to three percent of the installed stone.

PART 2 - PRODUCTS

2.01 MANUFACTURER

A. Coronado Stone Products

B. Substitutions: As approved by Architect.

2.02 MANUFACTURED MASONRY MATERIALS

A. Coronado Product: Rocky Mountain Ledge, color selected by Owner

B. Architectural Trim: As shown on drawings but not limited to, caps, sills, lintels and hearth stone.

2.03 RELATED MATERIALS

A. Weather Resistant Barrier: [Kraft waterproof building paper, UBC Standard No. 14-1] [No. 15, Type I, asphalt saturated felt, ASTM D 226].

B. Metal Lath: [2.5 lb (1.4 kg/m^2) galvanized expanded metal lath] [18 (1.3 mm) gauge woven wire mesh] [3.4 lb (1.8 kg/m^2) galvanized expanded rib lath].

C. Fasteners:
1. Into Wood Studs: Minimum 0.120 inch (3 mm) shank diameter galvanized nails or staples of sufficient length to penetrate 1-3/8 inches (35 mm) minimum into the stud.

D. Mortar: Premixed Type N or mortar mixed using components and proportions following manufactured masonry manufacturer's installation instructions. Comply with ASTM C 270.
1. Mortar Color: As selected by architect.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates upon which manufactured masonry will be installed.

B. Coordinate with responsible entity to correct unsatisfactory conditions.

C. Commencement of work by installer is acceptance of substrate conditions.

3.02 PREPARATION

A. Install Cultured Stone® products in accordance with manufacturer's Cultured Stone® installation instructions using grouted joints.

B. Install architectural trim products in accordance with manufacturer's Cultured Stone® installation instructions.

C. Install/Apply Related Materials specified above in accordance with type of substrate and manufactured masonry manufacturer's installation instructions.

3.03 CLEANING

A. Clean manufactured masonry in accordance with manufacturer's installation instructions.

3.04 PROTECTION

A. Protect finished work from rain during and for 48 hours following installation.

B. Protect finished work from damage during remainder of construction period.

END OF SECTION

SECTION 06100
CARPENTRY

PART 1 - GENERAL

1.1 DESCRIPTION

A. Section Includes:

1. All wood framing, blocking, backing, stripping, furring, grounds, and plywood except as noted.
2. Rough hardware, bolts, hangers, clips, brackets, anchors, nails, connectors, and fasteners not specified elsewhere.
3. Temporary enclosures.
4. Temporary centering, shoring and bracing.
5. Plywood backing and sheathing, building felt.

B. Related Sections:

1. Section 03100 - Concrete Formwork
2. Section 06400 - Architectural Woodwork
3. Section 09260 - Gypsum Drywall

1.2 DELIVERY AND STORAGE

A. All materials, insofar as practicable, shall be delivered to the site in the manufacturer's original containers and bear the trademarks and names thereof. Trademark stamped on all standard yard dimension lumber or certified for compliance. Plywood grade stamped. Each piece of treated lumber stamped.

B. Lumber and plywood shall be carefully stacked to prevent warping and shall be kept dry.

PART 2 - PRODUCTS

2.1 LUMBER

A. Lumber shall conform to U.S. Product Standard PS20 and grade stamped by an agency certified by the Board of Review of the American Lumber Standards Committee.

B. Moisture content of dimension lumber 2" or less in thickness shall be 19% or less at time of installation. Lumber dressed S4S, unless otherwise specified.

C. Grades and type as follows:

1. Blocking, nailers and miscellaneous framing lumbers: Standard Light Framing Grade Douglas Fir Larch.

2. Boards: No. 2 and Better Common or Construction Grade Ponderosa Pine, Sugar Pine, Lodgepole Pine, White Woods or Sterling Grade Idaho White Pine.

2.2 PLYWOOD

A. Plywood shall conform to U.S. Product Standard for Construction and Industrial Plywood, PSI. Panels shall bear the appropriate APA trademark.

B. Plywood sheathing shall be 1/2" or 5/8" CDX exterior grade.

C. #15 asphalt building felt, non-perforated, ASTM D226.

D. Housewrap by TYVEK or equal.

2.3 ROUGH HARDWARE

A. Provide fasteners of size and type indicated below that comply with requirements specified for material and manufacture.

B. Where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with a hot-dip zinc coating, ASTM A153 or AISI Type 304 stainless steel. Use only screws or bolts with preservative treated wood.

C. Fastener types:

1. Nails, wire, brands, and staples; FS FF-N-105
2. Power driven fasteners: National Evaluation Report NER-272
3. Wood Screws: ANSI B18.2.1
4. Lag bolts: ANSI B18.2.1
5. Bolts: Steel bolts complying with ASTM A307, Grade A; with ASTM A563 hex nuts.

2.4 PRESERVATIVE TREATMENT

A. Wood blocking, stripping, furring and similar concealed members in contact with concrete and masonry walls shall have preservative treatment.

B. Preservative treated lumber shall conform to the applicable requirements of the American Wood Preservers Association (AWPA) Standard CS-85.

C. Fabricate lumber insofar as possible before treatment. Dry lumber to a moisture content of not more than 19% after treatment. Treat field cuts in accordance with AWPA Standard M4-84 with a heavy brush coat of the same chemical used for treatment.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install anchor bolts indicated on the Drawings or otherwise required to attach wood plates and bucks to masonry and concrete. Bolts shall be of proper diameter, threaded one end with a 1-1/2" right angle bend on the opposite end. Bolts shall extend not less than 8" into concrete and horizontal masonry joints and not less than 16" into vertical masonry joints.

B. Provide wood blocking, bucks, nailers and similar items. Install securely and accurately to receive intended work.

C. Provide blocking as necessary for the installation of casework, millwork, mirrors, grab bars and toilet accessories, fire extinguisher cabinets and similar work. Blocking for grab bars shall support the loads specified in Section 10800, Toilet Accessories.

D. Apply plywood in accordance with APA recommendations.

E. Wood framing shall be nailed in accordance with Table No. 11-Recommended Nailing Schedule, Uniform Building Code.

3.2 CLEAN-UP

A. Keep the premises in a neat, safe, and orderly condition at all times during execution of this portion of the work, free from accumulation of sawdust, cut ends and debris.

SECTION 06190
WOOD TRUSSES

PART 1 – GENERAL

1.1 DESCRIPTION

A. Work included:

1. This Section includes all labor, materials and equipment necessary to complete all prefabricated wood trusses shown on the Drawings and specified herein.

B. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division of these specifications.

2. Rough Carpentry - Section 06100

1.2 QUALITY ASSURANCE

A. Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. The design and fabrication shall meet the following criteria:

1. "National Design Specification for Stress Graded Lumber and its Fastenings" - NFPA.

2. "Timber Construction Standards" - AITC.

3. "Design Specifications for Light Metal Plate Connective Wood Trusses" - TPI.

1.3 SUBMITTALS

A. Shop Drawings

1. Shop Drawings shall indicate truss type, number, sizes, spacings, bridging, connections, pitch, loading, web arrangement, and all details of erection.
2. Submit truss designs and calculations which shall bear the name and seal of a Registered Professional Engineer. Truss designs shall contain the following information:

    a. Nominal sizes and locations of connections at all joints.
    b. Lumber specifications.
    c. Force analysis in each member.
    d. Truss bearing supports, sizes, and locations.
    e. Camber.
    f. Permanent bracing/bridging as required to prevent compression buckling of individual truss members.
    g. Handling and erection instructions.
    h. Truss framing system showing location of all trusses.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver all wood trusses and accessories to the Project site and store in such manner as to avoid damage and distortion of material. All material damaged due to mishandling shall be replaced at Contractor's expense.

    1. Store trusses in vertical position protected from the weather.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Dimensional lumber trusses as indicated on the Drawings.

2.2 FABRICATION

A. Trusses shall be manufactured in an approved plant under controlled conditions and shall be completely shop-assembled with built-in camber, ready for site unloading and erection.

PART 3 - EXECUTION

3.1 INSPECTION

A. Erector must examine the supporting structure and the conditions under which the work is to be installed and notify the Contractor in writing of conditions detrimental to the work. Do not proceed with the installation until satisfactory conditions have been corrected in a manner acceptable to the Erector.

3.2 INTENT

A. It is not the intent of this Specification to define installation methods. Methods of installation and erection shall be in accordance with the details on the Drawings for the specific areas involved.

3.3 ERECTION

A. Exercise care in unloading, storing and erection. Do not allow trusses to drop.

B. Do not start placement of trusses until supporting work is in place and secured. Place trusses on supporting work, adjust and align in accurate location and properly spaced before permanently fastened.

C. Set trusses straight and true to spacing shown on Drawings.

D. Install bridging immediately after erection of trusses and before any construction loads are placed on trusses. Securely anchor ends of bridging lines at walls or beams.

3.4 ADJUSTING AND CLEANING

A. Upon completion of the work, the Contractor shall remove from the premises all unused materials, etc. resulting from the execution of this contract; and leave all work complete, clean and undamaged.

SECTION 06400
ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:

1. Plastic laminate faced cabinets and countertops.
2. Cabinet and shelving hardware.
3. Wood trim and moldings.
4. Plywood.
5. Wood ceilings: #1 Select clear pine; 1x6 tongue & groove ceilings in lobby & picnic area.

B. Related Sections:

1. Section 06100 - Carpentry
2. Section 08800 - Glazing
3. Section 09260 - Gysum Drywall

1.2 SUBMITTALS

A. Submit shop drawings for review (see Section 01340).

B. Submit samples of plastic laminate, wood trim & moldings.

1.3 STANDARDS

A. Architectural woodwork shall conform to the Architectural Woodwork Institute (AWI) Quality Standards of the Architectural Woodwork Industry.

PART 2 - PRODUCTS

2.1 PLASTIC LAMINATE FACED CABINET WORK

A. Plastic laminate shall conform to NEMA LD-3 as manufactured by Formica, Nevamar, Micarta, Pionite, or Ralph Wilson Plastics. Colors, patterns and finishes shall be selected from manufacturer's standards.

B. Plastic laminate faced cabinet work shall be Custom Grade, flush overlay conforming to AWI Sections 400 and 400B latest edition.

C. Exposed surfaces and backs of doors shall be faced with 0.028" thick, GP 28 plastic laminate with a suede finish. Semi-exposed surfaces shall be faced with 0.020" thick CL 20 cabinet liner.

2.2 PLASTIC LAMINATE FACED COUNTERTOPS

A. Countertops and vanity counters shall be Custom Grade conforming to AWI Sections 400 and 400C latest edition.

B. Tops and counters shall be scribed to walls. Make cutouts for sinks and plumbing trim and seal edges of cutouts.

C. Tops and counters shall be constructed of 3/4" thick particleboard or plywood. Tops containing sinks shall be constructed of exterior grade plywood or Type 2-M-2 particleboard.

D. Tops and counters shall be faced and edged with 0.050" thick, GP 50 plastic laminate and backed with a 0.020" thick, BK 20 backing sheet. Edges shall be square, and joint between top and back-splash shall be square.

2.3 CABINET HARDWARE

A. Cabinet hardware shall be as follows:

1. Adjustable shelf standards: K&V No. 255 US26D, rabbeted into sides and ends.
2. Brackets: K&V No. 256 IS26D
3. Drawer slides: K&V No. 1300
4. Door catches: Stanley 41 for unlocked doors, Ives 325 x A92 for locked doors.
5. Door and drawer pulls: Stanley 4483 26D
6. Catches: Stanley 41 for locked drawers; for locked drawers Ives 325 x A92
7. Hinges: Stanley 1500 Series
8. Locks: Cabinet door locks, CCL 0737 with strike. Cabinet drawer locks, CCL 0738 with strike. MK locks.

2.4 STANDING AND RUNNING TRIM

A. Standing and running trim and other miscellaneous millwork shall be Custom Grade conforming to AWI Sections 300 and 700.

B. Hardwood trim shall be red oak.

PART 3 - EXECUTION

3.1 PROJECT CONDITIONS

A. Architectural woodwork shall not be installed until masonry or other wet operations are complete. The building shall be properly ventilated with proper temperature and humidity maintained during and following installation.

3.2 INSTALLATION

A. Installation of millwork and cabinet work shall be in accordance with AWI Quality Standards Section 1700 - Installation of Architectural Woodwork.

1. Cabinets shall be installed so that doors and drawers fit openings, without distortion, and are accurately aligned, with hardware adjusted to center doors in openings.

2. Tops shall be securely anchored to base cabinets, set level and scribed to walls.

B. Woodwork shall be installed by experienced finish carpenters. Erect work plumb, true and square and securely anchored to grounds and blocking. Install neatly, free of slivers, open joints and hammer and tool marks. Scribe and cut work to fit adjoining surfaces. Blind nail insofar as possible and set surface nails.

SECTION 07210
BUILDING INSULATION

PART 1 - GENERAL

1.1 DESCRIPTION

A. Section Includes:

1. Perimeter foundation insulation.
2. Perimeter wall insulation
3. Batt insulation
4. Vapor barrier

B. Related Sections:

1. Section 04200 – Unit Masonry
2. Section 09260 - Gypsum Drywall

PART 2 - PRODUCTS

2.1 GENERAL

A. Insulation products shall contain no asbestos.

2.2 MATERIALS

A. Rigid Insulation system - Exterior Masonry Walls:
Expanded polystyrene, 0.9 PCF (minimum) density, complying with Fed. Spec. HH-1-524C, Type 1, and prelaminated furring stud at 16" o.c., thickness 1-1/2"; insulation shall have shiplap vertical edges.

B. Fiberglass batt insulation: Fiberglass conforming to ASTM C665, Type 1.

1. Roof/Ceiling: 12" thickness; R=40
2. Exterior Walls: 6" thickness; R=19

C. Vapor Barrier: 4 mil polyethylene.

D. Adhesive for rigid insulation: Type recommended by insulation manufacturer, capable of securely adhering insulation to applicable surface.

E. Adhesive for rigid insulation: Type recommended by insulation manufacturer, capable of securely adhering insulation to applicable surface.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install rigid insulation system on masonry walls using fasteners recommended by the manufacturer of the system to penetrate the substrate a minimum of 3/4" or as otherwise recommended for the particular application.

B. Install noise insulation batts pressed firmly into position between studs. Fit snugly around all wall penetrations, i.e.; junction boxes and receptacles. Install continuous from floor to structure above where indicated on the Drawings.

C. Install polyethylene film vapor barrier on warm side of all fiberglass insulation; lap 6" on all sides.

D. Install extruded polystyrene perimeter insulation using adhesive as necessary to temporarily hold insulation in place. Butt panels tightly together. Protect from damage until backfilling is completed.

SECTION 074113 - STANDING SEAM ROOF PANELS

GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY.

A. Work described in this section includes pre-formed metal roofing system complete with clips, perimeter and penetration flashing, closures, gutters, and downspouts.

B. Related work specified elsewhere:

1. Structural steel.
2. Steel joists.
3. Metal roof decks.
4. Wood roof decks.
5. Metal fabrications.
6. Rough carpentry.
7. Flashing and sheet metal. (Not roof panel related).
8. Air barrier and vapor retarder.
9. Thermal insulation.
10. Sealants.

1.3 DESIGN AND PERFORMANCE CRITERIA.

A. Uniform Wind Uplift Load Capacity.

1. Installed roof system shall withstand negative wind uplift pressures complying with the following criteria.
    a. Design Code: ASCE 7, Method 2 for Components and Cladding.
    b. Safety Factor: As determined in accordance with AISI S100 section D6.2.1, but in no instance shall the safety factor be taken to be less than 1.67 for any roof or wall zone. The provisions of Section D6.2.1a of Appendix A shall NOT be applicable for this project.

B. Fire Resistance Classification: The panel system shall be listed as a Class A Roof Covering, as determined by UL 790.

1.4 SUBMITTALS.

A. Shop drawings: Show roof panel system with flashings and accessories in plan view; sections and details. Include metal thicknesses and finishes, panel lengths, joining details, anchorage details, flashings and special fabrication provisions for termination and penetrations. Indicate relationships with adjacent and interfacing work. Shop drawings to be prepared by metal roof panel manufacturer and sealed by a professional engineer registered in the state of the project location.

B. Warranty: Provide unexecuted specimen warranty documents for each warranty as required in specification article 1.10.

C. Samples.

1. Submit sample of panel section, at least 6" x 6" showing seam profile with sealant, and also a sample of color selected.

2. Submit sample of panel clip, gable clip, and metal and foam closures.

1.5 QUALITY CRITERIA/INSTALLER QUALIFICATIONS.

A. Engage an experienced metal roofing contractor (erector) to install standing seam system who has a minimum of three (3) years experience specializing in the installation of structural standing seam metal roof systems.

B. Contractor must be certified by manufacturer specified as a supplier of standing seam system and obtain written certification from manufacturer that installer is approved for installation of the specified system.

C. Successful contractor must obtain all components of roof system from a single manufacturer. Any secondary products that are required which cannot be supplied by the specified manufacturer must be recommended and approved in writing by primary manufacturer prior to bidding.

D. Fabricator/Installer shall submit work experience and evidence of adequate financial responsibility. Architect reserves the right to inspect fabrication facilities in determining qualifications.

1.6 DELIVERY, STORAGE, AND HANDLING.

A. Inspect materials upon delivery.

B. Handle materials to prevent damage.

C. Store materials off ground providing for drainage; under cover providing for air circulation; and protected from any debris.

1.7 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit metal roof panel work to be performed according to manufacturer's written instructions and warranty requirements.

B. Field Measurements: Verify actual dimensions of construction contiguous with metal roof panels by field measurements before fabrication.

1.8 COORDINATION

A. Coordinate sizes and locations of roof curbs, equipment supports, and roof penetrations with actual equipment provided.

B. Coordinate metal roof panels with rain drainage work, flashing, trim, and construction of [decks, purlins, rafters, parapets, walls,] and other adjoining work to provide a leak proof, secure, and noncorrosive installation.

1.9 WARRANTIES

A. Endorse and forward to owner the following warranties:

1. 20 year watertight warranty, jointly signed by the installer and the manufacturer.

2. Manufacturer's standard 20 year finish warranty covering checking, crazing, peeling, chalking, fading, and adhesion.

3. Installer's 3 year warranty covering roof panel system installation and watertightness.

B. Warranties shall commence on date of substantial completion.

PART 2 - PRODUCTS

2.1 STANDING-SEAM METAL ROOF PANELS

A. General: Provide factory-formed metal roof panels designed to be installed by lapping and interconnecting raised side edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed clips in side laps. Include clips, cleats, pressure plates, and accessories required for weathertight installation.

1. Steel Panel Systems: Unless more stringent requirements are indicated, comply with ASTM E 1514.

B. Vertical-Rib, Snap-Joint, Standing-Seam Metal Roof Panels: Formed with vertical ribs at panel edges and intermediate striations between ribs; designed for sequential installation by mechanically attaching panels to supports using concealed clips located under one side of panels and engaging opposite edge of adjacent panels, and snapping panels together.

1) Exposed fasteners, screws and/or roof mastic are unacceptable and will be rejected. System configuration only allows for exposed fasteners at panel overlap (if required and approved) and trim details (as per manufacturer's guidelines).

2) Panels must be furnished in continuous lengths from ridge to eave with no overlaps, unless shown on contract documents.

3) Clip design must isolate sealant in panel from clip to insure that no sealant damage occurs from the clip during expansion and contraction.

4) Standing Seam Panel Width: 16" (nominal).

2.2 ACCESSORIES

A. Roof Panel Accessories: Provide components approved by roof panel manufacturer and as required for a complete metal roof panel assembly including trim, copings, fasciae, corner units, ridge closures, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal roof panels unless otherwise indicated.

B. Flashing and Trim: Formed from same material and gauge as roof panels, prepainted with coil coating. Provide flashing and trim as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers. Finish flashing and trim with same finish system as adjacent metal roof panels.

2.3 SNOW GUARDS

A. Snow Guards: Prefabricated, noncorrosive units designed to be installed without penetrating metal roof panels, and complete with predrilled holes, clamps, or hooks for anchoring. Snow guards shall be illustrated with the panel manufacturer’s installation drawings, and shall be designed to resist the sliding force of snow in accordance with the requirements of ASCE-7. Confirming calculations shall be provided by the panel manufacturer.

2.4 FINISHES

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes

SECTION 07450

FIBER REINFORCED CEMENTITOUS PANELS

1) GENERAL

a) SECTION INCLUDES

i) Fiber reinforced cement panel siding system.

ii) Accessories required for complete installation.

b) RELATED SECTIONS

i) Section 06100 - Rough Carpentry: Wood framing.

ii) Section 06114 - Wood Blocking: Wood blocking supports.

iii) Section 06160 - Sheathing.

iv) Section 07210 - Building Insulation: Acoustic and Thermal insulation.

v) Section 07900 - Joint Sealers.

c) REFERENCES

i) ASCE 7 - Minimum Design Loads for Buildings and Other Structures.

ii) ASTM C 1186 - Standard Specification for Flat Non-Asbestos Fiber-Cement Sheets.

iii) ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Materials.

iv) ASTM E 330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure.

d) SYSTEM DESCRIPTION

i) Performance Requirements:
   (1) Design and size components to withstand live loads caused by pressure of wind acting normal to plane of wall as calculated in accordance with ANSI/ASCE 7, and as measured in accordance with ANSI/ASTM E 330.
   (2) Deflection: Provide system capable of withstanding wind loading within the following limitations:
      (a) No permanent deformation is acceptable.
   (3) Design system to accommodate, without damage to system, components or deterioration of seals; movement within system; movement between system and perimeter framing components; dynamic loading and release of loads; and deflection of structural support framing.
   (4) Design to accommodate vertical inter-story movement and provide an allowance for the following tolerances:
      (a) Building floor slab live load differential deflection.
      (b) Structural creep.

(c) Thermally induced expansion and contraction of framing members.
(d) Fabrication and erection tolerances.
(e) Design ultimate load capacity of anchor components to withstand 2.0 times "Design Wind Load" without failure.

(5) Maintain continuous air and vapor barrier throughout assembly.

e) SUBMITTALS

i) Submit under provisions of Section 01300.

ii) Product Data: Manufacturer's data sheets on each product to be used, including:
(1) Preparation instructions and recommendations.
(2) Storage and handling requirements and recommendations.
(3) Installation methods, including fastening patterns.

iii) Shop Drawings: Provide shop drawings and erection plans for review including the following:
(1) Layout of furring, weather barrier, finished sheets and fastener pattern.
(2) Details at base and top of walls, corners, at window and door trim and at other openings and connections.
(3) Shop drawings prepared and stamped by a structural engineer licensed in the state where the project is located.

iv) Calculations: Provide wind load calculations, engineering calculations and substantiating data to validate wind resistance of roof system.

v) Product certificates including Research//Evaluation report or Code Authority approval of the system use for intended application.

vi) Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

vii) Verification Samples: For each finish product specified, two samples, minimum size 3 inches by 6 inches (76 mm by 150 mm) square, representing actual product, color, and patterns.

viii) Manufacturer's Certificates: Certify materials and accessory component products meet or exceed specified requirements.

ix) Manufacturer's warranties. Executed by manufacturer and installer.

f) QUALITY ASSURANCE

i) Installer Qualifications: Provide installer with not less than three years of experience with products similar to those specified.

ii) Mock-Up: Provide a mock-up of complete panel system including furring, insulation, weather barrier and panels for approval by Architect.
(1) Finish areas designated by Architect.
(2) Mock-up shall be a minimum of 4 panels showing one vertical and one horizontal joint and complete installation system and fastener layout.
(3) Do not proceed with remaining work until workmanship and color are approved by Architect.
(4) Refinish mock-up area as required to produce acceptable work.

iii) Pre-Installation Conference:
(1) Prior to any panel application, the Contractor shall convene a pre-installation conference.

(2) Coordinate conference scheduling with the Architect. Conference shall be attended by the Contractor, Architect, personnel directly responsible for the installation of panels, flashing and sheet metal work and other trades interfacing with the panel work.
(3) Provide a copy of meeting notes and action items to all attending parties. Note action items requiring resolution prior to start of roof work.
(4) Discuss specific expectations and responsibilities, construction procedures, specification requirements, application, environmental conditions, job and surface readiness, material storage, and protection.

g) DELIVERY, STORAGE, AND HANDLING

i) Do not deliver cement panels to site until job is ready for their installation.

ii) Store products in manufacturer's unopened packaging until ready for installation.

iii) Store materials off the ground, flat and under cover in a dry place until erection.

iv) Keep materials dry and protect from freezing.

v) Store materials in such a way to accommodate easy inspection of the materials prior to installation.

h) PROJECT CONDITIONS

i) Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

i) WARRANTY

i) Installed material shall have a manufacturer's 5 year warranty.

ii) Warranty includes the repair or replacement of siding that does not comply with requirements or that fails within specified warranty period. Failures include, but are not limited to, cracking, deforming or otherwise deteriorating beyond normal weathering.

2) PRODUCTS

a) MANUFACTURERS

i) Acceptable Manufacturer: James Hardie Building Products

ii) Substitutions: As approved by Architect.

iii) Requests for substitutions will be considered in accordance with provisions of Section 01600.

b) MATERIALS

(1) Prefinished Cement Board Siding Panels:
(2) Panel Size:
(a) 5/16 inch 4 feet by 8 feet. (8 mm by 1220 mm by 2440 mm).
(b) 5/16 inch 4 feet by 10 feet. (8 mm by 1220 mm by 3050 mm).
(3) Trim as shown on drawing but not limited to battens, ventilated soffits, fascia and misc. trim

c) Fasteners as recommended by manufacturer.

d) ACCESSORIES

i) Trim: PVC, composite and stainless steel trim shapes suitable for trim conditions.

ii) Sheet Metal Flashing: Minimum 26 gauge hot-dipped galvanized steel sheet, or stainless steel.

iii) Wood furring materials shall conform to the requirements specified is Section 06100.

3) EXECUTION

a) EXAMINATION

i) Do not begin installation until substrates have been properly prepared.

ii) Ensure that framing is completed and that electrical rough-in, windows, doors, and flashing are in place before proceeding with work of this section.

iii) If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

b) PREPARATION

i) Clean surfaces thoroughly prior to installation. Repair as necessary any substrate conditions that would be detrimental to proper installation.

ii) Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

iii) Ensure that all dust, dirt, fingerprints and all other foreign marks on the material are removed prior to installation of the panels.

c) INSTALLATION - GENERAL

i) Install in accordance with manufacturer's instructions and the approved shop drawings.

d) PROTECTION

i) Protect installed products until completion of project.

ii) Inspect walls for any damage. Replace panels that are damaged. Do not attempt to repair.

iii) Ensure all dirt, dust, fingerprints and all foreign marks are immediately removed from the face of the material to avoid from permanent damage.

iv) Replace damaged products before Substantial Completion.

END OF SECTION

SECTION 07600
FLASHING AND SHEET METAL

PART 1 – GENERAL

1.1 DESCRIPTION

A. Work included:

1. Roof-related sheet metal flashings
2. Pre-finished metal

C. Related work: Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1. Section 07900 - Sealants for sheet metal work shall be the responsibility of the sheet metal installer and shall comply with the requirements of Section 07900.

1.2 REFERENCES

A. Comply with the provisions of the following codes, specifications and standards except where more stringent requirements are shown on the Drawings or specified herein:

1. American Society for Testing and materials (ASTM) where referenced.
2. Sheet Metal and Air Condition Contractors National Association (SMACNA) "Architectural Sheet Metal Manual" for accepted industry details.

1.3 QUALITY ASSURANCE

A. Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work in this Section.

1.4 SUBMITTALS

A. Comply with pertinent provisions of Section 01340.

1.5 PRODUCT HANDLING

A. Comply with pertinent provisions of Section 01640.

1.6 WARRANTY

A. Provide a 20-year written warranty for color-coated sheet metal covering color fade, chalk, and film integrity.

B. Sheet metal contractor shall furnish a written warranty countersigned and guaranteed by the General Contractor, stating that all sheet metal roofing, flashing and counterflashing executed under this Section will be maintained in a watertight condition and that all defects resulting from faulty workmanship, defective materials and ordinary wear and tear will be replaced without additional cost to the Owner for a period of 2 years from the date of substantial completion of the General Construction Work.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Pre-Finished metal: Pre-finished steel - 24 gauge hot dipped galvanized steel ASTM G-90 Coating ASTM 525, as provided by Berridge Manufacturing Company. Color selection from metallic colors.

B. Sheet Metal: Zinc coated commercial quality comply with ASTM A526 and lock forming quality complying with ASTM A527 with minimum of 0.20% copper content; hot-dip galvanized to comply with ASTM, G-90, mil phoshatized if to receive paint finish; 24 ga. (0.0239") unless otherwise indicated on the Drawings, or specified herein.

C. Solder: ASTM B-32, 50% pig lead and 59% block tin (new materials) for ferrous metals, flux as required.

2.2 FABRICATION

A. Shop fabricate metal flashing, trim, expansion joints, scuppers, copings and similar items to comply with profiles and sizes shown, and to comply with standard industry details.

B. Comply with details and profiles as shown and with SMACNA "Architectural Sheet Metal Manual" recommendations for installation of the work.

C. For non-moving seams provide soldered flat-lock seams, except as otherwise indicated. Comply with metal producer's recommendations for tinning, soldering and cleaning the joints.

D. Provide for thermal expansion of all exposed sheet metal work.

E. Locate joints at roof edge and other work exposed to view with respect to control joints or other architectural features as indicated on the Drawings. Use minimum 6" cover plates. Where appearance is not a factor, work may be fabricated in 8 or 10 feet lengths. Locate seams minimum 2'-0" from corners.

F. Conceal fasteners and expansion provisions wherever possible. Fold back edges on concealed side of exposed edges, to form a hem.

SECTION 07900
SEALANTS & CAULKING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included: Provide all materials, equipment, and labor necessary to prepare surfaces and install sealant as shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.2 QUALITY ASSURANCE

A. Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Compatibility with substrate: Applicator shall be responsible for verifying that sealants used are compatible with joint substrate.

C. Mock-ups: The Contractor may be required, at the Owner's option, to install sealant in mock-ups prepared by other trades in order to demonstrate appearance and workmanship technique. Such mock-ups should be done by those personnel who will be assigned to the project, using materials and techniques which will be used on the project.

D. Joint tolerance: Joint width/depth ratios are critical to sealant performance. Compliance with the manufacturers limitation is required.

E. Manufacturer: The manufacturer of the sealant used shall have been in the business of manufacturing the specified types of such sealant for not less than ten years.

1.3 SUBMITTALS

A. Comply with pertinent provisions of Section 01340.

B. Product literature: Submit 3 copies of product data sheets and the manufacturer's installation instructions. If two or more different sealants ar to be in physical contact with each other (such as a parapet joint and reglet intersection, obtain from each manufacturer confirmation that their product is compatible with

the proposed and adjacent products, including any other products which may be used by other subcontractors. Primer literature shall be included with the submittal documents unless the manufacturer's sealant submittal specifically included on submittal documents calling attention to the need for such staining type primer and noting the planned precautions to prevent exposed stain residue.

C. Color Sample: 3 copies of the manufacturer's standard color charts shall be submitted. Upon request, cured samples of each chosen color shall be submitted for verification of actual color to be installed.

1.4 PRODUCT DELIVERY AND STORAGE

A. Delivery shall be in the manufacturer's original unopened container, clearly identifying each product specified, relating it to the product literature submitted.

B. Storage shall be in accordance with the manufacturer's recommendation, with proper precautions concerning shelf life, temperature, humidity and similar storage factors ensuring the fitness of the material when installed.

1.5 GUARANTEES

A. Sealant joints shall be guaranteed against adhesive and cohesive failure of the sealant and against water penetration through the sealed joint for 5 years.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Sealants:

REF#	ASTM	FED	PRODUCT DESCRIPTION
S-3	C-920-79 Type S Grade NS	TT-S-230 (c) Class A	*Low Modulus, one component, non-sag polyurethane or polysulfide sealant. Shore A hardness of 15-25. Joint movement range of +/-50%. Minimum elongation of 700%.
S-5	C-920-79 Type S Class 25 Grade P	TT-S-230 (c) Class A Type I	*One component, self leveling, polyurethane or polysulfide sealant. Shore A hardness of 15-45. Joint movement of +/-25%.
S-7	C-920-79 Type S Class 25	TT-S1543 (a) Class A	*One component, neutral cure, non-sag, silicone sealant. Joint movement range of +/-25%.

S-9	C-920-79 Type S Grand NS	TT-S-1543 (a) Class A	*One component, non-sag, mildew resistant silicone sealant. Shore A hardness of 25-30.

B. Caulking:

REF#	ASTM	FED	PRODUCT DESCRIPTION
C-1	C-834-76	N/A	*One component acrylic latex caulking minimum 75% recovery per ASTM C-736-82 *Maximum joint movement of +/-7.5%

C. Primer: The primer shall be used in accordance with manufacturer's instructions, with all primers being applied prior to the installation of any backer rod or bond breaker tape. Manufacturer shall be consulted for all surfaces not specifically covered in submittal application instructions. If a stain type primer is used, apply material in a manner that will prevent exposed stain residue related to application procedures.

D. Backer rod: Shall be open or closed cell polyethylene or polyurethane as recommended by the sealant manufacturer.

E. Bond breaker tape: An acceptable polyethylene or similar type bond breaker tape shall be used to prevent three sided adhesion in locations where backer rod cannot be used.

PART 3 - EXECUTION

3.1 INSPECTION

A. Substrate surface shall be inspected to ensure that no bond-breaker materials contaminate the surface to which the sealant is to adhere and to ensure that unsound substrate are repaired. Installation of sealant shall be evidence of acceptance of the substrate.

B. Joint dimensions shall be verified prior to installation of the sealant to ensure that all dimensions are within tolerances established in the manufacturer's literature. Unacceptable variations shall be called to the Architect's attention for resolution prior to installing any materials.

3.2 PREPARATION

A. Prepare all joints in accordance with manufacturer's recommended instructions to ensure maximum adhesion. Prime as required, protecting all adjacent exposed surfaces.

3.3 INSTALLATION

A. Backer rod shall be installed using only blunt or rounded tools which will ensure a uniform (+ or - 1/8") depth without puncturing the material. Backer rod shall be a minimum of 33% oversized for closed cell and minimum of 50% oversized for open cell backer rod, unless otherwise required by the manufacturer.

B. Surrounding surface shall be protected as required to ensure that no sealant contaminates these surfaces.

C. Sealant shall be prepared as required, including proper mixing of multi-component sealants, then installed in accordance with manufacturer's recommendations and instructions in order to ensure proper width/depth ratio. Take all necessary steps to prevent three sided adhesion. Sealant depth shall be one half of joint width, with a minimum depth of 1/4", and a maximum of 1/2", unless otherwise required by the manufacturer.

D. Both temperature and dampness conditions may restrict application of these sealants. Comply with manufacturer's instructions.

3.4 SCHEDULE

A. Extreme movement sealants (10% or -50% movement capability):
   1. **S-6**: Vertical/horizontal joint, such as expansion joints, precast planks, and prestressed concrete joints.

B. Significant movement sealants (+25% or -25% movement capability):
   1. **S-1, S-3, or S-6**: Vertical or inclined joints such as panel, coping, expansion, precast planks, and prestressed concrete joints, and sloped pavement.
   2. **S-10**: Horizontal joints exposed to fuel or gas spillage.
   3. **S-1, S-2, S-3, S-4, S-6, S-7**: Horizontal joints not exposed to fuel or gas spillage.

C. Minimal movement sealants (+25% or -25% movement capability):
   1. **S-1, S-3, S-4, S-6**: Vertical or inclined joints such as perimeters of doors, windows, wall penetrations.
   2. **S-2, S-5**: Horizontal joints not exposed to fuel or gas spillage.

D. Glazing sealants:
   1. **S-7, S-8**: Structural glazing (requires pre-testing and prior written approval from the sealant manufacturer before specifying).
   2. **S-7, S-8**: Non-structural.

E. Interior sealants or caulking:
    1. **C-1**: General.
    2. Special:
        a. **S-9**: Bathrooms and kitchens;
        b. **S-9 or C-2**: Exposed acoustical;
        c. **S-9 or C-1**: Non-exposed acoustical.

F. Fire Caulking
    1. Tremco fire stop for through penetrations & joints.

SECTION 08100
METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included: Provide metal doors, and metal door and window frames, which are not specifically described in other Sections of these Specifications, where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

B. Related work: Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.2 QUALITY ASSURANCE

A. Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Unless specifically otherwise approved by the Architect, provide all products of this Section from a single manufacturer.

1.3 SUBMITTALS

A. Comply with pertinent provisions of Section 01340.

B. Product data: Within 35 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:

1. Materials list of items proposed to be provided under this Section;
2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
3. Shop Drawings showing details of openings, and details of construction, installation, and anchorage.
4. Manufacturer's recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

1.4 PRODUCT HANDLING

A. Comply with pertinent provisions of Section 01640.

PART 2 - PRODUCTS

2.1 METAL DOORS

A. Type and design: Provide SDI-100 Grade III, Model I at exterior doors and Grade II, Model I at interior doors. Full-flush design in dimensions and types shown on the Drawings, labeled or non-labeled as indicted on the Door Schedule in the Drawings. Doors will be 18 gage for interior doors and 16 gage for exterior doors, properly reinforced for the finish hardware described in Section 08700 of these specifications.

B. Finish: Pre-clean and shop prime each door for finish painting which will be performed at the job site under Section 09900 of these Specifications.

C. Acceptable products:
   1. Standard products of The Steelcraft Manufacturing Company.
   2. Equal products of Amweld Division of American Welding and Manufacturing Company, Ceco Corporation, or other manufacturers when approved in advance by the Architect.

2.2 METAL FRAMES

A. Type and design: Provide frames of the types and dimensions shown on the Drawings, labeled or non-labeled as indicated on the Door Schedule in the Drawings, in 16 gage for interior frames and 14 gage for exterior frames. Properly reinforce for the finish hardware described in Section 08700 of these Specifications.

B. Finish: Pre-clean and shop prime each frame for finish painting which will be performed at the job site under Section 09900 of these Specifications.

C. Acceptable manufacturers: See Paragraph 1.2-B above.

2.3 FINISH HARDWARE

A. Secure templates from the finish hardware supplier, and accurately install, or make provision for, all finish hardware at the factory.

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 INSTALLATION

A. Placing frames:

1. Where practicable, place frames prior to construction of enclosing walls and ceilings.
2. Set frames accurately into position, plumbed, aligned, and braced securely until permanent anchors are set.
3. After wall construction is completed, remove temporary braces and spreaders, leaving surfaces smooth and undamaged.
4. At in-place construction set frames and secure to adjacent construction with machine screws and suitable anchorage devices. Provide "Z" fillers at each screw location.
5. When installed in prepared openings in concrete construction, provide sealant between frame and concrete in accordance with provisions of Section 07900 of these Specifications.

3.3 ADJUST AND CLEAN

A. Final adjustment:

1. Check and readjust operating finish hardware items in hollow metal work just prior to final inspection.
2. Leave work in complete and proper operating condition.
3. Remove defective work and replace with work complying with the specified requirements.

B. Immediately after erection, sand smooth all rusted and damaged areas of prime coat, and apply touchup of compatible air-drying primer.

SECTION 08330
PUSH-UP COUNTER DOOR

Type CD10-1 - Push-Up Counter Door
ColorCote Finish - Face of Wall Mounted

1.0 GENERAL

1.1 Summary

A. All Steel Rolling Counter Doors shall be Series CD10 as manufactured by The Cookson Company, Phoenix, Arizona. Furnished materials shall include all curtains, bottom bars, guides, brackets, hoods, operating mechanisms and any special features.

B. Work not to be included by The Cookson Company includes design of, material for and preparation of door openings but not limited to structural or miscellaneous iron work, metal or wood trim, access panels, and finish painting.

1.2 Quality Assurance

A. All rolling counter doors shall be designed to a standard maximum of 10 cycles per day and an overall maximum of 20,000 operating cycles for the life of the door.

B. The ColorCote finish shall be such that there is no corrosion when the material is subjected to salt spray resistance test ASTM B-117 for 1000 hours.

2.0 PRODUCTS

2.1 Materials

A. The door curtain shall be constructed of interconnected strip steel slats conforming to ASTM A-653. The curtain shall be constructed of 22 gauge No. 10 (1-1/4" high by 3/8" deep) slats as designated by The Cookson Company.

B. The finish on the door curtain shall be Cookson ColorCote consisting of the following:

1. Hot dipped galvanized G-90 coating consistent with ASTM A-653
2. Bonderized coating for prime coat adhesion
3. Factory applied Thermosetting Powder Coating applied with a minimum thickness of 2 mils. The color shall be selected by the architect and shall be chosen from [standard color charts] [custom color selection].

C. The bottom bar shall be constructed of tubular extruded aluminum measuring 1-5/16" deep by 2-1/4" high with a double vinyl astragal on the bottom edge. The bottom bar shall be the Cookson ColorCote finish as indicated in the curtain section.

D. The guides shall be constructed of extruded aluminum and measures 1-3/4" square. Each side of the channel portion capturing the curtain shall contain wool pile weatherstripping. The guides shall be the Cookson ColorCote finish as indicated in the curtain section.

E. The brackets shall be constructed of 3/16" thick die cast aluminum. The brackets shall be the Cookson ColorCote finish as indicated in the curtain section

F. The barrel shall be steel tubing of not less than 4" in diameter. Oil tempered torsion springs shall be capable of correctly counter balancing the weight of the curtain. The barrel shall be designed to limit the maximum deflection to .03" per foot of opening width. The finish on the barrel shall be one (1) coat of bronze rust-inhibiting prime paint.

G. The hood shall be fabricated from 24 gauge galvanized steel and shall be formed to fit the square brackets. The finish on the hood shall be the Cookson ColorCote finish as indicated in the curtain section.

2.2 Operation

A. Push-up operated doors shall open and close with a maximum of 30 pounds of effort utilizing finger lifts in the bottom bar. This type of operation should not be used for doors over 10 feet wide.

2.3 Locking Mechanisms

A. The push-up doors shall be secured by means of a concealed sliding bolt deadlock in the bottom bar operated by a [thumbturn] [cylinder lock].

3.0 EXECUTION

3.1 Installation

A. All Cookson Rolling Steel Counter Doors shall be installed by an authorized Cookson Distributor.

3.2 Warranty

A. All Cookson Rolling Steel Counter Doors shall be warranted for a period of 2 years from the time of shipment against defects in workmanship and materials.

SECTION 08340

INSULATED ROLLING SERVICE DOORS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes: Manual overhead insulated rolling doors.

B. Related Sections:
   1. 05 50 00 Metal Fabrications. Door opening jamb and head members.
   2. 06 10 00 Rough Carpentry. Door opening jamb and head members.
   3. 08 31 00 Access Doors and Panels. Access doors.
   4. 08 70 00 Hardware. Padlocks. Masterkeyed cylinder.
   5. 09 91 00 Painting. Field painting.
   6. Division 26. Electrical wiring and conduit, fuses, disconnect switches, connection of operator to power supply, and installation of control station and wiring.

D. Alternates:
   1. Cornell Iron Works
   2. Amarr
   3. Clopay

1.2 SYSTEM DESCRIPTION

A. Design Requirements:
   1. Cycle Life:
      a. Design doors of standard construction for normal use of up to 20 cycle per day maximum.
   2. Insulated Door Slat Material Requirements:
      a. Flame Spread Index of 10 and a Smoke Developed Index of 50 as tested per ASTM E84.
      b. Minimum Sound Transmission Class (STC) rating of 26 (22/22GA) or 33 (18/22GA) as tested per ASTM E90.
      c. Minimum R-value of 4.6 and U-value of 0.217 (polystyrene insulation) or R-value of 6.29 and U-value of 0.159 (polyurethane insulation) as calculated using the ASHRAE Handbook of Fundamentals.
      d. Insulation to be CFC Free with an Ozone Depletion Potential (ODP) rating of zero.

1.3 SUBMITTALS

A. Reference Section 01 33 00 Submittal Procedures; submit the following items:
   1. Product Data.
   2. Shop Drawings: Include special conditions not detailed in Product Data. Show interface with adjacent work.
   3. Quality Assurance/Control Submittals:
      a. Provide proof of manufacturer ISO 9001:2008 registration.

b. Provide proof of manufacturer and installer qualifications - see 1.4 below.
c. Provide manufacturer's installation instructions.

4. Closeout Submittals:
   a. Operation and Maintenance Manual.
   b. Certificate stating that installed materials comply with this specification.

1.4 QUALITY ASSURANCE

A. Qualifications:
   1. Manufacturer Qualifications: ISO 9001:2008 registered and a minimum of five years experience in producing doors of the type specified.
   2. Installer Qualifications: Manufacturer's approval.

1.5 DELIVERY STORAGE AND HANDLING

A. Reference Section 01 66 00 Product Storage and Handling Requirements.

B. Follow manufacturer's instructions.

1.6 WARRANTY

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

B. Maintenance: Submit for owner’s consideration and acceptance of a maintenance service agreement for installed products.

PART 2 PRODUCTS

2.1 MANUFACTURER

A. Manufacturer: The Cookson Company, Inc., 2417 S 50th Avenue, Phoenix, AZ 85063-3880. Telephone: (800) 294-4358, Fax: (866) 448-6798. Underwriters Laboratories, Inc. (UL), ISO 9001:2008 Registered.

B. Model: FCWI, JCWI, FKWI, JKWI, FMWI, FJWI, JMWI

C. Substitutions: Reference Section 01 25 13 Product Substitution Procedures.

2.2 MATERIALS

A. Curtain:
   1. Slat Material: No. 45, (Listed Exterior/Interior):
      a. Galvanized Steel/Galvanized Steel: [22/22] [20/22] [18/22] gauge, Grade 40, ASTM A 653 galvanized steel zinc coating.
      b. Insulation: 13/16” (21 mm) rigid CFC free [polystyrene] [polyurethane] insulation.
      c. Total Slat Thickness: 7/8 inch (22 mm).
      d. Slats have a Flame Spread Index of 0 and a Smoke Developed Index of 10 as tested per ASTM E84.
      e. Slat has an R-value of 6.29 and an STC rating of 26.

2. Bottom Bar: two [1/8" steel] [1/8" 304 stainless steel] [3/16" aluminum] angles mechanically joined together

3. Fabricate interlocking sections with high strength malleable steel endlocks on alternate slats each secured with rivets. Provide windlocks as required to meet specified wind load.
4. Exterior Slat Finish:
   a. FinalCote™ Coating System to include an ASTM A 653 galvanized base coating, bonderized coating for prime coat adhesion, corrosion inhibiting primer .2 mils per side, and thermosetting [gray] [tan] [white] polyester top coat with a minimum thickness of .6 mils each side.
5. Interior Slat Finish:
   a. FinalCote™ Coating System to include an ASTM A 653 galvanized base coating, bonderized coating for prime coat adhesion, corrosion inhibiting primer .2 mils per side, and thermosetting [gray] [tan] [white] polyester top coat with a minimum thickness of .6 mils each side.

6. Curtain Configuration
   a. Standard Curtain configuration.

7. Bottom Bar Finish:
   a. Steel: Factory applied [bronze] [gray] [tan] [white] baked-on thermosetting powder coat.
8. Bottom Bar Interior Finish:
   a. Steel: Factory applied [bronze] [gray] [tan] [white] baked-on thermosetting powder coat.
9. Bottom Bar Exterior Finish:
   a. Steel: Factory applied [bronze] [gray] [tan] [white] baked-on thermosetting powder coat.

O

9. Bottom Bar Configuration:
   a. Standard Bottom Bar Configuration.

B. Guides: Fabricate with [structural steel] [stainless steel] [aluminum] angles bolted together with 3/8" fasteners to form a channel for the curtain to travel. The wall angle portion shall be continuous and fastened to the surrounding structure with either minimum 1/2" fasteners or welds, both on 36" centers, Provide windlock bars of same material when windlocks are required to meet specified wind load. Top of inner and outer guide angles to be flared outwards to form bellmouth for smooth entry of curtain into guides. Provide removable guide stoppers to prevent over travel of curtain and bottom bar.

1. Finish:
   a. Steel: Factory applied [bronze] [gray] [tan] [white] baked-on thermosetting powder coat; minimum 2.5 mils (0.065 mm) cured film thickness.
   a. Stainless steel: [No. 4 finish] [Mill finish].
2. Configuration:
   a. Standard Guide Configuration.

C. Counterbalance Shaft Assembly:

1. Barrel: Steel pipe of not less than 6” in diameter capable of supporting curtain load with maximum deflection of 0.03 inches per foot (2.5 mm per meter) of width.
2. Spring Balance: Oil-tempered torsion spring assembly designed for proper balance of door to ensure that maximum effort to operate will not exceed 30 lbs (133 N). Provide wheel for applying and adjusting spring torque.

D. Brackets: Fabricate from minimum 1/4 inch (6.35 mm) steel plate and shall be bolted to the wall angle with minimum 1/2” fasteners.
   1. Finish:
      a. Steel: Factory applied [bronze] [gray] [tan] [white] baked-on thermosetting powder coat; minimum 2.5 mils (0.065 mm) cured film thickness.

E. Hood: [24 gauge galvanized steel] [24 gauge stainless steel] [0.040 inch (1.016 mm) aluminum] with reinforced top and bottom edges. Provide minimum 1/4 inch (6.35 mm) steel intermediate support brackets as required to prevent excessive sag.
   1. Finish:
      a. FinalCote™ Coating System to include an ASTM A 653 galvanized base coating, bonderized coating for prime coat adhesion, corrosion inhibiting primer .2 mils per side, and thermosetting [gray] [tan] [white] polyester top coat with a minimum thickness of .6 mils each side.

F. Weatherstripping:
   1. Bottom Bar: Replaceable, bulb-style, compressible EDPM gasket extending into guides.

2.3 ACCESSORIES

A. Locking:
   1. Crank Hoist: Padlockable slide bolt on coil side of bottom bar at each jamb extending into slots in guides.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates upon which work will be installed and verify conditions are in accordance with approved shop drawings.

B. Coordinate with responsible entity to perform corrective work on unsatisfactory substrates.

C. Commencement of work by installer is acceptance of substrate.

3.2 INSTALLATION

A. General: Install door and operating equipment with necessary hardware, anchors, inserts, hangers and supports.

B. Follow manufacturer's installation instructions.

3.3 ADJUSTING

A. Following completion of installation, including related work by others, lubricate, test, and adjust doors for ease of operation, free from warp, twist, or distortion.

3.4 CLEANING

A. Clean surfaces soiled by work as recommended by manufacturer.

B. Remove surplus materials and debris from the site.

3.5 DEMONSTRATION

A. Demonstrate proper operation to Owner's Representative.

B. Instruct Owner's Representative in maintenance procedures.

END OF SECTION

SECTION 08610
WOOD WINDOWS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included: Provide wood windows where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

B. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
2. Section 06400 – Architectural Woodwork
3. Section 07900 - Sealants

1.2 SUBMITTALS

A. Submit shop drawings reference Section 01340, Submittals.

1.3 PRODUCT HANDLING

A. Provide protective coverings for materials prior to shipping. Protect during transit, handling, and storage to prevent damage, soiling and deterioration.

B. Contractor shall receive, inventory, and store in dry location and stack in accordance with manufacturer's directions.

1.4 WARRANTY

A. Submit manufacturer's warranty for full life of installation.

PART 2 - PRODUCTS

2.1 MANUFACTURER AND TYPE

A. Metal clad wood windows, double hung type shall be as manufactured by: Marvin Window Company or approved equal.

1. Frame and sash sections shall be combination kiln dried selected wood on the exterior with extruded aluminum.
2. Provide jamb extensions as required.
3. Exterior trim and mullion joiners shall be provided as required for a complete installation.

4. Finishes:

a. Color to be selected by Owner.

5. Glazing:

a. High-performance insulating Low E glass.

6. Sizes as shown on the Drawings.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Windows shall be installed straight, plumb, and level without spring or twisting and securely anchored in place in accordance with manufacturer's recommendations and details.

B. Apply sealants in sufficient quantity to provide a watertight seal between windows and surrounding construction.

1. Refer to Section 07900 for sealant materials and methods of installation.

3.2 CLEANING

A. Clean surfaces properly after installation of components, removing all excess sealant compound, dirt and other substances.

SECTION 08700
FINISH HARDWARE

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Work included: The conditions of the Contract, including General, Supplementary, and Special Conditions, and General Requirements of Division 1 apply to the work specified in this Section.

B. Items of hardware include:

1. Finish hardware

2. Thresholds and weatherstrip

1.2 RELATED WORK

A. Section 06100 - Carpentry
B. Section 08100 - Metal Doors & Frames
C. Section 08210 - Wood Doors

1.3 REFERENCES

A. Builder's Hardware Manufacturers Assoc., Inc., (BHMA), 60 East 42nd Street, New York, NY 10017: Recommended locations for builder's hardware.

B. Federal Specifications (FS): FF-H-106A - Hardware, builders'; locks and door trim - standard finishes for builder's hardware.

C. National Fire Protection Association, Inc. (NFPA), Battery March Park, Quincy, MA 02269: NFPA 80 - Standard for fire doors and windows and NFPA 101 - Code for safety to life from fire in buildings and structures.

D. Underwriters Laboratories, Inc. (UL), 333 Pfingsten Road, Northbrook, IL 60062: Building Materials Directory.

1.4 QUALITY ASSURANCE

A. Manufacturer: Manufacturers listed herein establish a standard of quality. Similar items by other manufacturers may be accepted by prior approval of the Architect. Except where specified in the hardware schedule, furnish products of only one manufacturer for each type of hardware.

B. Supplier: Company specializing in the builders' hardware industry.

1.5 REGULATORY REQUIREMENTS

A. Furnish UL listed hardware for all UL labeled and 20 Minute openings in conformance with requirements for the class of opening scheduled.

B. NFPA and UL requirements have precedence over this Specification where conflict exists.

1.6 SUBMITTALS

A. Schedule: To be prepared by Contractor.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver hardware to the job site in the manufacturer's original containers that have been marked to correspond with the approved hardware schedule for installation location.

B. Contractor shall receive, inventory, and store hardware in dry surroundings and protect against loss and damage.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Butt hinges:
1. Hager
2. Stanley, McKinney

B. Exit devices:
1. Von Duprin
2. Yale, Sargent, Corbin 3726

C. Locksets amd latchsets:
1. Corbin
2. Schlage, Best, Yale, Sargent

D. Lever Mortise Lock:
1. Corbin 765K-L-L9549 & 9551 or equal

E. Pulls and push plates/bars:
1. Quality
2. Hiawatha, Hager, Brookline

F. Closers:
   1. LCN
   2. Norton, Dorma, Reading

G. Protective plates:
   1. Quality
   2. Hiawatha, Hager

H. Overhead stops:
   1. Glynn-Johnson
   2. Corbin, Rixon-Firemark

I. Floor and wall stops and holders:
   1. Glynn-Johnson
   2. Ives, Quality, Hager

J. Thresholds, weatherstrips:
   1. National Guard
   2. Reese, Pemko, Zero

K. Flush bolts
   1. Door controls
   2. Glynn-Johnson, Ives, Quality

L. Coordinators
   1. Door Controls
   2. Glynn-Johnson

PART 3 – EXECUTION

3.1 INSTALLATION

A. Install hardware in accordance with manufacturer's recommendations and instructions.

B. Install hardware on UL labeled openings in accordance with manufacturer's requirements, so as to maintain the label.

C. Mortise and cut to close tolerance and conceal evidence of cutting the finished work.

D. Remove, cover or protect hardware after fitting until paint or other finish is applied; permanently install hardware after finishing operations are complete.

E. Install closers on the room side of corridor doors, stair side of stairways, and interior side of exterior doors.

F. Mounting height:

1. Install hardware at mounting heights conforming to the recommended mounting locations of the Builder's Hardware Manufacturers Association.

G. Cut and fit threshold and floor covers to profile of door frames, with mitered corners and hair-line joints. Join units with concealed welds or concealed mechanical joints.

3.2 ADJUSTING AND CLEANING

A. At final completion, adjust and test all hardware for function and performance and leave in good operating condition.

B. Clean all hardware to restore the original finish.

3.3 PROTECTION

A. Protect the finished installation until acceptance of the project.

B. Provide final adjustment or cleaning where necessary.

3.4 HARDWARE SCHEDULE

Heading #1 (Group: GROUP 1)

Item#1 1 Elevation 102A
Item#2 1 Elevation 109

2		Hiawatha KPx.US32D 10″x 34″	US32D
6	Standard Hinge	PBB BB81 4 ½″ x 4 ½″ US26D	US26D
2	Lockset	Yale AU 5408LN LH 626	626
2	Surface Closer	Norton CLP-7500 689	689

WILL NEED EXISTING CITY KEYWAY SYSTEM

Heading #2 (Group: GROUP 2)

Item #3 1 Elevation 103

1		Hiawatha KPx.US32D 10″ x 34″	US32D
3	Standard Hinge	PBB BB81 4 ½″ x 4 ½″ US26D	US26D
1	Lockset	Yale AU 5407LN LH 626	626
1	Wall Door Stop	Hager 236W x US32D	US32D

WILL NEED EXISTING CITY KEYWAY SYSTEM

Heading #3 (Group: GROUP 3)
Item #4 1 Elevation 107
Item #5 1 Elevation 108B

2		-LH	
2		Hiawatha KPx.US32D 10″ x 34″	US32D
6	Standard Hinge	PBB BB81 4 ½″ x 4 ½″ US26D	US26D
2	Lockset	Yale AU 5405LN LH 626	626
2	Wall Door Stop	Hager 236W x US32D	US32D

WILL NEED EXISTING CITY KEYWAY SYSTEM

Heading #4 (Group: GROUP 4)
Item #6 1 Elevation 101E

1		Hiawatha KPx.US32D 10″ x 34″	US32D
3	Standard Hinge	PBB BB81 4 ½″ x 4 ½″ US26D	US26D
1	Lockset	Yale AU 5405LN LH 626	626
1	Surface Closer	Norton CLP-7500 689	689
1	Wall Door Stop	Hager 236W x US32D	US32D
1	Floor Door Holder	Ives FS555 SP4	SP4
1	Weatherstripping	Reese 797B-17	

WILL NEED EXISTING CITY KEYWAY SYSTEM

Heading #5 (Group: GROUP 5)
Item #7 1 Elevation 106

1		Hiawatha KPx.US32D 10″ x 34″	US32D
3	Standard Hinge	PBB 4B21 4 ½″ x 4 ½″ NRP US32D	US32D
1	Lockset	Yale AU 5405LN LH 626	626
1	Surface Closer	Norton CLP-7500T 689	689
1	Threshold	Reese S425A 72″	A
1	Weatherstripping	Reese 815A 72″ x 84″	A
1	Miscellaneous Item	Reese 323A 36″	A

WILL NEED EXISTING CITY KEYWAY SYTEM

Heading #7 (Group: GROUP 7)
Item #9 1 Elevation 106
]Item #10 1 Elevation 104B

2		Hiawatha KPx.US32D 10″ x 34″	US32D
6	Standard Hinge	PBB BB81 4 ½″ x 4 ½″ US26D	US26D
2	Door Pull	Hiawatha 536B.US32D	US32D
2	Push Plate	Hiawatha 200H.US32D	US32D
2	Surface Closer	Norton 7500-REG 689	689
2	Wall Door Stop	Hager 236W x US32D	US32D

WILL NEED EXISTING CITY KEYWAY SYSTEM

Heading #8 (Group: GROUP 8)
Item #11 1 Elevation 104A
Item #12 1 Elevation 105A

2		Hiawatha KPx.US32D 10″ x 34″	US32D
6	Standard Hinge	PBB BB81 4 ½″ x 4 ½″ US26D	US26D
2	Electronic Locking Device	Schlage 329M	
2	Door Pull	Hiawatha 536B.US32D	US32D
2	Push Plate	Hiawatha 200H.US32D	US32D
2	Surface Closer	Norton 7500-Reg 689	689
2	Wall Door Stop	Hager 236W x US32D	US32D
2	Threshold	Reese S425A 36″	A
2	Weatherstripping	Reese 815A 36″ x 84″	A
2	Miscellaneous Item	Reese 323A 36″	A

WIRING, MONITORING AND ELECTRICAL COMPONENTS BY OTHERS.
MAGNETIC LOCK IS INCLUDED.

Hardware Group 9	Entrance Doors (Single) – Exterior
Butts	
Exit	33NL-OP
Cylinder	
Pull	
Closer	4111 CUSH
Threshold(thermal)	
Weatherstrip	
Sweep	
Drip	

Hardware Group 10	Secondary Entrance Doors – Exterior
Butts	
Exit	33NL-OP
Remote card reader w/heater (by others)	
Pull	
Closer	4111 CUSH
Threshold (thermal)	
Weatherstrip	
Sweep	
Drip	
Electric Strike	6111
Power Supply	PS 861

SECTION 08800
GLAZING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included: Provide glazing and glazing accessories where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
   2. Section 08100: Metal Doors & Frames
   3. Section 08410: Aluminum Entrance.

1.2 QUALITY ASSURANCE

A. Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. In addition to complying with pertinent codes and regulations of governmental agencies having jurisdiction, comply with pertinent recommendations contained in:
   1. Flat Glass Marketing Association:
      a. "Glazing Sealing System Manual;"
      b. "Glazing Manual."

1.3 SUBMITTALS

A. Comply with pertinent provisions of Section 01340.

B. Product data: Within 60 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
   1. Materials list of items proposed to be provided under this Section;
   2. Manufacturers' specifications and other data needed to prove compliance with the specified requirements.
   3. Manufacturers' recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

C. Samples: Accompanying the above product data, submit:
   1. Samples of each type of glass and gasket proposed to be used;

2. Samples, at least 12" long, of each type of sealant proposed to be used, installed between samples of the material to be glazed, fully cured.

1.4 PRODUCT HANDLING

A. Comply with pertinent provisions of Section 01640.

B. During storage and handling of glass, provide cushions at edges to prevent impact damage.

PART 2 - PRODUCTS

2.1 GLASS

A. General:
1. For all glass, provide the type and thickness shown on the Drawings or specified herein.
2. Where type or thickness, or both, are not shown on the Drawings or specified herein, provide type and thickness directed by the Architect.

B. Exterior:

1. 1" Clear insulating.

2. 1" Clear tempered insulating.

C. Interior:

1. 1/4" Clear tempered insulating.

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.

B. Clean glazing channels, stops, and rabbets to receive the glazing materials, making free from obstructions and deleterious substances which might impair the work.
1. Remove protective coatings which might fail in adhesion or interfere with bond of sealants.
2. Comply with manufacturers' instructions for final wiping of surfaces immediately prior to application of primer and glazing compounds or tapes.
3. Prime surfaces to receive glazing compounds in accordance with manufacturers' recommendations.

3.2 INSTALLATION

A. Inspect each piece of glass immediately prior to start of installation.
   1. Do not install items which are improperly sized, have damaged edges, or are scratched, abraded, or damaged in any other manner.
   2. Do not remove labels from glass until so directed by the Architect.
   3. Install glass so distortion waves, if present, run in the horizontal direction.

B. Locate setting blocks at sills one quarter of the width of the glass in from each end of the glass, unless otherwise recommended by the glass manufacturer.
   1. Use blocks of proper size to support the glass in accordance with the manufacturer's recommendations.
   2. Provide spacers for all glass size larger than 50 united inches, to separate glass; except where continuous glazing gaskets or felts are provided.
      a. Locate spacers no more than 24" apart, and no closer than 12" to a corner.
      b. Place spacers opposite on another.
      c. Make bite of spacer on glass 1/4" or more.

C. Set glass in a manner which produces the greatest possible degree of uniformity in appearance.

D. Do not use two different glazing materials in the same joint system unless the joint use is approved in advance by the Architect.

E. Mask, or otherwise protect, surfaces adjacent to installation of sealants.

F. Miter-cut and seal the joints of glazing gaskets in accordance with the manufacturer's recommendations, to provide a watertight and airtight seal at corners and other locations where joints are required.

3.3 PROTECTION

A. Protect glass from breakage after installation by promptly installing streamers or ribbons, suitably attached to the framing and held free from glass. Do not apply warning markings, streamers, ribbons, or other items directly to the glass except as specifically directed by the Architect.

SECTION 09260
GYPSUM WALLBOARD SYSTEM

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included:

1. Gypsum wallboard
2. Accessories and trim for complete installation.
3. Ceilings.

B. Related Work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.2 QUALITY ASSURANCE

A. Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Comply with design criteria for systems as designed by the manufacturer.

1.3 PRODUCT HANDLING

A. Comply with pertinent provisions of Section 01640.

PART 2 - PRODUCTS

2.1 GYPSUM WALLBOARD

A. General:

1. Provide gypsum wallboard complying with Fed Spec SS-L-30D, in 48" widths and in such lengths as will result in a minimum of joints.
2. Regular wallboard: Provide type III, grade R, class 1, 5/8" thick except as may be shown otherwise on the Drawings.
3. Fire-retarding wallboard: Provide type III, grade X, class 1, 5/8" thick.
4. Water-resistant wallboard: Provide type VII, grade W or X as required, class 2, 5/8" thick except as may be shown otherwise on the Drawings.
5. Fiberock abuse-resistant interior panels in all public locations (except bathrooms & wet areas).

B. Sheathing: Where gypsum wallboard sheathing is indicated on the Drawings, provide gypsum wallboard complying with Fed Spec SS-L 30D, type II, grade W, class 2.

2.2 METAL TRIM

A. Form from zinc-coated steel not lighter than 26 gage, complying with Fed Spec QQ-S-775, type I, class d or e.

B. Casing beads:

1. Provide channel-shapes with an exposed wing, and with a concealed wing not less than 7/8" wide.
2. The exposed wing may be covered with paper cemented to the metal, but shall be suitable for joint treatment.

C. Corner beads: Provide angle shapes with wings not less than 7/8" wide and perforated for nailing and joint treatment, or with combination metal and paper wings bonded together, not less than 1-1/4" wide and suitable for joint treatment.

D. Edge beads for use at perimeter of ceilings:

1. Provide angle shapes with wings not less than 3/4" wide.
2. Provide concealed wing perforated for nailing, and exposed wing edge folded flat.
3. Exposed wing may be factory finished in white color.

2.3 JOINTING SYSTEM

A. Provide a jointing system, including reinforcing tape and compound, designed as a system to be used together and as recommended for this use by the manufacturer of the gypsum wallboard approved for use on this Work.

B. Jointing compound may be used for finishing if so recommended by its manufacturer.

2.4 FASTENING DEVICES

A. For fastening gypsum wallboard in place on metal studs and metal channels, use flat-head screws, shouldered, specially designed for use with power-driven tools, not less than 1" long, with self-tapping threads and self-drilling points.

B. For fastening gypsum wallboard in place on wood, use 1-1/4" type W bugle-head screws, or use annular ring type nails complying with ASTM C514 and of the length required by governmental agencies having jurisdiction.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

A. Examine the areas and conditions under which work in this Section will be performed. Correct conditions detrimental to do timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.
proper support for the covering material, and as indicated on the Drawings.

3.2 INSTALLATION OF GYPSUM WALLBOARD

A. General:

1. Install the gypsum wallboard in accordance with the Drawings and with the separate boards in moderate contact but not forced into place.
2. At internal and external corners, conceal the cut edges of the boards by the overlapping covered edges of the abutting boards.
3. Stagger the boards so that corners of any four boards will not meet at a common point except in vertical corners.

B. Ceilings:

1. Install the gypsum wallboard to ceilings with the long dimension of the wallboard at right angles to the supporting members.
2. Wallboard may be installed with the long dimension parallel to supporting members that are 16" on centers when attachment members are provided at end joints.

C. Walls:

1. Install the gypsum wallboard to studs at right to the furring or framing members.
2. Make the end joints, where required, over framing or furring members.

D. Attaching:

1. Drive the specified screws with clutch-controlled power screwdrivers, spacing and 16" on centers at walls.
2. Where framing members are spaced 24" apart on walls, space screws 12" on centers.
3. Attach double layers in accordance with the pertinent codes and the manufacturer's recommendation as approved by the Architect.
4. Attach to wood as required by governmental agencies having jurisdiction.

3.3 JOINT TREATMENT

A. General:

1. Inspect areas to be joint treated, verifying that the gypsum wallboard fits snugly against supporting framework.
2. In areas where joint treatment and compound finishing will be performed, maintain a temperature of not less than 55 degrees for 24 hours prior to commencing the treatment, and until joint and finishing compounds have been dried.
3. Apply the joint treatment and finishing compound by machine or hand tool.
4. Provide a minimum drying time of 24 hours between coats, with additional drying time in poorly ventilated areas.

B. Embedding compounds:

1. Apply to gypsum wallboard and fastener heads in a thin uniform layer.
2. Spread the compound not less than 3" wide at joints, center the reinforcing tape in the joint, and embed the tape in the compound. Then spread a thin layer of compound over the tape.
3. After this treatment has dried, apply a second coat of embedding compound to joints and fastener heads, spreading in a thin uniform coat to not less than 6" wide at joints, and feather edged.
4. Sandpaper between coats as required.
5. When thoroughly dry, sandpaper to eliminate ridges and high points.

C. Finishing compounds:

1. After embedding compound is thoroughly dry and has been completely sanded, apply a coat of finishing compound to joints and fastener heads.
2. Feather the finishing compound to not less than 12" wide.
3. When thoroughly dry, sandpaper to obtain a uniformly smooth surface, taking care to not scuff the paper surface of the wallboard.

3.4 CORNER TREATMENT

A. Internal corners: Treat as specified for joints, except fold the reinforcing tape lengthwise through the middle and fit neatly into the corner and securing with the same type fasteners used for installing the wallboard.

B. External corners:

1. Install the specified corner bead, fitting neatly over the corner and securing with the same type fasteners used for installing the wallboard.
2. Space the fasteners approximately 6" on centers, and drive through the wallboard into the framing or furring member.
3. After the corner bead has been secured into position, treat the corner with joint compound and reinforcing tape as specified for joints, feathering the joint compound out from 8" to 10" on each side of the corner.

3.5 OTHER METAL TRIM

A. General:

1. The Drawings do not purport to show all locations and requirements for metal trim.

2. Carefully study the Drawings and the installation, and provide all metal trim normally recommended by the manufacturer of the gypsum wallboard approved for use in this Work.

3.6 CLEANING UP

A. In addition to other requirements for cleaning, use necessary care to prevent scattering gypsum wallboard scraps and dust, and to prevent tracking gypsum and joint finishing compound onto floor surfaces.

B. At completion of each segment of installation in a room or space, promptly pick up and remove from the working area all scrap, debris, and surplus material of this Section.

SECTION 09310
CERAMIC TILE/QUARRY TILE

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included:

1. Toilet Room wall wainscot.
2. Toilet Room floors

B. Related work: Documents affecting work of the Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.2 REFERENCES

A. Tile Council of America (TCA) - Handbook for Ceramic Tile Installation.

B. ANSI Standards for Installation of Ceramic Tile.

1.3 SUBMITTALS

A. Comply with the pertinent provisions of Section 01340.

B. Product data: Within 45 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:

C. Samples of each type, class, and color of ceramic tile required.

1.4 PRODUCT HANDLING

A. Comply with pertinent provisions of Section 01640.

PART 2 - PRODUCTS

2.1 WALL TILE

A. Ceramic wall tiles & base: Tile face sizes 4-1/4" x 4-1/4" based on DALTILE Semi-gloss/mat; Group 1.

B. Ceramic tile base shall match wall tiles, 4-1/4" x 4-1/4", with cove base, color as selected by Architect.

C. Provide necessary trim pieces to match wall tile at exposed edges.

2.2 FLOOR TILE:

A. Toilet Rooms: Unglazed floor tile; based on DALTILE unglazed mosaics 2 x 2 Group1.

B. Concession Room: floor & base based on DALTILE Quarry Textures 6 x 6 Group 2.

2.2 SETTING MATERIALS

A. Of type and consistency as recommended by adhesive manufacturer.

B. Tile Adhesives: water resistant organic type conforming to U.S. Department of Commerce, Commerce Standard CS181-52. Manufacturer must certify that adhesive is proper type of intended application and each container shall bear Hallmark, showing compliance with commercial standards.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Tile shall be installed, grouted, cleaned, protected and cured in accordance with the applicable Standard Specifications of the America Standards and the Tile Council of America.

B. Ceramic tile to be thin set on floors and walls.

C. Close off spaces in which tile is being set to traffic and other work during installation and for 48 hours after completion of tile work. Do not apply mortar to surfaces covered by frost. Minimum temperature for installation of tile shall be 40 degrees and rising. Cut and drill the trim shapes accurately without damage. Rub all exposed cut edges smooth with abrasive stone.

D. Protect tile from damage until it has been accepted.

SECTION 09680
CARPETING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included: Provide carpet installation and carpet accessories where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

B. Related work:
1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.2 QUALITY ASSURANCE

A. Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods need for proper performance of the work of this Section.

1.3 SUBMITTALS

A. Comply with the pertinent provisions of Section 01340.

B. Submit carpet samples.

1.4 PRODUCT HANDLING

A. Comply with pertinent provisions of Section 01640.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Carpet product, color and pattern is to be selected by Owner.

B. Include carpet allowance of $18.00 per square yard (carpet only) in Base Bid (delivered to jobsite).

C. Edge stripping shall be tackless type.

D. 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 SURFACE PREPARATION

A. Field measure each space to receive carpeting, as a basis of supplying, cutting and seaming the carpet. Do not scale the Drawings or calculate sizes from dimensions shown. The Contractor shall verify all dimensions of the carpeting at the building site before cutting and supplying carpet.

B. Make substrata level and free from irregularities, assure one constant floor height after carpet is installed, filling low spots and grinding high spots as required. Vacuum substrate immediately prior to carpet installation.

C. Do not proceed with carpet installation until work of all other trades, including painting, is completed and Architect's approval has been given.

3.3 INSTALLATION

A. Comply with manufacturer's printed instructions and recommendations for the carpet selected.

B. Install carpet wall to wall, using continuous lengths and as broad widths as possible to minimize the placement of seams in traffic areas. Cross seams should be held to an absolute minimum. Make all seams so the pile of the adjoining pieces have the same directional run and be practically invisible.

C. Extend carpet under open-bottomed and raised-bottom obstructions, and under removable flanges of obstructions. Extend carpet into closets and alcoves of rooms indicated to be carpeted, unless another floor finish is indicated for such spaces.

D. Install commercial bronze of silver metal edge guard at every location where edge of carpet is exposed to traffic, except where another device, such as an expansion joint cover system or threshold, is indicated with an integral carpet binder bar.

3.4 PROTECTION

A. Provide a heavy non-staining paper or plastic walkway as required over carpeting in direction of traffic, maintaining intact until carpeted space is accepted by the Owner.

3.5 SURPLUS MATERIAL

A. Allow the Owner to inspect and select from scrap carpet remaining after the installation. Bundle, wrap in burlap, and deliver to the Owner.

SECTION 09772 – DECORATIVE FIBERGLASS REINFORCED WALL PANELS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Prefinished polyester glass reinforced plastic sheets and adhered to unfinished gypsum wallboard.
   1. PVC trim.
   2. PVC Wall base.

B. Products Not Furnished or Installed under This Section:
   1. Gypsum [Cementitious] substrate board.
   2. Resilient Base.

1.2 RELATED SECTIONS

A. Section 09260 Gypsum [Cementitious] substrate board.

B. Section 06100 Wood Stud Framing

1.3 REFERENCES

A. American Society for Testing and Materials: Standard Specifications (ASTM)

1.4 SUBMITTALS

A. Product Data: Submit sufficient manufacturer's data to indicate compliance with these specifications, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

B. Shop Drawings: Submit elevations of each wall showing location of paneling and trim members with respect to all discontinuities in the wall elevation.

C. Selection Samples: Submit manufacturer’s standard color pattern selection samples representing manufacturer's full range of available colors and patterns.

D. Samples for Verification: Submit appropriate section of panel for each finish selected indicating the color, texture, and pattern required.
   1. Submit complete with specified applied finish.
   2. For selected patterns show complete pattern repeat.
   3. Exposed Molding and Trim: Provide samples of each type, finish, and color.

1.5 QUALITY ASSURANCE

A. Conform to building code requirements for interior finish for smoke and flame spread requirements as tested in accordance with:
   1. ASTM E 84 (Method of test for surface burning characteristics of building Materials)
      a. Wall Required Rating – Class [A] [C].

B. Sanitary Standards: System components and finishes to comply with:
   1. United States Department of Agriculture (USDA) requirements for food preparation facilities, incidental contact.
   2. Food and Drug Administration (FDA) 1999 Food Code 6-101.11.
   3. Canadian Food Inspection Agency (CFIA) requirements.

1.6 DELIVERY, STORAGE AND HANDLING

A. Deliver materials factory packaged on strong pallets.

B. Store panels and trim lying flat, under cover and protected from the elements. Allow panels to acclimate to room temperature (70°) for 48 hours prior to installation.

1.7 PROJECT CONDITIONS

A. Environmental Limitations: Building are to be fully enclosed prior to installation with sufficient heat (70°) and ventilation consistent with good working conditions for finish work

B. During installation and for not less than 48 hours before, maintain an ambient temperature and relative humidity within limits required by type of adhesive used and recommendation of adhesive manufacturer.
   1. Provide ventilation to disperse fumes during application of adhesive as recommended by the adhesive manufacturer.

1.8 WARRANTY

A. Furnish one year guarantee against defects in material and workmanship.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURER

A. Marlite; 202 Harger Street, Dover, OH 44622. 800-377-1221 FAX (330) 343-4668 Email: info@marlite.com www.marlite.com.

B. Product:
   1. Standard FRP

2.2 PANELS

A. Fiberglass reinforced thermosetting polyester resin panel sheets complying with ASTM D 5319.

B. Properties: Resistant to rot, corrosion, staining, denting, peeling, and splintering.

C. Back Surface: Smooth. Imperfections which do not affect functional properties are not cause for rejection.

D. Front Finish: As approved by Architect.

2.3 BASE: Quarry tile

2.4 MOLDINGS

A. PVC Trim: Thin-wall semi-rigid extruded PVC.
   1. M 350 Inside Corner, [8’ length][10’ length]
   2. M 360 Outside Corner, [8’ length][10’ length]
   3. M 365 Division, [8’ length][10’ length]
   4. M 370 Edge, [8’ length][10’ length]
   5. Color: [White][Beige][Natural Almond][Ivory][Silver][Light Grey][Black]

2.5 ACCESSORIES

A. Fasteners: Non-staining nylon drive rivets.
   1. Match panel colors.
   2. Length to suit project conditions.

B. Adhesive: Either of the following construction adhesives complying with ASTM C 557.
   1. Marlite C-551 FRP Adhesive - Water- resistant, non-flammable adhesive.
   2. Marlite C-375 Construction Adhesive - Flexible, water-resistant, solvent based adhesive, formulated for fast, easy application.
   3. Titebond Advanced Polymer Panel Adhesive – VOC compliant, non-flammable, environmentally safe adhesive.

C. Sealant:
   1. Marlite Brand MS-250 Clear Silicone Sealant.
   2. Marlite Brand MS-251 White Silicone Sealant.
   3. Marlite Brand - Color Match Sealant .

PART 3 - EXECUTION

3.1 PREPARATION

A. Examine backup surfaces to determine that corners are plumb and straight, surfaces are smooth, uniform, clean and free from foreign matter, nails countersunk, joints and cracks filled flush and smooth with the adjoining surface.
   1. Verify that stud spacing does not exceed 24” (61cm) on-center.

B. Repair defects prior to installation.
   1. Level wall surfaces to panel manufacturer's requirements. Remove protrusions and fill indentations.

3.2 INSTALLATION

A. Comply with manufacturer's recommended procedures and installation sequence.

B. Cut sheets to meet supports allowing 1/8" (3 mm) clearance for every 8 foot (2.4m) of panel.
   1. Cut and drill with carbide tipped saw blades or drill bits, or cut with shears.
   2. Pre-drill fastener holes 1/8" (3mm) oversize with high speed drill bit.
      a. Space at 8" (200mm) maximum on center at perimeter, approximately 1" from panel edge.
      b. Space at in field in rows 16' (40.64cm) on center, with fasteners spaced at 12" (30.48 cm) maximum on center.

C. Apply panels to board substrate, above base, vertically oriented with seams plumb and pattern aligned with adjoining panels.
   1. Install panels with manufacturer's recommended gap for panel field and corner joints.
      a. Adhesive trowel and application method to conform to adhesive manufacturer's recommendations.
      b. Drive fasteners for snug fit. Do not over-tighten.

D. Apply panel moldings to all panel edges using silicone sealant providing for required clearances.
   1. All moldings must provide for a minimum 1/8 " (3mm) of panel expansion at joints and edges, to insure proper installation.
   2. Apply sealant to all moldings, channels and joints between the system and different materials to assure watertight installation.

3.3 CLEANING

A. Remove excess sealant from panels and moldings. Wipe panel down using a damp cloth and mild soap solution or cleaner.

B. Refer to manufacturer's specific cleaning recommendations Do not use abrasive cleaners.

END OF SECTION 09 7720

SECTION 09900
PAINTING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included:

1. Cleaning and preparation of all surfaces to be painted.
2. Painting and finishing as scheduled.

B. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.2 QUALITY ASSURANCE

A. Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.3 SUBMITTALS

A. Comply with the pertinent provisions of Section 01340.
B. Submit complete schedule of materials, colors and finishes.

1.4 PRODUCT HANDLING

A. Comply with pertinent provisions of Section 01640.

B. Store in heated space above 40 Degrees F. temperature.

1.5 EXTRA STOCK

A. Upon completion of the work of this Section, deliver to the Owner an extra stock equaling 10% of each color, type, and gloss of paint used in the Work, tightly sealing each container, and clearly labeling with contents and location where used.

PART 2 - PRODUCTS

2.1 PAINT MATERIALS

A. Materials shall be best quality products as manufactured by Hirshfield Paint ; other acceptable manufacturers: Devoe & Reynolds Co., O'Brian Paint Corp., Cook Paint & Varnish Co., Glidden Co., Sherwin-Williams , Olympic, and Benjamin Moore & Co., Pratt & Lamert.

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 PREPARATION

A. General:

1. Finished surfaces and surfaces not to be painted shall be protected from damage during preparation, priming and painting operations. Cover floors and fixed equipment with drop cloths, and mask and suitably cover surfaces.

2. Surfaces to be painted shall be suitable for a first class finish, thoroughly dry, clean, smooth and even, and free of dust.

B. Ferrous metal: clean thoroughly to remove rust, mill scale, grease and dirt. For shop coats clean rusted, chipped or abraded metal and touch-up with primer before application of field coats. Unprimed ferrous metal shall be wire brushed, scraped and sanded and primed immediately.

C. Gypsum Drywall: spackle minor irregularities in gypsum board. Sand smooth, even with surface when dry, avoid raising nap of paper and remove dust.

D. Wood:

1. Sand wood to be painted as necessary to remove defects. After primer is dry fill voids and nail holes with putty.
2. Wood to be stained shall be clean and free of surface dirt. Prime and backprime all surface including edges and ends.

3.3 PAINT APPLICATION

A. General:

1. Materials shall be applied in strict accordance with manufacturer's instructions. Each coat shall be applied at a rate not to exceed manufacturer's recommendation for the type of surface and shall have a dry film thickness not less than that recommended

2. Workmanship: Paint and varnish shall be applied at proper consistency in accordance with best practice, evenly, without sags, drips, runs, brush marks, thin spots or other defects.

3. Sanding: Allow each coat to dry thoroughly before sanding or applying subsequent coats. Lightly sand each coat of varnish and enamel applied to wood or metal with fine sandpaper and wipe clean with a tack rag before the next coat is applied. Avoid cutting through edges.

4. Doors: Tops, bottoms and edges of doors shall be given the same finish as door faces after fitting.

3.4 PAINTING SCHEDULE

A. General:

1. Provide the following paint systems for the various substrates listed:

a. Gypsum Board Walls & Ceilings & Soffits

1 coat	Hirshfield Wall Primer
2 coats	Hirshfield Platinum Ceramic (Eggshell)

b. Hollow Metal Frames & Metal Doors.

2 coat	Hirshfield Enamel, Eggshell

c. Interior wood wainscot & wood ceilings.

1 coat	Hirschfield solid stain clear coat
1 coat	Hirshfield clear polyurethane.

d. Hardwood Cabinets
Hardwood Moldings & Trim

1 coat	Paste Filler
1 coat	Tonetic Wood Satin
2 coats	"38" Clear Finish

e. Exterior:

1. Exterior galvanized ferrous metal

1 coat	primer (if unprimed)
1 coat	Effecto enamel

2. Cement Fiber Siding & Trim

1 coat	primer (if uprimed)
1 coat	Weathergryl eggshell – Professional 100% acrylic exterior coating.

2. Mechanical and Electrical Work

a. Paint exposed surfaces of mechanical and electrical materials and equipment occurring in finished spaces or adjacent to finished surfaces, including grilles, registers, piping, radiation, ducts, conduit, panels and cabinets.

3.5 CLEAN-UP

A. Remove all paint and stain from adjacent surfaces.

B. Touch-up and restore damaged surfaces.

C. Remove all materials and debris.

SECTION 10250
FIRE PROTECTION SPECIALTIES

PART 1 – GENERAL

1.1 DESCRIPTION

A. Work included: Provide fire protection devices where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

B. Related work: Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1. Section 04220 - Unit Masonry
2. Section 09260 - Gypsum Drywall

1.2 QUALITY ASSURANCE

A. Provide fire extinguishers which are UL-listed and bear UL "Listing Mark" for type, rating, and classification of extinguisher indicated.

1.3 SUBMITTALS

A. Submit shop drawings/product data (Ref.: Section 01340).

PART 2 - PRODUCTS

2.1 FIRE EXTINGUISHER CABINET:

A. Furnish and install where indicated on drawings, the following cabinet as manufactured by Larsen's Manufacturing Company of Minneapolis, Minnesota, or equal:

1. Fully recessed #2712R cabinets as specified on the plans.

2. Cabinet shall have full glass doors with obscure wire glass; "flat trim" for full recess; baked-on white finish and painted by the painting contractor to match the wall color.

2.2 FIRE EXTINGUISHERS:

A. Furnish and install where indicated on drawings: A B C, 6 pound, (install on wall brackets), as manufactured by Badger Powhaten Fire Extinguisher Co., or approved equal.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install the above fire fighting devices in accordance with manufacturer's instructions.

B. Immediately after the building is fully secure against unauthorized entry, install fully charged fire extinguishers, available for use in extinguishing construction fires.

C. Recharge extinguisher, if used.

SECTION 10800
TOILET ROOM ACCESSORIES

PART 1 – GENERAL

1.1 DESCRIPTION

A. Work included: Provide toilet room accessories where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

B. Related work: Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1. Section 06100 - Carpentry: Blocking for Accessories
2. Section 09310 – Tile

1.2 QUALITY ASSURANCE

A. Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Comply with Minnesota Statutes and the Americans with Disabilities Act (ADA).

1.3 SUBMITTALS

A. Submit shop drawings/product data (Ref.: Section 01340).

PART 2 - PRODUCTS

2.1 TOILET ACCESSORIES

A. Manufacturer and Type: Equipment by Bobrick Washroom Equipment Company; or approved equal.

B. SCHEDULE:

1. Grab Bars: Bobrick B-6806.99 peened non-slip surface (refer to drawings).
2. Framed Mirrors : B-165 2436
3. Toilet Tissue Dispenser : B-4288
4. KOALA KARE child changing station; KB200-00.
5. Surfaced Mounted Hand Dryer; B-715 115V.
6. Clothes Hook; B-2116.
7. Soap Dispensers by Owner.
8. Solid color reinforced composite toilet partitions, SIERRA SERIES 1096, floor to ceiling mountings.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install accessories plumb, level and securely anchored, and in accordance with manufacturer's instructions.

B. Clean and polish exposed surfaces.

DIVISION 15
MECHANICAL PERFORMANCE SPECIFICATION

PLUMBING

1.01 WORK INCLUDED

A. The Plumbing Contractor shall furnish all labor, fixtures, equipment, materials and other items as required to provide a complete plumbing system as herein listed and shown on drawings.

1.02 PERMITS AND CODES

A. Comply with the Minnesota State Building and Plumbing Code.

1.03 TESTS

A. All plumbing work shall be inspected, tested and approved by local plumbing inspector.

1.04 HANGERS AND SUPPORTS

A. Furnish and install pipe hangers and supports for all lines as required for proper support. Maximum spacing at 20' o.c..

1.05 DISINFECTING REQUIREMENT

A. Prior to use, disinfect water supply piping per MHD recommendation.

1.06 OUTSIDE UTILITIES

A. Plumbing contractor shall connect to Owners well and septic system.

1.07 PIPING

A. Waste & Vent: P.V.C. schedule #40 and standard weight cast iron or steel galvanized #40 pipe.

B. Water lines: Type M copper with soldered joints.

C. Under floor: Type K copper.

D. Gas piping: Schedule #40 black steel pipe; provide shutoff cock @ each appliance.

1.08 CLEANOUT FITTINGS

A. Install as required by Code; adjustable bronze frame and cover.

1.09 FLOOR DRAINS

A. Josam, JR Smith, Zum or Wade – with nikaloy strainer & P trap.

1.10 OUTSIDE FAUCET

A. Woodford Model #65 brass non-freeze faucet with back flo preventer; set 2 ft. above grade.

PRODUCTS

2.01 PLUMBING FIXTURES

A. Furnish and install plumbing fixtures as listed or approved equal. All fixtures are white; provide stop valves at fixtures and insulated drain/P Trap at lavs.

B. TOILET (HANDICAPPED): American Standard, AF Wall 1.6 Everolean toilet wt. selectronic exposed AC flush valve.

C. WALL-MOUNT SINK: American Standard, Regalyn, 20" x 17" vitreous china with Delta or equal single lever faucet.

D. SERVICE SINK: 24" x 24" x 10" H. molded stone with P Trap and Chicago Faucet #897 with vac breaker mounted 36" up wall – or equal.

E. DRINKING FOUNTAIN: Elkay wall mount; EZH20 bottle filling station with bi-level water cooler; EZSTLG8WSLK, EZSTLG8WSSK.

F. WATER HEATER: Rheem 40 gal. electric or equal.

G. URINAL (H.C.) American Standard; Washbrook 1.0 washout top spud urinal with selectronic exposed AC flush valve.

H. 3 COMPARTMENT S.S. SINK – ELKAY WNSF8345LR or equal. 93" x 27-1/2"

I. GREASE INTERCEPTOR – Zurn GT2701, 30 gallon.

J. HANDWASH SINK – ELKAY; CHSB17162

CODES

Comply with all local and state codes.

TESTING AND ADJUSTING

Provide final balancing, testing and air balance reports.

SITE PLAN NOTES

– REFER TO CIVIL AND LANDSCAPE PLANS FOR ADDITIONAL INFORMATION

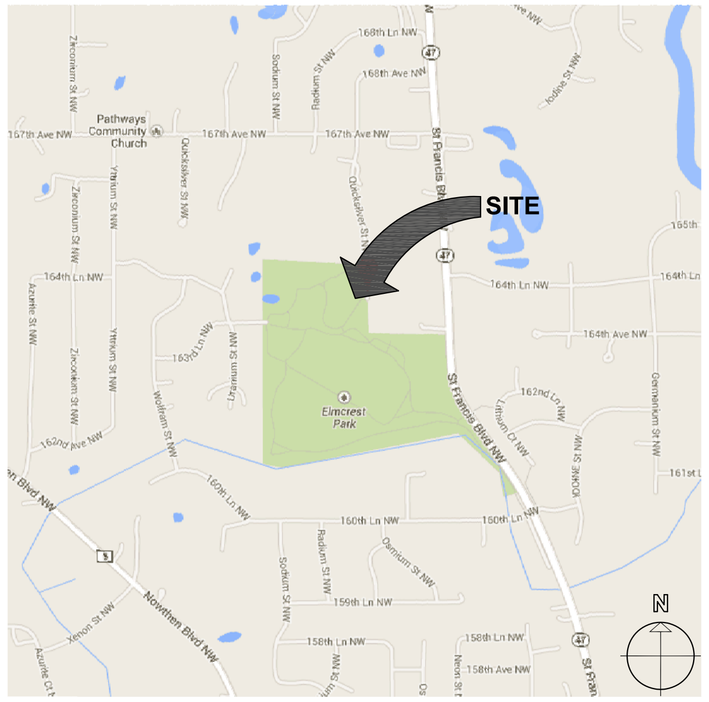
– VERIFY ALL EXISTING CONDITIONS PROIR TO CONSTRUCTION

– THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS WITHIN THE CONTRACT LIMITS AND NOTIFY THE ARCHITECT IMMEDIATELY IN WRITING OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS NECESSATED BY FIELD CONDITIONS OR ITEMS NOT COVERED

SITE PLAN KEYED NOTES

1. EXISTING PROPERTY LINE – REFER TO CIVIL DRAWINGS
2. EXISTING WATERMAIN – REFER TO CIVIL DRAWINGS
3. LINE OF EXISTING TOP OF CURB
4. LINE OF EXISTING BITUMINOUS TRAIL
5. EXISTING PUBLIC GRILL – RELOCATE – VERIFY W/ OWNER
6. EXISTING PUBLIC DRINKING FOUNTAIN
7. EXISTING PARK SIGN – REFER TO CIVIL DRAWINGS AND VERIFY IN FIELD
8. FOOTPRINT OF NEW PARK COMMUNITY BUILDING
9. NEW SIDEWALK AROUND NEW PARK COMMUNITY BUILDING AND TO EXISTING TRAIL
10. EXISTING PARK INFORMATION SIGN – VERIFY IN FIELD
11. EXISTING PUBLIC GRILL

VICINITY MAP



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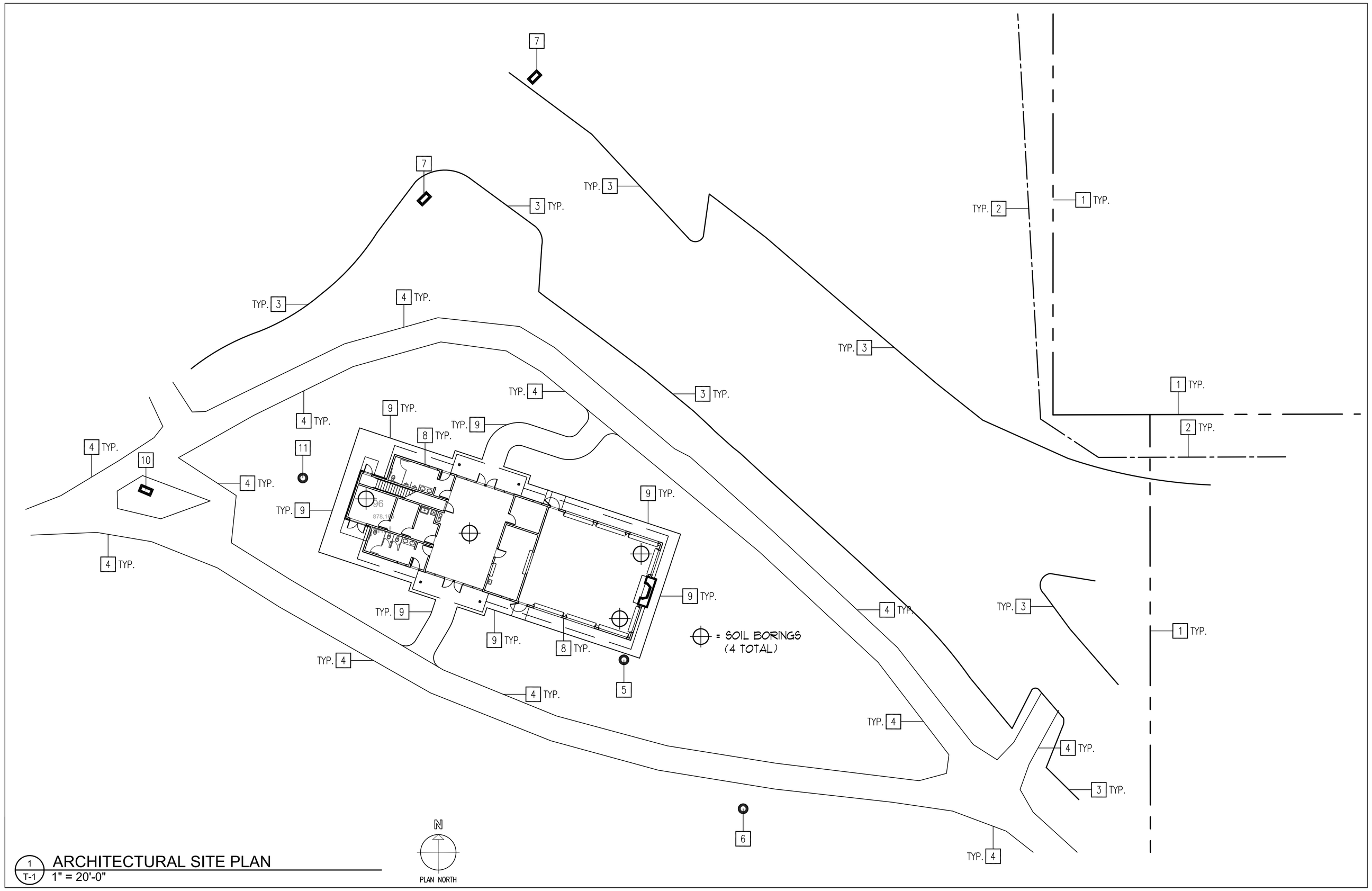

1 T-1 ARCHITECTURAL SITE PLAN
1" = 20'-0"

CODE INFORMATION

BUILDING:	2007 MINNESOTA STATE BUILDING CODE BASED ON 2006 INTERNATIONAL BUILDING CODE WITH AMENDMENTS
PLUMBING:	2009 MINNESOTA STATE PLUMBING CODE - CHAPTER 4715
MECHANICAL:	2009 MINNESOTA STATE MECHANICAL CODE BASED ON 2006 INTERNATIONAL MECHANICAL CODE WITH AMENDMENTS
ELECTRICAL:	2011 NATIONAL ELECTRICAL CODE
FIRE:	MINNESOTA STATE FIRE CODE
ENERGY:	MINNESOTA STATE ENERGY CODE
ACCESSIBILITY:	MINNESOTA ACCESSIBILITY CODE

CODE EVALUATION

CODE REVIEW

Elmcrest Park, Ramsey, MN

CODE: 2007 MSBC

OCCUPANCY TYPE: Group B & A-3
(Non-separated 508.3.2)

TYPE OF CONSTRUCTION: V-B (602)
(903.2.1.3)

BUILDING LIMITATIONS: (TABLE 5-B) & (508.3.2.2)
ALLOWABLE AREA: 6,000 SF
AREA MODIFCATIONS (SECTION 506) NA
FRONTAGE FOUR SIDES & SPRINKLERED
xxx + [xxx X .75] + [xxx SF X 2] = xxx SF
ALLOWABLE AREA 6,000 SF
ACTUAL AREA 4,300 SF +/-

ALLOWABLE HEIGHT: 1 Story
ACTUAL HEIGHT: 1 Story with mezzanine
(505.2 & 505.4 exception 1)

OCCUPANT LOAD: (TABLE 10-B)
Group B 2000 SF / 100 = 20 OCCUPANTS
Gathering Area 748 SF / 15 = 49 OCCUPANTS
Picnic Area 1500 ST / 15 = 100 OCCUPANTS
TOTAL OCCUPANT LOAD FACTOR 169 OCCUPANTS

EXIT WIDTH: (TABLE 10-B)
REQUIRED EXIT WIDTH
STAIRS: 0.2 x 5 occupants = **N/A** (44" MINIMUM)

OTHER COMPONENTS: 0.15 x 169 = 26" / 2 EXITS = 13" EACH (44" MINIMUM)

EXIT WIDTH PROVIDED:
MINIMUM STAIR WIDTH **44"**
MINIMUM CORRIDOR WIDTH **44"**
2 EXITS PROVIDED @ MINIMUM DOOR OPENING OF 32" FOR EACH 36" DOOR

MAXIMUM TRAVEL DISTANCE: 200'

FIRE RESISTANCE REQUIREMENTS: (TABLE 601)

BEARING WALLS—EXTERIOR:	0
BEARING WALLS—INTERIOR:	0
NONBEARING WALLS—EXTERIOR:	0
STRUCTURAL FRAME:	0
PARTITIONS—PERMANENT:	0
SHAFT ENCLOSURES:	0
FLOORS AND FLOOR—CEILINGS:	0
ROOFS AND ROOF—CEILINGS:	0

CONSULTANTS

PROJECT

ELMCREST PARK
COMMUNITY BUILDING
16603 QUICKSILVER STREET N.W.
RAMSEY, MINNESOTA 55303

CLIENT

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PARKS AND PUBLIC WORKS
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PHONE: (612) 418-9517 FAX: (763) 541-0056
MIKE FOWLER

GENERAL CONTRACTOR

T.B.D.
-
-
-
-

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ELMCREST PARK COMMUNITY BUILDING

RAMSEY, MINNESOTA

No.	Date	Revision

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Architect under the laws of the State of Minnesota.

Printed Name: Bruce P. Bissonnette

Signature:

Date: 10/25/13 License #: 23532

Project	13–0110–01
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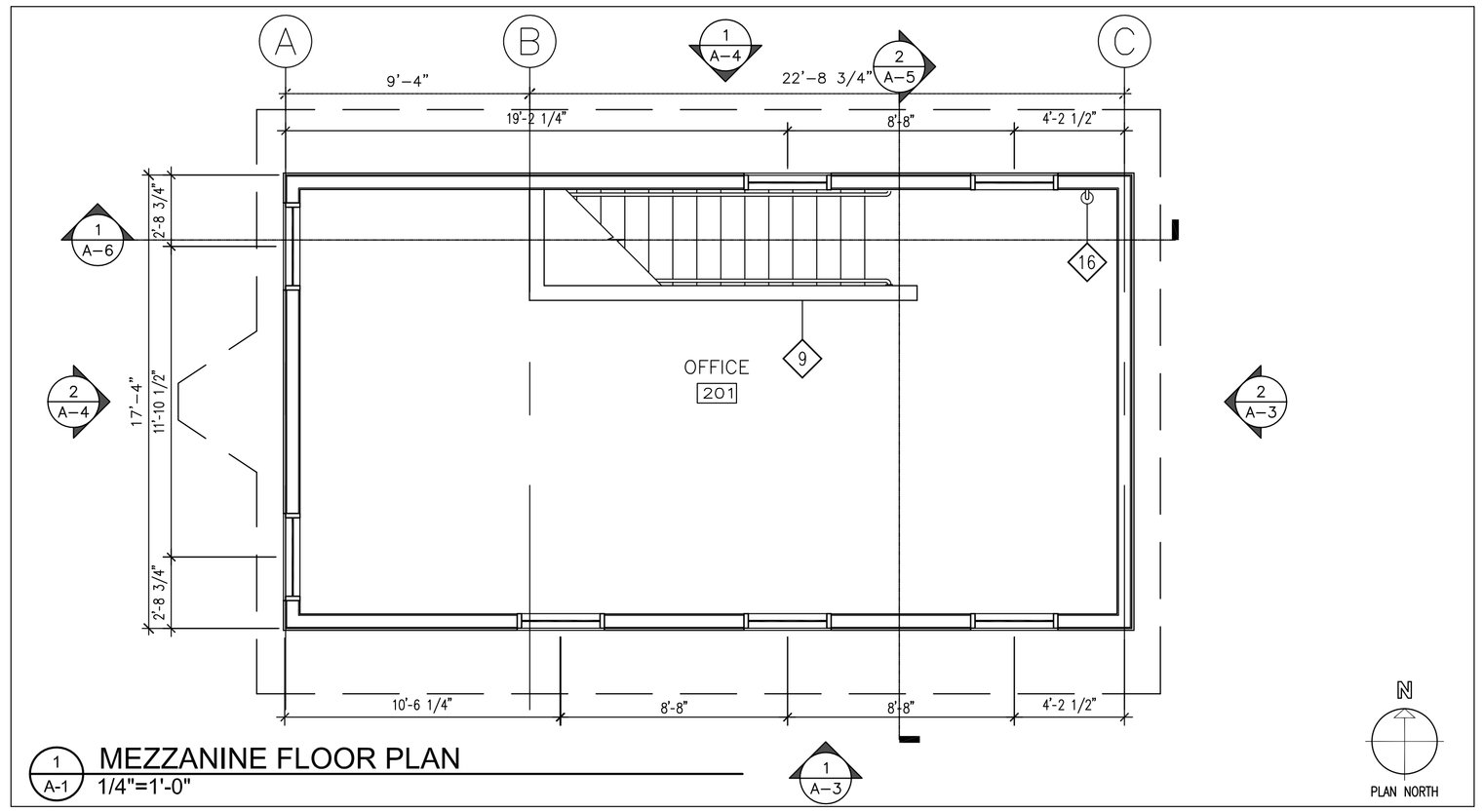
Drawn by	B.J.R.
Checked by	B.P.B.

Drawing Number **T-1**



1 A-1 MEZZANINE FLOOR PLAN
1/4"=1'-0"

FLOOR PLAN NOTES

- VERIFY WITH OWNER FOR REQUIRED WALL BACKING/BLOCKING
- VERIFY WITH OWNER FOR PAINT COLORS AND LOCATIONS
- ALL WORK MUST BE PREFORMED TO INDUSTRY STANDARDS
- ALL EXPOSED SURFACES TO BE PREPARED TO RECIEVE NEW FINISHES
- THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS WITHIN THE CONTRACT LIMITS AND NOTIFY THE ARCHITECT IMMEDIATELY IN WRITING OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS NECESSIATED BY FIELD CONDITIONS OR ITEMS NOT COVERED
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- ALL WORK SHALL CONFORM TO THE LATEST ADOPTED ISSUES OF ALL CODES AND REGULATIONS
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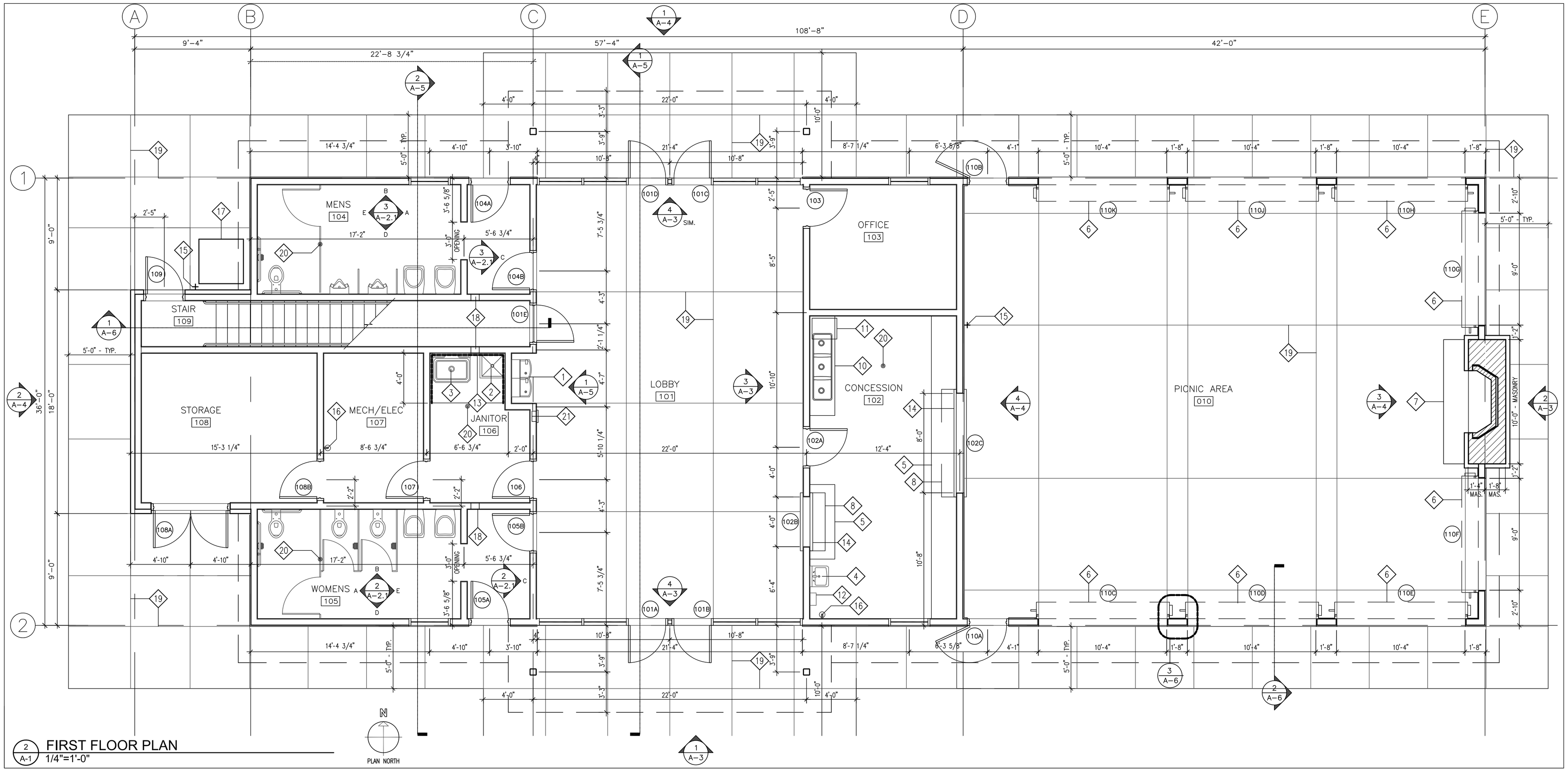
- ALL PLUMBING, MECHANICAL, AND ELECTRICAL DESIGNS IS BIDDER DESIGNED AND NOT THE RESPONDSIBILITY OF THE ARCHITECT
- FLAME SPREAD AND SMOKE DEVELOPMENT REQUIREMENTS SHALL BE MET ON ALL INTERIOR FINISHES PER 2006 INTERNATIONAL BUILDING CODE TABLE 803.5

FLOOR PLAN KEYED NOTES

1. TWO STATION WALL MOUNTED WATER COOLERS – BARRIER-FREE ACCESS – PROVIDE FULL HEIGH CERAMIC TILE ON PERIMETER WALLS
2. 24" X 24" MOP SINK – PROVIDE F.R.P. SURROUND – 2 SIDES
3. JANITOR SINK – PROVIDE F.R.P. SUROUND
4. WALL MOUNTED STAINLESS STEEL HAND-WASH SINK
5. STAINLESS STEEL COUNTERS
6. DASHED LINE INDICATES 24 GAUGE STEEL COILING DOOR (8 THUS) – REFER TO DOOR SCHEDULE
7. CONCRETE BLOCK-STONE VENEER FIREPLACE – REFER TO 2/A-3 AND 3/A-4
8. DASHED LINE INDICATES INSULATED COIL COUNTER HEIGHT DOOR – REFER TO DOOR SCHEDULE
9. 3'-0" HIGH WALL AT STAIR OPENING – REFER TO 1/A-6
10. 3 COMPARTMENT STAINLESS STEEL SINK
11. IN FLOOR 30 GALLON GREASE TRAP
12. HAND TOWEL DISPENSER
13. F.R.P. TO 8'-0" A.F.F.
14. STAINLESS STEEL SILL
15. HOSE BIB
16. FIRE EXTINGUISHER
17. AIR CONDITIONING UNIT LOCATION
18. 8" x 8" ACCESS PANEL – SILL @ 1'-0" A.F.F. – PROVIDE FIRE-RATED ACCESS PANELS WHERE REQUIRED
19. CONTROL JOINT IN CONCRETE SLAB – TYPICAL
20. FLOOR DRAIN
21. FIRE EXTINGUISHER AND RECESSED CABINET



2 A-1 FIRST FLOOR PLAN
1/4"=1'-0"

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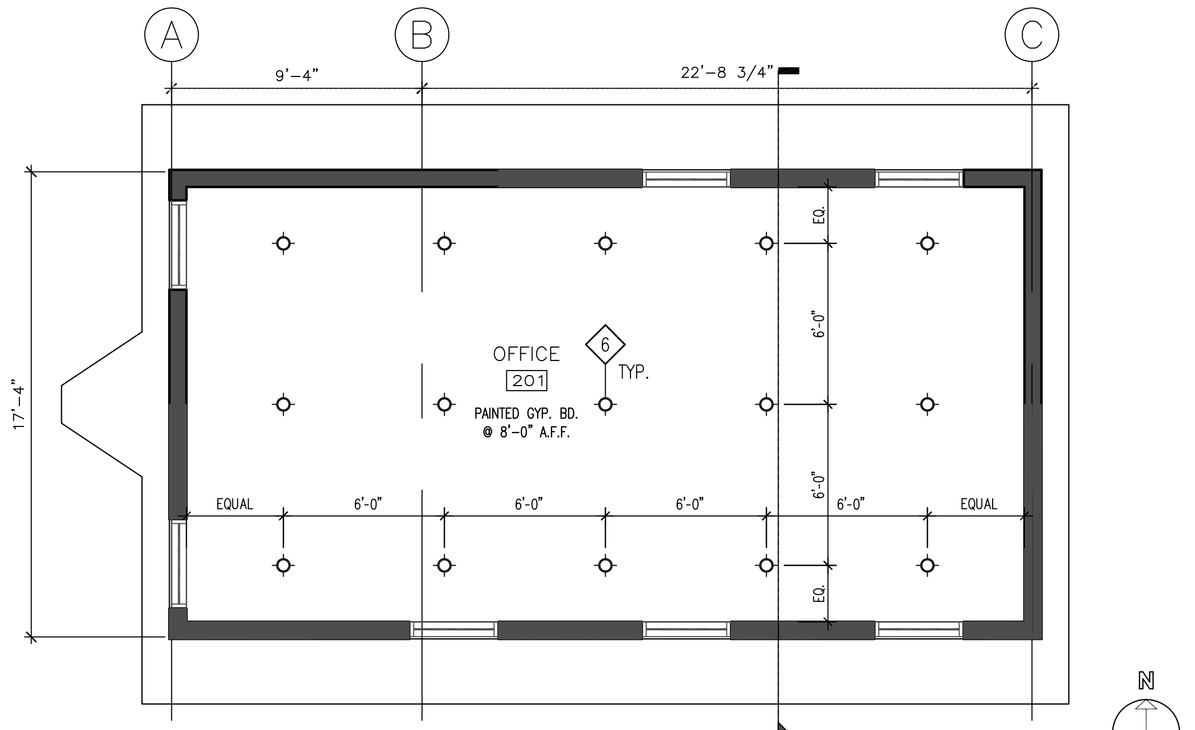

1 A-2 MEZZANINE CEILING PLAN
1/4"=1'-0"

CEILING PLAN NOTES

- VERIFY WITH OWNER FOR REQUIRED WALL BACKING/BLOCKING
- VERIFY WITH OWNER FOR PAINT COLORS AND LOCATIONS
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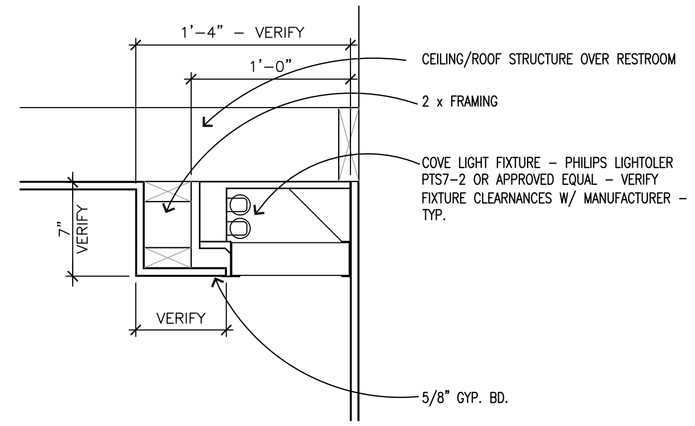
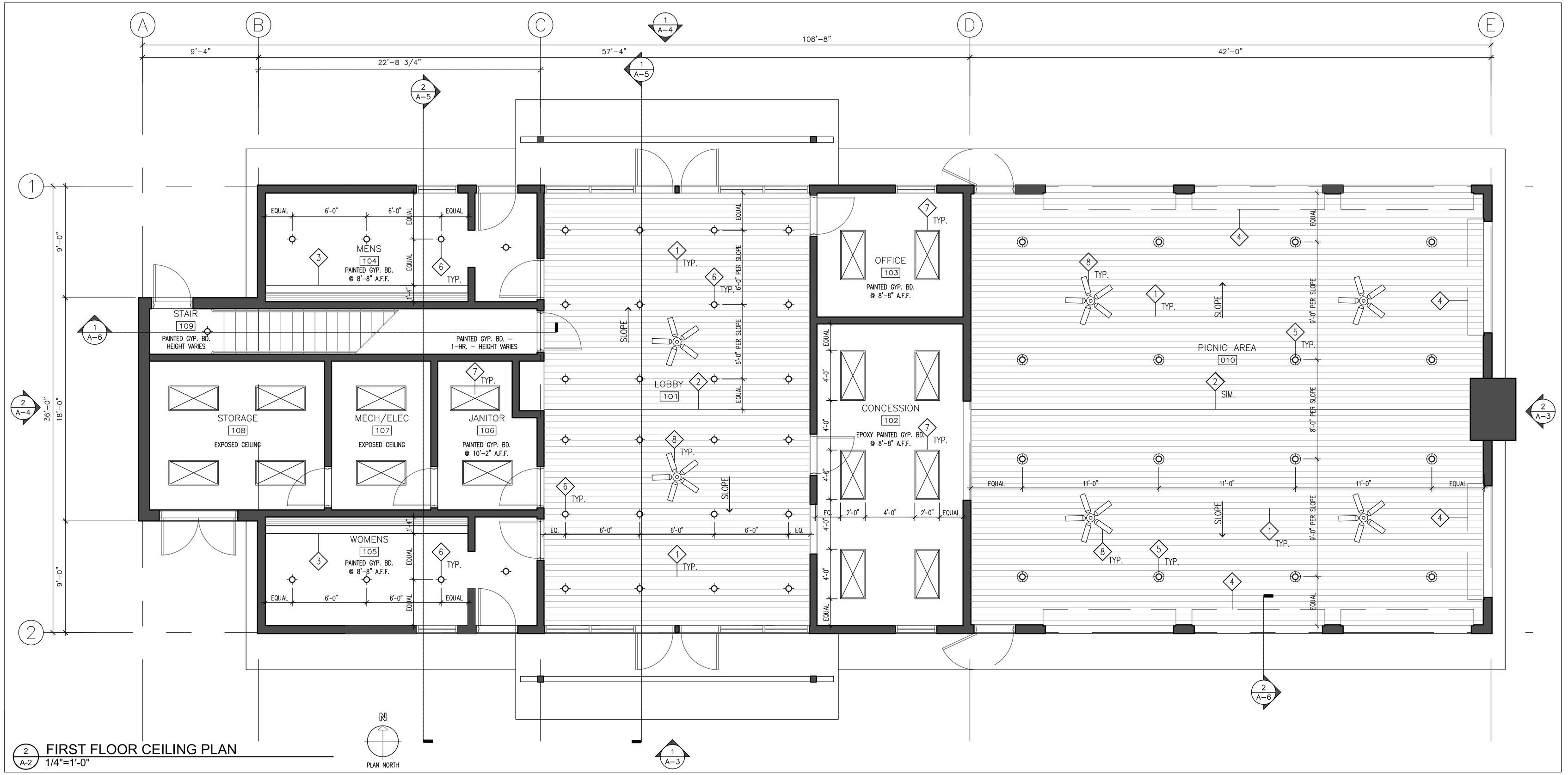
CEILING PLAN KEYED NOTES

1. 1 x 6 PINE – TONGUE AND GROOVE – STAINED AND VARNISH – SLOPED
2. HIGH POINT OF SLOPED CEILING – REFER TO 1/A-5 – SIMILAR AT PICNIC AREA
3. LIGHT COVE – REFER TO 3/A-2
4. STEEL COIL ROLLING DOORS IN PICNIC AREA – REFER TO 2/A-6
5. SURFACE MOUNTED – VANDEL RESISTANCE – HUBBELL LIGHTING HERCULES "HV" SERIES OR APPROVED EQUAL
6. RECESSED LIGHT FIXTURE – TYPICAL
7. 2 x 4 FLUORSCENT LIGHT FIXTURE – SURFACE MOUNT – TYPICAL
8. CEILING FAN – 6 TOTAL – TYPICAL



3 A-2 LIGHT COVE DETAIL
1-1/2"=1'-0"



2 A-2 FIRST FLOOR CEILING PLAN
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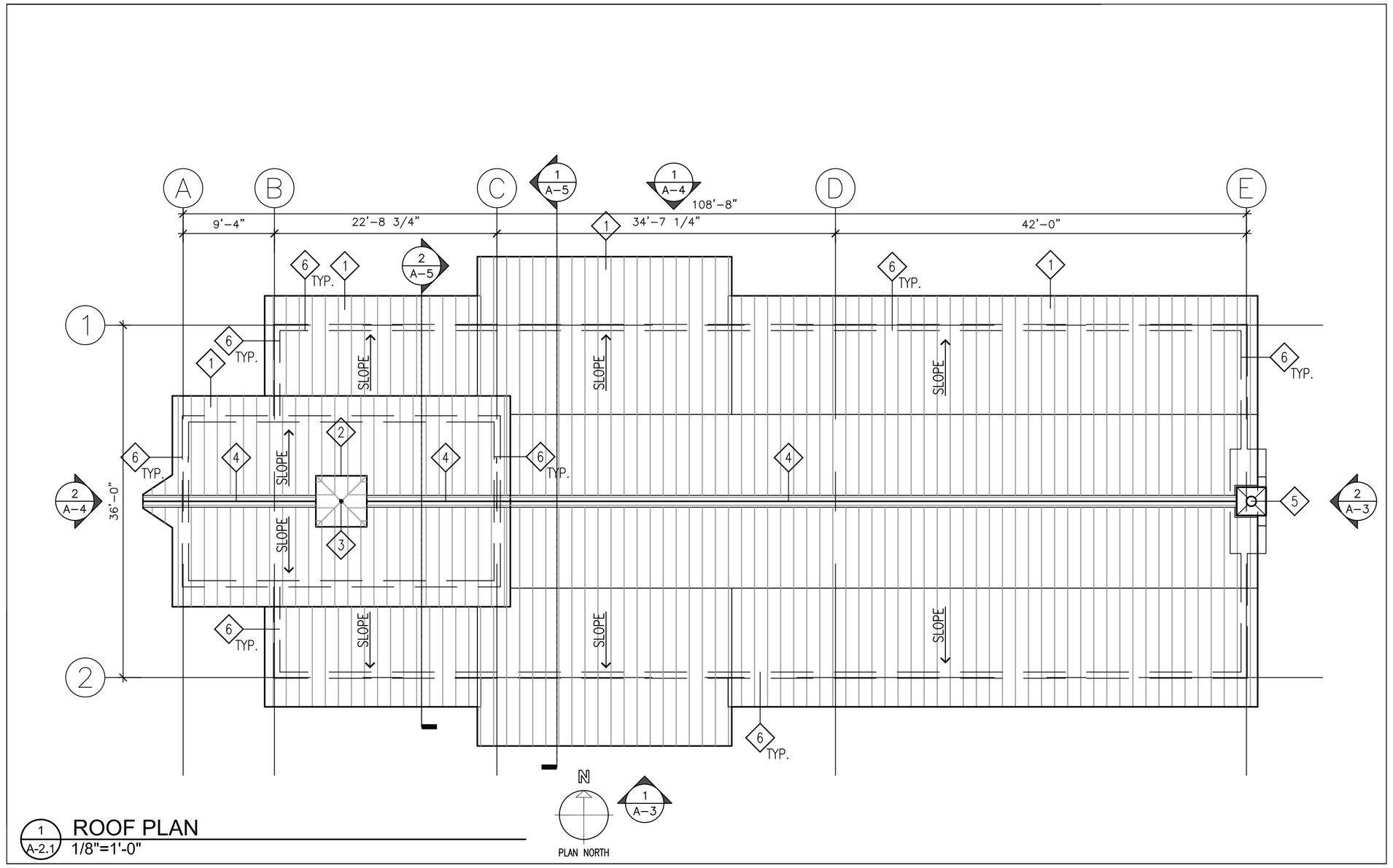
Drawing Number **A-2**



1 A-2.1 ROOF PLAN
1/8"=1'-0"

ROOF PLAN KEYED NOTES

1. 24 GAUGE PREFINISHED METAL ROOF SYSTEM - SMALL BATTENS @ 16" O.C.
2. MECHANICAL COUPLA W/ PREFINISHED METAL ROOF SYSTEM
3. DECORATIVE FINIAL ON TOP OF COUPLA
4. RIDGE VENT TO MATCH PREFINISHED METAL ROOF SYSTEM
5. FIREPLACE FLUE W/ STACK CAP
6. DASHED LINE INDICATES LINE OF EXTERIOR WALL BELOW

ROOF PLAN NOTES

- VERIFY WITH OWNER FOR REQUIRED WALL BACKING/BLOCKING
- VERIFY WITH OWNER FOR PAINT COLORS AND LOCATIONS
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- PAINT EXTERIOR DOORS AND FRAMES TO MATCH ADJACENT COLOR – VERIFY

ROOM FINISH SCHEDULE

ROOM NO	ROOM NAME	FLOOR	WALLS		BASE	CEILING		NOTES
			MAT'L	FINISH		MATL	HEIGHT	
101	LOBBY	POLISHED CONC.	GYP. BD.	PAINT/WOOD	WOOD	WOOD	9'-0" ±	SEE 1, 2, & 3
102	CONCESSION	TILE	GYP. BD.	F.R.P.	TILE	GYP. BD.	9'-0"	SEE 1
103	OFFICE	POLISHED CONC.	GYP. BD.	PAINT	WOOD	GYP. BD.	9'-0"	SEE 1
104	MENS	TILE	GYP. BD.	PAINT/TILE	TILE	GYP. BD.	9'-0"	SEE 1, 4, & 5
105	WOMENS	TILE	GYP. BD.	PAINT/TILE	TILE	GYP. BD.	9'-0"	SEE 1, 4, & 5
106	JANITOR	CONCRETE	GYP. BD.	PAINT/F.R.P.	WOOD	GYP. BD.	9'-0"	SEE 1
107	MECH./ELEC.	CONCRETE	GYP. BD.	PAINT	WOOD	GYP. BD.	9'-0"	SEE 1
108	MECH./ELEC.	CONCRETE	GYP. BD.	PAINT	WOOD	GYP. BD.	9'-0"	SEE 1
109	STAIR	CONCRETE/CARPET	GYP. BD.	PAINT	WOOD	GYP. BD.	VARIES	SEE 1
110	PICNIC AREA	CONCRETE	GYP. BD.	PAINT/WOOD	WOOD	WOOD	9'-0" ±	SEE 1, 2, & 3
201	OFFICE	CARPET	GYP. BD.	PAINT	WOOD	GYP. BD.	8'-0"	SEE 1

FINISH SCHEDULE NOTES

1. TAPE, SAND AND PAINT GYP. BD. AND PAINT
2. ROUGH-SAWN WOOD WAINSCOT – RANDOM WIDTH – VERTICAL
3. 1 x 6 TONGUE AND GROOVE PINE – STAINED AND VARNISH – SLOPED
4. PAINT WALLS EPOXY PAINT – WHITE
5. LIGHT COVE SOFFIT
6. –

ROOM FINISH GENERAL NOTES

– FLAME SPREAD AND SMOKE DEVELOPMENT REQUIREMENTS SHALL BE MET ON ALL INTERIOR FINISHES PER 2006 INTERNATIONAL BUILDING CODE TABLE 803.5

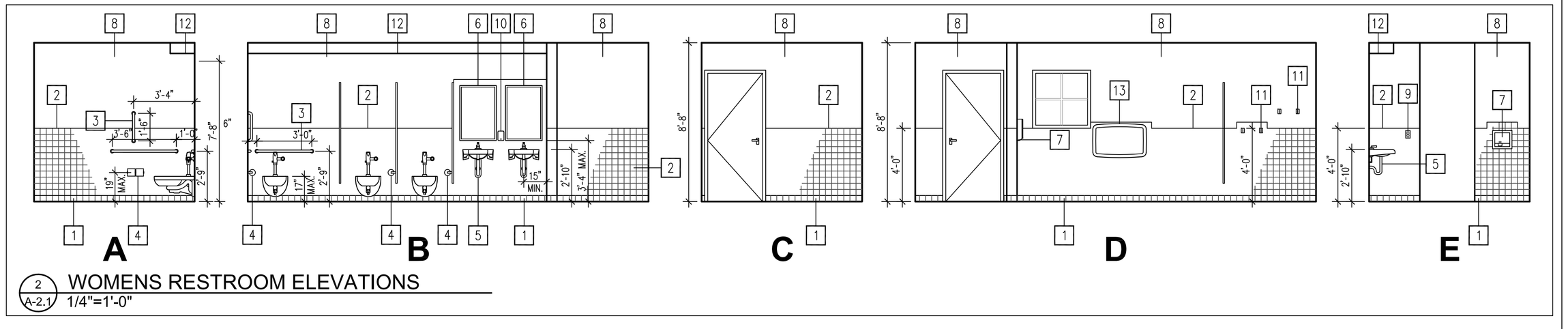
– PAINT EXTERIOR DOORS AND FRAMES TO ADJACENT WALL COLOR

DOOR SCHEDULE

DOOR NO	DOOR SIZE WD	HGT	THK	MATL	GLAZ	TYPE	HDWARE	FRAME MATL	FRAME TYPE	NOTES
101A	3'-0"	7'-0"	1 3/4"	ALUM.	–	A	9	ALUM.	1	ALUM. ENTRY DOOR AND ADJACENT WINDOWS
101B	3'-0"	7'-0"	1 3/4"	ALUM.	–	A	9	ALUM.	1	ALUM. ENTRY DOOR AND ADJACENT WINDOWS
101C	3'-0"	7'-0"	1 3/4"	ALUM.	–	A	9	ALUM.	1	ALUM. ENTRY DOOR AND ADJACENT WINDOWS
101D	3'-0"	7'-0"	1 3/4"	ALUM.	–	A	10	ALUM.	1	ALUM. ENTRY DOOR AND ADJACENT WINDOWS
101E	3'-0"	7'-0"	1 3/4"	H.M.	–	B	4	H.M.	2	20 MINUTE FIRE-RATED ASSEMBLY – STAINLESS STEEL KICKPLATE
102A	3'-0"	7'-0"	1 3/4"	H.M.	–	B	1	H.M.	2	STAINLESS STEEL KICKPLATE
102B	4'-0"	–	–	ALUM.	–	D	–	STEEL	–	COUNTER HEIGHT ROLLING ALUM. DOOR
102C	8'-0"	–	–	ALUM.	–	D	–	STEEL	–	COUNTER HEIGHT ROLLING ALUM. DOOR
103	3'-0"	7'-0"	1 3/4"	H.M.	–	B	2	H.M.	2	STAINLESS STEEL KICKPLATE
104A	3'-0"	7'-0"	1 3/4"	H.M.	–	C	8	H.M.	2	STAINLESS STEEL KICKPLATE
104B	3'-0"	7'-0"	1 3/4"	H.M.	–	B	7	H.M.	2	STAINLESS STEEL KICKPLATE
105A	3'-0"	7'-0"	1 3/4"	H.M.	–	C	8	H.M.	2	STAINLESS STEEL KICKPLATE
105B	3'-0"	7'-0"	1 3/4"	H.M.	–	B	7	H.M.	2	STAINLESS STEEL KICKPLATE
106	3'-0"	7'-0"	1 3/4"	H.M.	–	B	5	H.M.	2	STAINLESS STEEL KICKPLATE
107	3'-0"	7'-0"	1 3/4"	H.M.	–	B	3	H.M.	2	STAINLESS STEEL KICKPLATE
108A	3'-0"	7'-0"	1 3/4"	H.M.	–	C	6	H.M.	2	PAIR OF DOORS / STAINLESS STEEL KICKPLATE
108B	3'-0"	7'-0"	1 3/4"	H.M.	–	B	3	H.M.	2	STAINLESS STEEL KICKPLATE
109	3'-0"	7'-0"	1 3/4"	H.M.	–	C	1	H.M.	2	STAINLESS STEEL KICKPLATE
110A	3'-0"	7'-0"	1 3/4"	ALUM.	–	A	5	ALUM.	–	ALUM. ENTRY DOOR
110B	3'-0"	7'-0"	1 3/4"	ALUM.	–	A	5	ALUM.	–	ALUM. ENTRY DOOR
110C	10'-4"	7'-0"	–	STEEL	–	E	–	STEEL	–	PREFINISHED COMMERCIAL ROLLING 24 GA. STEEL DOOR
110D	10'-4"	7'-0"	–	STEEL	–	E	–	STEEL	–	PREFINISHED COMMERCIAL ROLLING 24 GA. STEEL DOOR
110E	10'-4"	7'-0"	–	STEEL	–	E	–	STEEL	–	PREFINISHED COMMERCIAL ROLLING 24 GA. STEEL DOOR
110F	9'-0"	7'-0"	–	STEEL	–	E	–	STEEL	–	PREFINISHED COMMERCIAL ROLLING 24 GA. STEEL DOOR
110G	9'-0"	7'-0"	–	STEEL	–	E	–	STEEL	–	PREFINISHED COMMERCIAL ROLLING 24 GA. STEEL DOOR
110H	10'-4"	7'-0"	–	STEEL	–	E	–	STEEL	–	PREFINISHED COMMERCIAL ROLLING 24 GA. STEEL DOOR
110J	10'-4"	7'-0"	–	STEEL	–	E	–	STEEL	–	PREFINISHED COMMERCIAL ROLLING 24 GA. STEEL DOOR
110K	10'-4"	7'-0"	–	STEEL	–	E	–	STEEL	–	PREFINISHED COMMERCIAL ROLLING 24 GA. STEEL DOOR

– FLAME SPREAD AND SMOKE DEVELOPMENT REQUIREMENTS SHALL BE MET ON ALL INTERIOR FINISHES PER 2006 INTERNATIONAL BUILDING CODE TABLE 803.5

– PAINT EXTERIOR DOORS AND FRAMES TO MATCH ADJACENT WALL COLOR – VERIFY



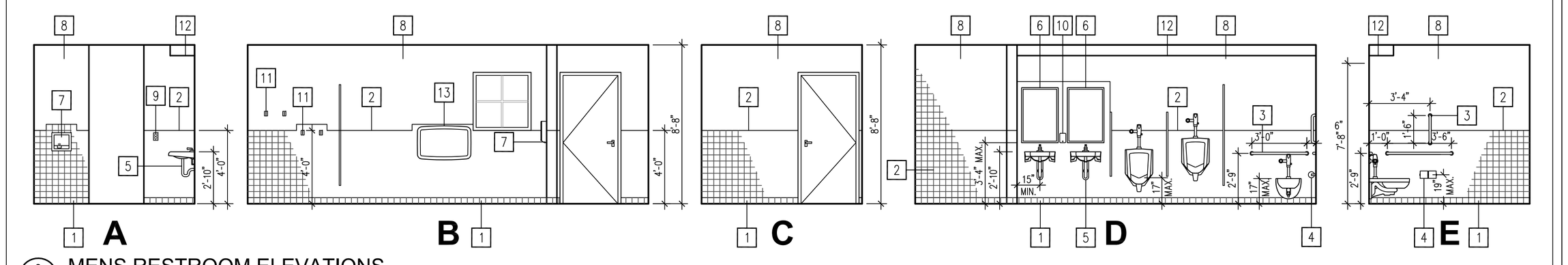
2 A-2.1 WOMENS RESTROOM ELEVATIONS
1/4"=1'-0"

RESTROOM ELEVATIONS KEYED NOTES

1. TILE COVED BASE – VERIFY COLOR W/ OWNER
2. 4'-0" HIGH CERAMIC WALL TILE WAINSCOT – RAISE TILE AROUND WALL HUNG FIXTURES/ACCESSORIES – INSTALLED BY CONTRACTOR
3. HORIZONTAL GRAB BARS IN EACH TOILET ROOM – MOUNT 2'-9" A.F.F. AND 18" VERTICAL GRAB BAR
4. TOILET TISSUE DISPENSER – DOUBLE ROLL
5. INSULATE WATER SUPPLY AND DRAIN LINES – TYPICAL
6. 24" X 36" LAVATORY MIRROR – MOUNT BOTTOM AT 3'-4" A.F.F.
7. ELECTRIC HAND DRYER
8. EPOXY PAINT ABOVE CERAMIC TILE WAINSCOT
9. G.F.I. ELECTRICAL OUTLET – VERIFY W/ ELECTRICAL CONTRACTOR
10. SOAP DISPENSER – BY OWNER
11. COAT HOOKS – TYPICAL
12. LIGHT COVE – REFER TO 3/A-2
13. BABY CHANGING STATION – VERTICAL WALL MOUNTED – PROVIDE REQUIRED WALL BACKING/BLOCKING – VERIFY COLOR W/ OWNER – VERIFY ALL ACCESSIBILITY CLEARANCE REQUIREMENTS

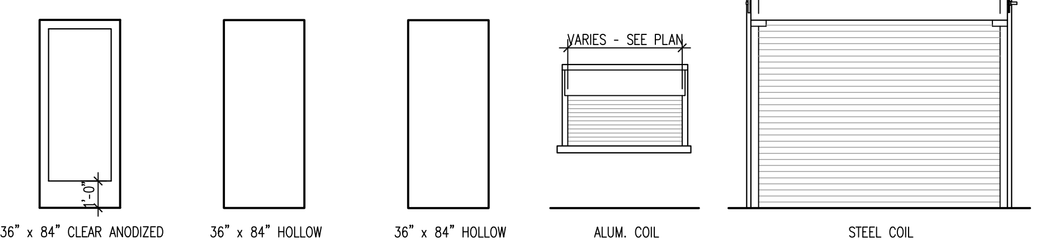
RESTROOM NOTES

- PROVIDE BARRIER FREE STANDARDS PER ACCESSIBILITY CODES
- PROVIDE BACKING/BLOCKING IN WALLS FOR ALL TOILET ROOM ACCESSORIES
- VERIFY WITH OWNER FOR PAINT COLORS AND LOCATIONS
- SLOPE RESTROOM FLOORS TO FLOOR DRAINS FOR POSITIVE DRAINAGE – TYP.
- SINKS, TOILETS AND URINAL TO HAVE CONCEALED ARM CARRIERS
- LIGHTS ON PHOTO CELL W/ TIMERS



3 A-2.1 MENS RESTROOM ELEVATIONS
1/4"=1'-0"

DOOR / FRAME TYPES



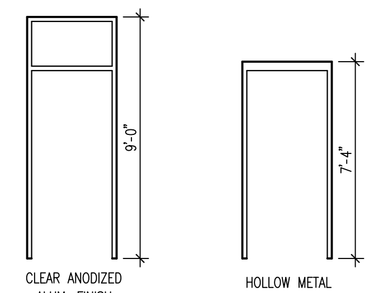
36" x 84" CLEAR ANODIZED ALUM. FINISH, GLASS IS 5/8" TEMPERED INSLUATED — **A**

36" x 84" HOLLOW METAL, INSULATED — **B**

36" x 84" HOLLOW METAL — **C**

ALUM. COIL — **D**

STEEL COIL — **E**



CLEAR ANODIZED ALUM. FINISH — **1**

HOLLOW METAL — **2**

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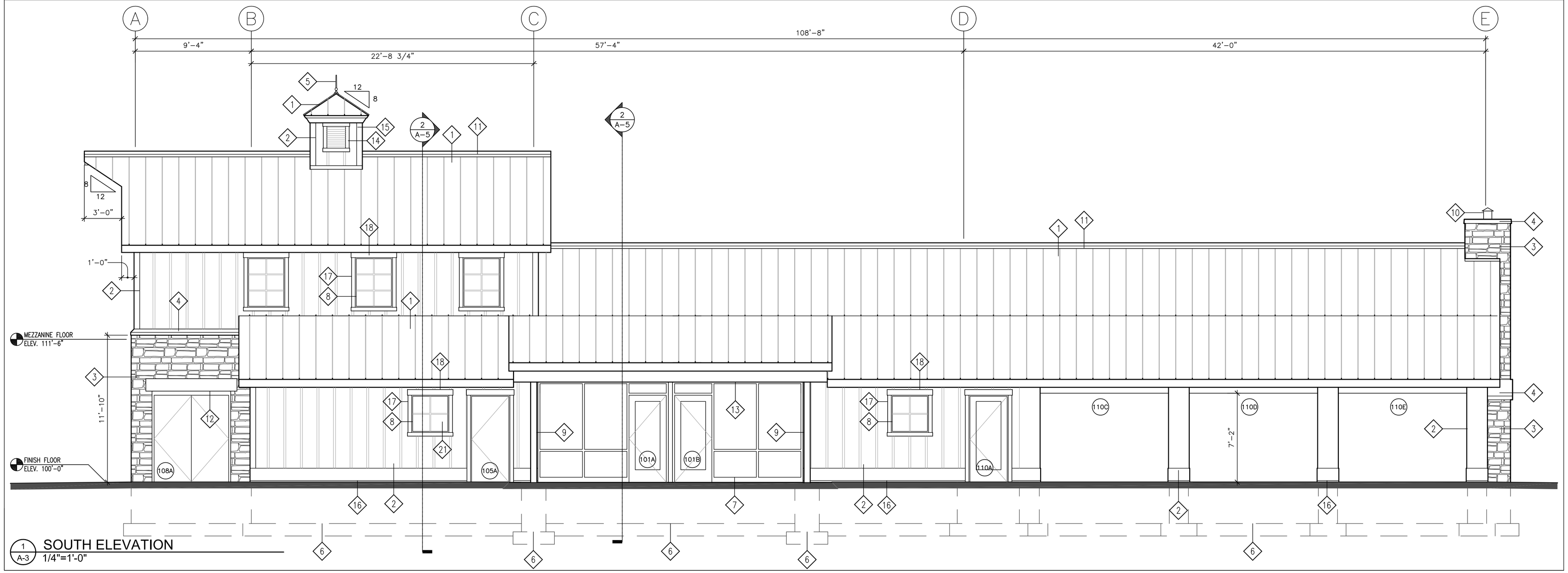
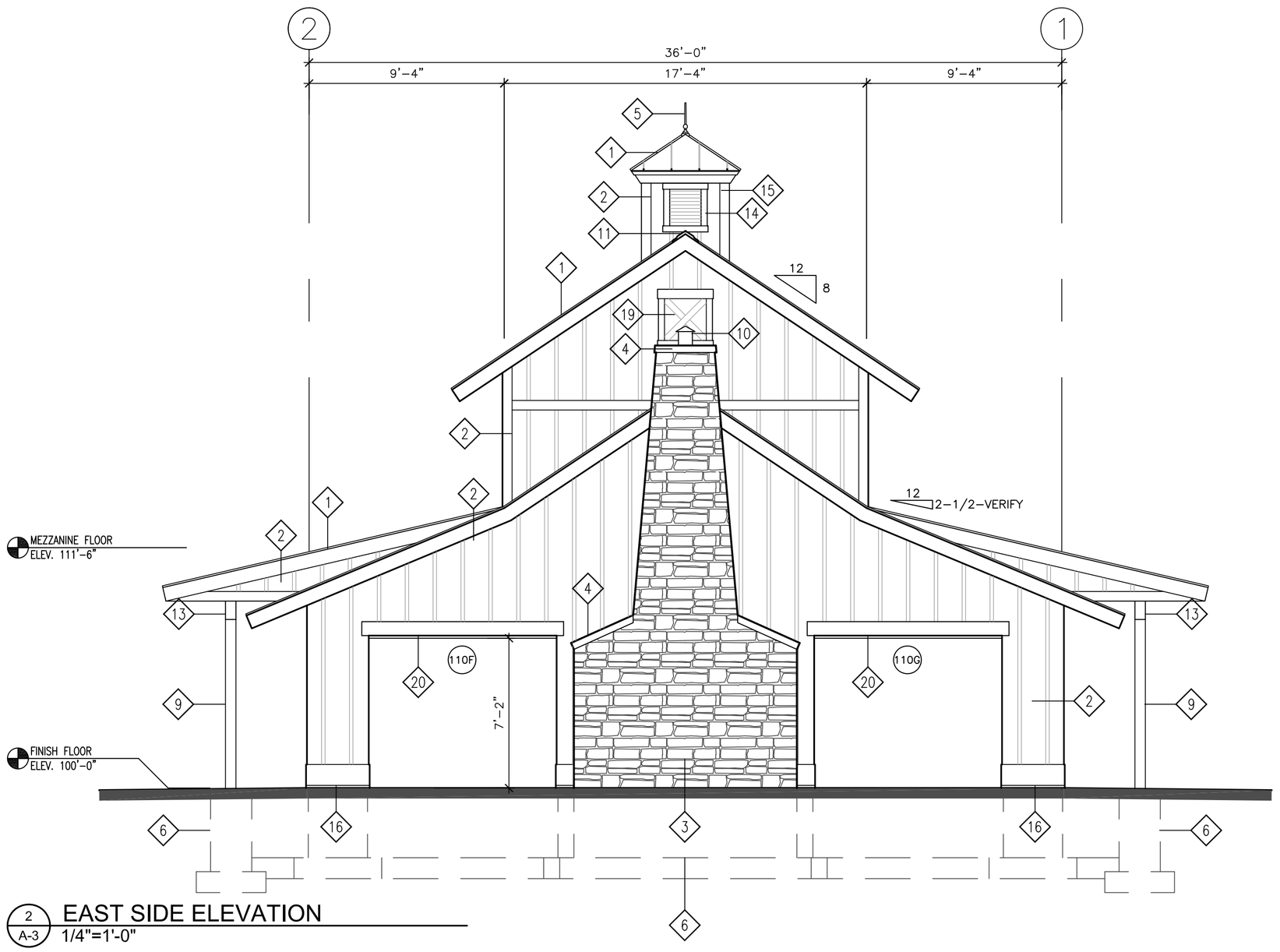


1 A-3 SOUTH ELEVATION
1/4"=1'-0"



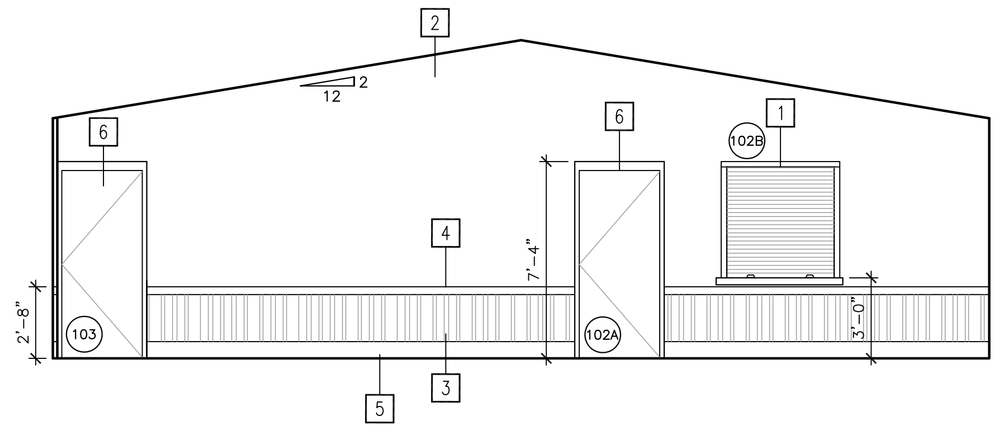
2 A-3 EAST SIDE ELEVATION
1/4"=1'-0"

ELEVATION NOTES

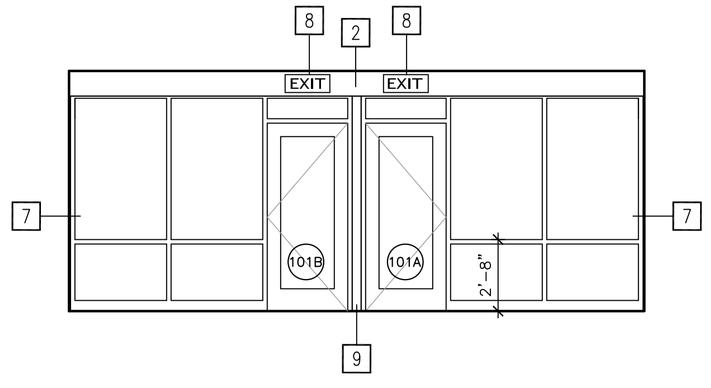
- VERIFY WITH OWNER FOR REQUIRED WALL BACKING/BLOCKING
- EXTERIOR OF H.M. DOORS & FRAMES SHALL BE PAINTED TO MATCH COLOR OF ADJACENT MATERIAL
- ALL WORK MUST BE PREFORMED TO INDUSTRY STANDARDS
- THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS WITHIN THE CONTRACT LIMITS AND NOTIFY THE ARCHITECT IMMEDIATELY IN WRITING OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS NECESSIATED BY FIELD CONDITIONS OR ITEMS NOT COVERED
- ALL WORK SHALL BE IN COMPLIANCE WITH FEDERAL, STATE AND LOCAL CODES
- VERIFY GRADE W/ CIVIL DRAWINGS – CONT. THRU-WALL FLASHING TO REMAIN ABOVE GRADE AT ALL TIMES – TYP.

ELEVATION KEYED NOTES

1. 24 GAUGE PREFINISHED METAL ROOF SYSTEM – SMALL BATTENS @ 16" O.C.
2. FIBER CEMENT VERTICAL SIDING, TRIM, & BATTENS
3. MANUFACTURED STONE VENEER
4. STONE CAP – BY STONE VENEER MANUFACTURER
5. DECORATIVE FINIAL ON TOP OF COUPLA
6. DASHED LINE INDICATES CONCRETE FOOTING AND FOUNDATION – REFER TO STRUCTURAL DRAWINGS
7. ALUM. STOREFRONT SYSTEM WITH 1" INSULTED GLAZING
8. WOOD WINDOW SYSTEM W/ 1" INSULATED GLAZING
9. STEEL COLUMN – PAINTED
10. FLUE W/ METAL SCREEN/CAP
11. CONTINUOUS RIDGE VENT – TYPICAL
12. MANUFACTURED STONE LINTEL OVER DOOR
13. BEAM TRIMMED OUT W/ FIBER CEMENT TRIN
14. LOUVER W/ INSECT SCREEN
15. 4'–0" x 4'–0" MECHANICAL COUPLA
16. 12" FIBER CEMENT TRIM BOARD – TYPICAL
17. 4" FIBER CEMENT TRIM BOARD – TYPICAL
18. 6" FIBER CEMENT TRIM BOARD – TYPICAL
19. FAUX OPENING TRIM AS SHOWN – TYPICAL
20. 8" FIBER CEMENT TRIM BOARD – TYPICAL
21. FROSTED GLASS



3 A-3 INTERIOR ELEVATION
1/4"=1'-0"



4 A-3 INTERIOR ELEVATION
1/4"=1'-0"

INTERIOR ELEVATIONS KEYED NOTES

1. COUNTER HEIGHT ROLLING ALUM. DOOR – REFER TO DOOR SCHEDULE
2. PAINTED GYP. BD.
3. VERTICAL WOOD WAINSCOT – RANDOM WIDTHS
4. 2 X 4 WOOD TRIM
5. 2 X 8 WOOD BASE
6. WOOD DOOR W/ H.M. FRAMES – REFER TO DOOR SCHEDULE
7. 1" INSULATED WINDOW SYSTEM W/ ALUM. STOREFRONT FRAMING – REFER TO DOOR SCHEDULE
8. EMERGENCY EXIT LIGHT – PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR
9. BREAK METAL COVER OVER STRUCTURAL COLUMN – COLOR TO MATCH ALUM. WINDOW FRAMES

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ELMCREST PARK COMMUNITY BUILDING

RAMSEY, MINNESOTA

No.	Date	Revision

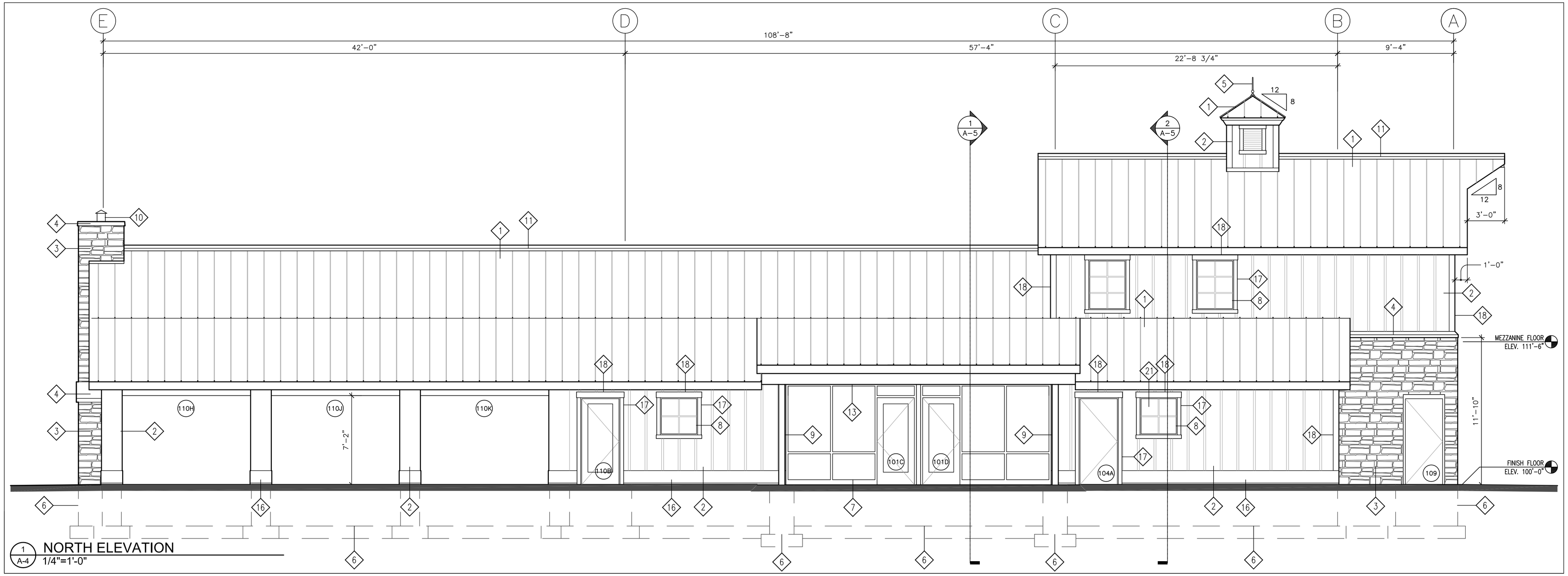
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Architect under the laws of the State of Minnesota.

Printed Name: Bruce P. Bissonnette

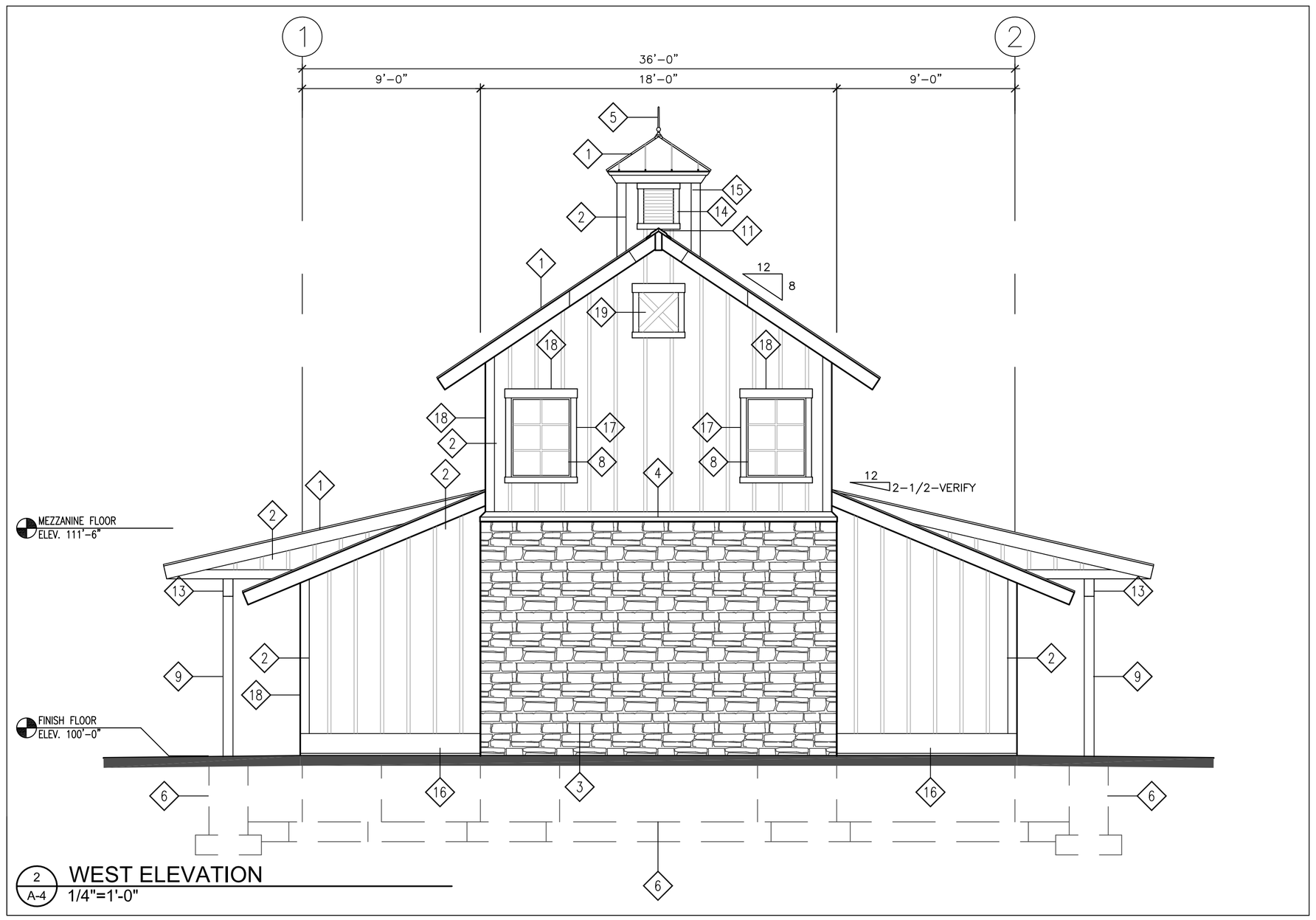
Signature:

Date: 10/25/13 License #: 23532

Project	13–0110–01
Date	10/25/13
Drawn by	B.J.R.
Checked by	B.P.B.
Drawing Number	A-3



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



2 A-4 WEST ELEVATION
1/4"=1'-0"

ELEVATION NOTES

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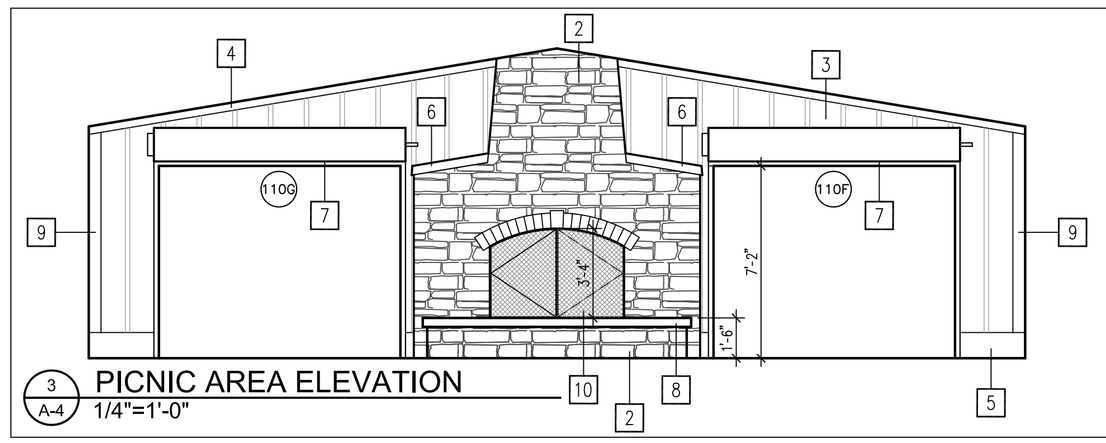
- ALL WORK SHALL BE IN COMPLIANCE WITH FEDERAL, STATE AND LOCAL CODES
- VERIFY GRADE W/ CIVIL DRAWINGS - CONT. THRU-WALL FLASHING TO REMAIN ABOVE GRADE AT ALL TIMES - TYP.

ELEVATION KEYED NOTES

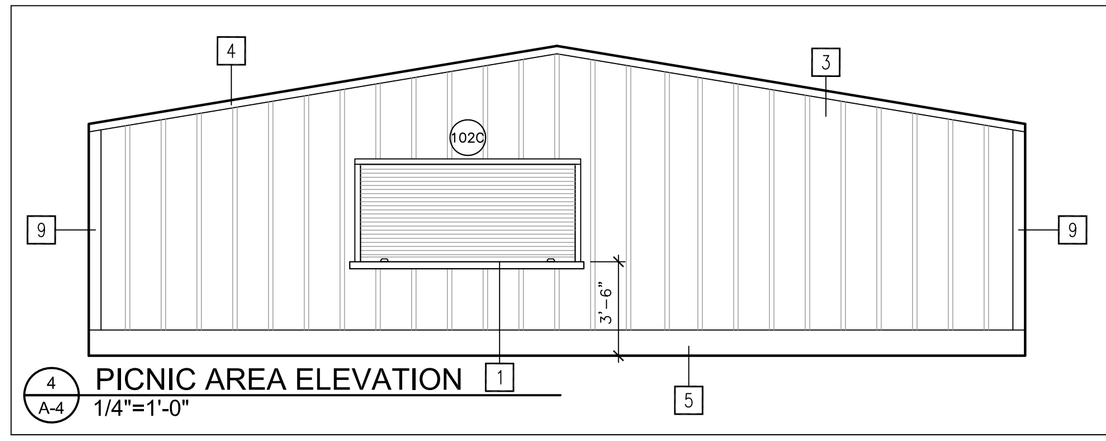
1. 24 GAUGE PREFINISHED METAL ROOF SYSTEM - SMALL BATTENS @ 16" O.C.
2. FIBER CEMENT VERTICAL SIDING, TRIM, & BATTENS
3. MANUFACTURED STONE VENEER
4. STONE CAP - BY STONE VENEER MANUFACTURER
5. DECORATIVE FINIAL ON TOP OF COUPLA
6. DASHED LINE INDICATES CONCRETE FOOTING AND FOUNDATION - REFER TO STRUCTURAL DRAWINGS
7. ALUM. STOREFRONT SYSTEM WITH 1" INSULTED GLAZING
8. WOOD WINDOW SYSTEM W/ 1" INSULATED GLAZING
9. STEEL COLUMN - PAINTED
10. FLUE W/ METAL SCREEN/CAP
11. CONTINUOUS RIDGE VENT - TYPICAL
12. MANUFACTURED STONE LINTEL OVER DOOR
13. BEAM TRIMMED OUT W/ FIBER CEMENT TRIN
14. LOUVER W/ INSECT SCREEN
15. 4'-0" x 4'-0" MECHANICAL COUPLA
16. 12" FIBER CEMENT TRIM BOARD - TYPICAL
17. 4" FIBER CEMENT TRIM BOARD - TYPICAL
18. 6" FIBER CEMENT TRIM BOARD - TYPICAL
19. FAUX OPENING TRIM AS SHOWN - TYPICAL
20. 8" FIBER CEMENT TRIM BOARD - TYPICAL
21. FROSTED GLASS



3 A-4 PICNIC AREA ELEVATION
1/4"=1'-0"

INTERIOR ELEVATIONS KEYED NOTES

1. COUNTER HEIGHT ROLLING ALUM. DOOR - REFER TO DOOR SCHEDULE
2. STONE CAP - BY STONE VENEER MANUFACTURER
3. FIBER CEMENT SIDING, TRIM AND BATTENS
4. 4" FIBER CEMENT TRIM
5. 8" FIBER CEMENT BASE
6. STONE CAP - BY STONE VENEER MANUFACTURER
7. 24 GA. STEEL COILING DOOR - REFER TO DOOR SCHEDULE
8. STONE HEARTH - BY STONE VENEER MANUFACTURER
9. 6" FIBER CEMENT TRIM BOARD
10. CUSTOM FABRICATED STEEL DOORS - LOCKABLE



4 A-4 PICNIC AREA ELEVATION
1/4"=1'-0"

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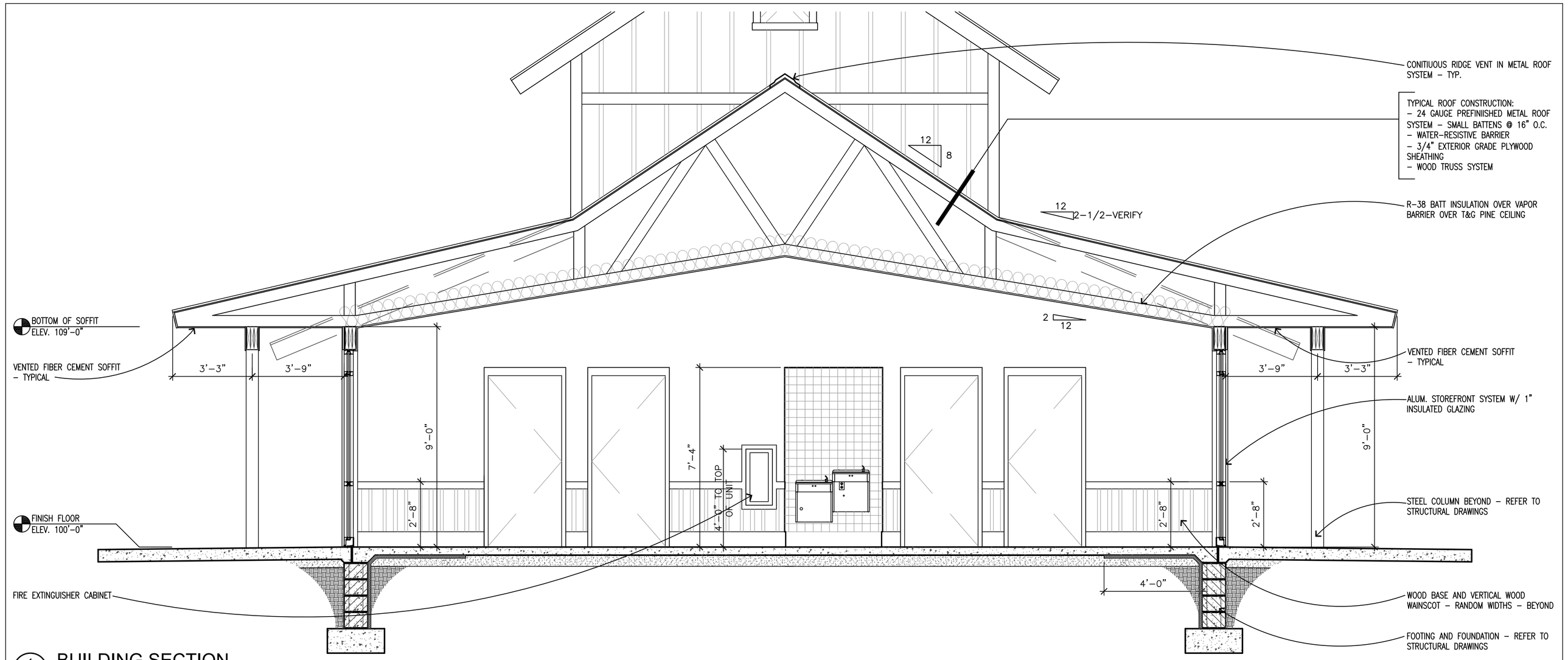
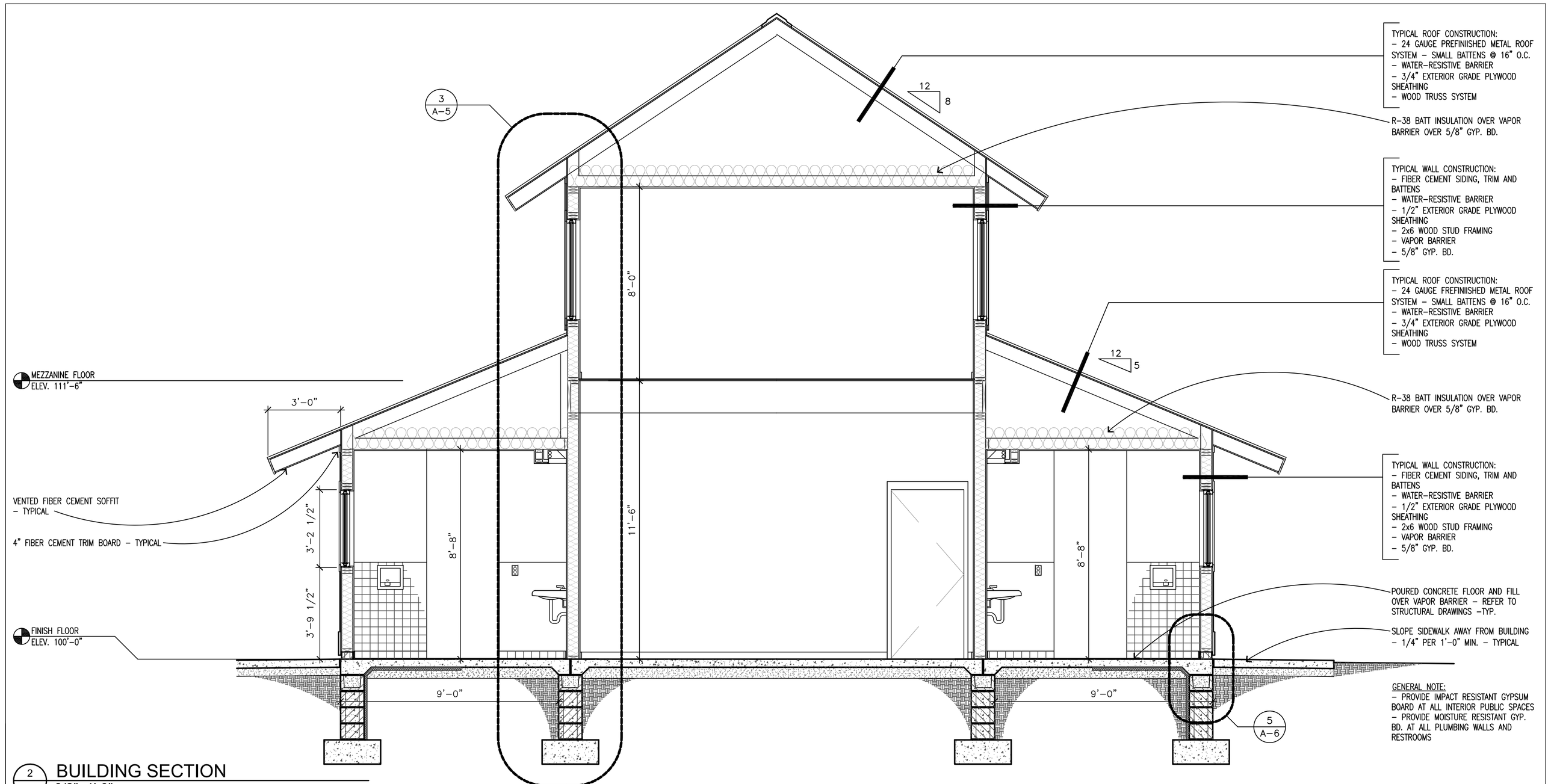
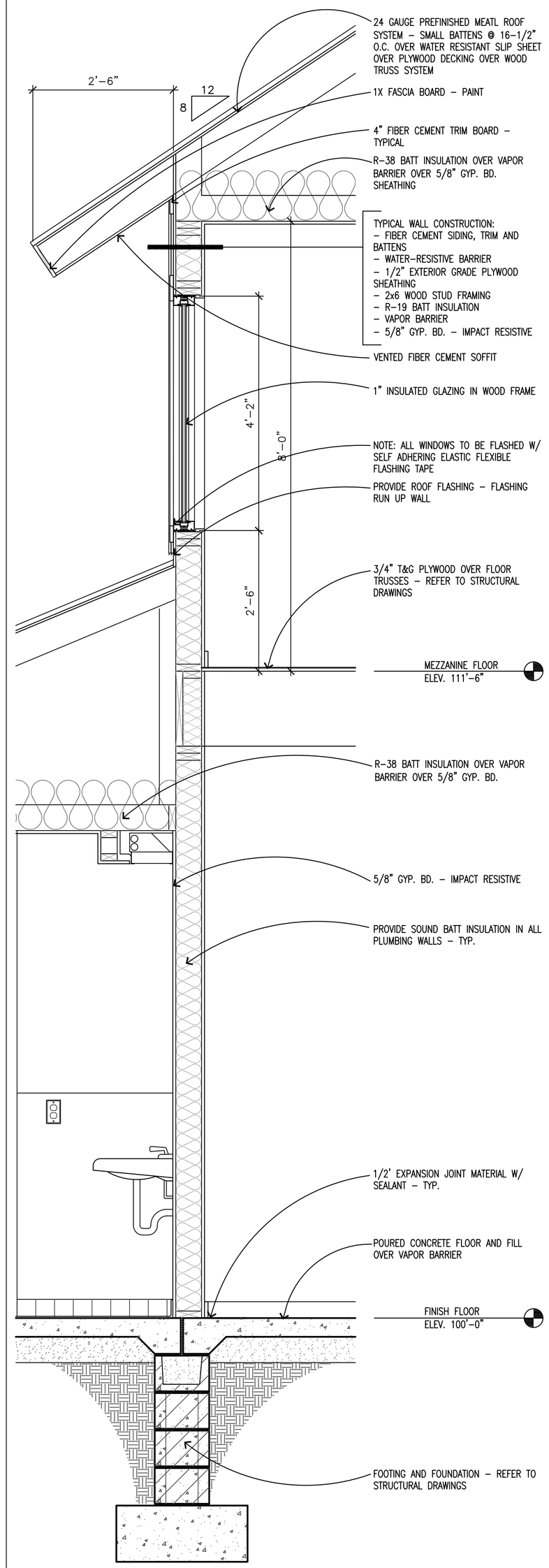
Date	10/25/13
Drawn by	B.J.R.
Checked by	B.P.B.
Drawing Number	A-4



1 A-5 BUILDING SECTION
3/8"=1'-0"



2 A-5 BUILDING SECTION
3/8"=1'-0"



3 A-5 WALL SECTION
3/4"=1'-0"

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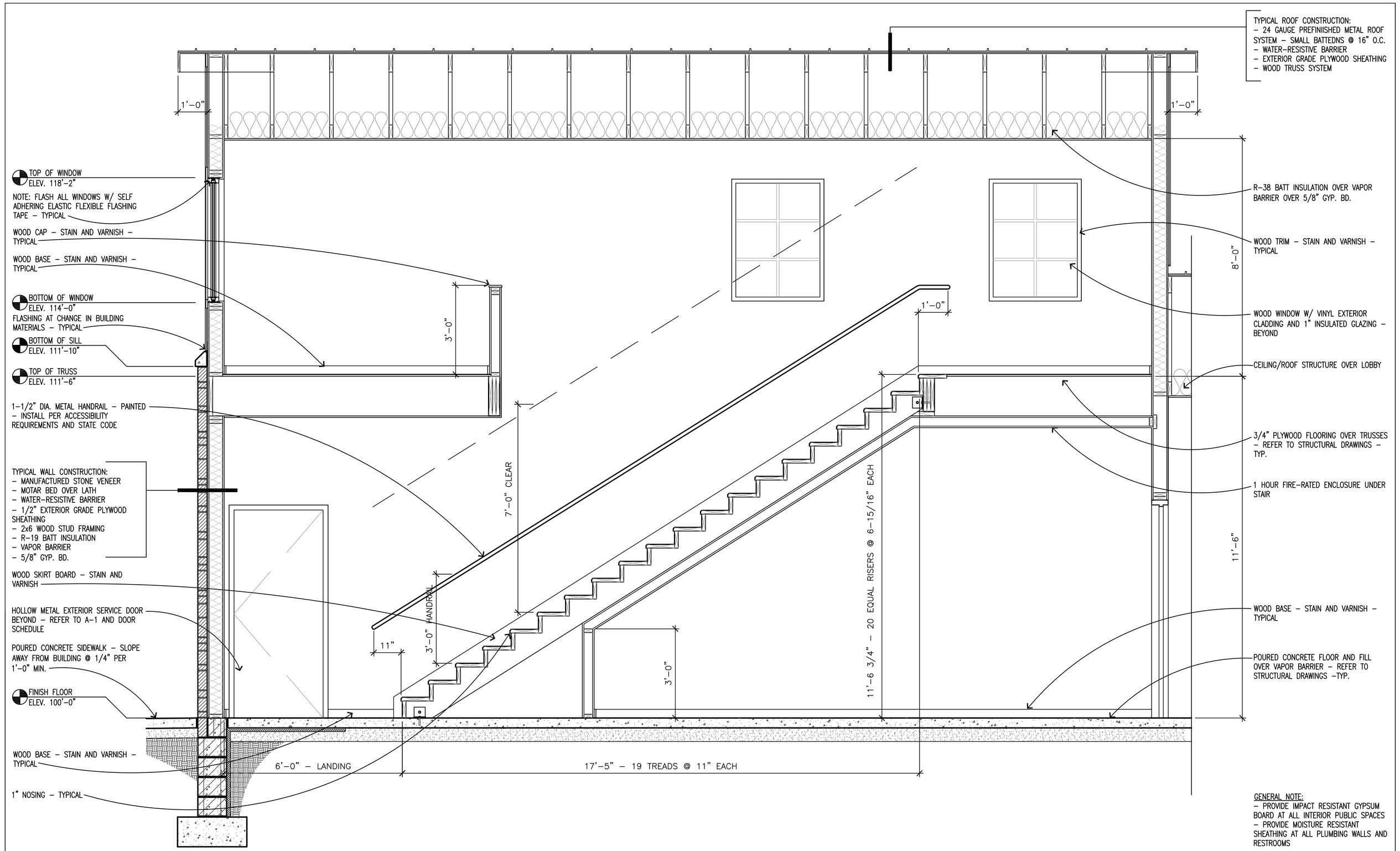
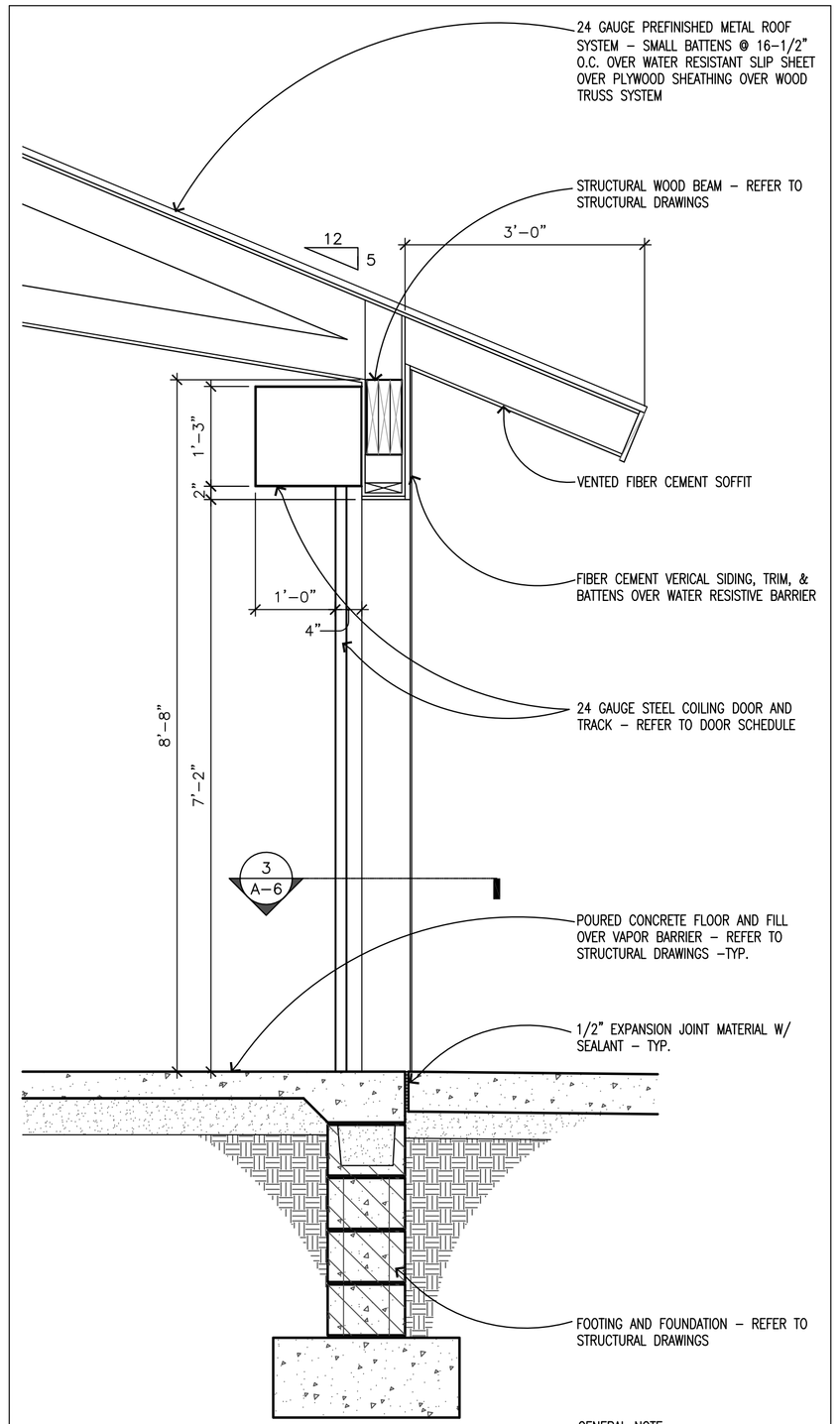
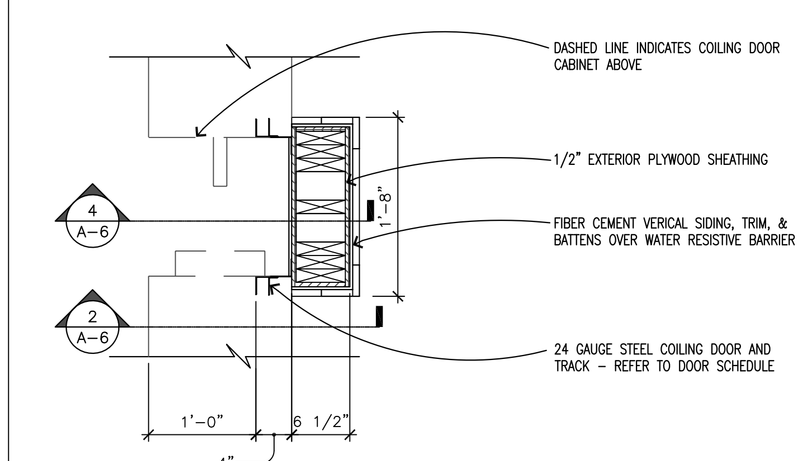
Drawing Number **A-5**



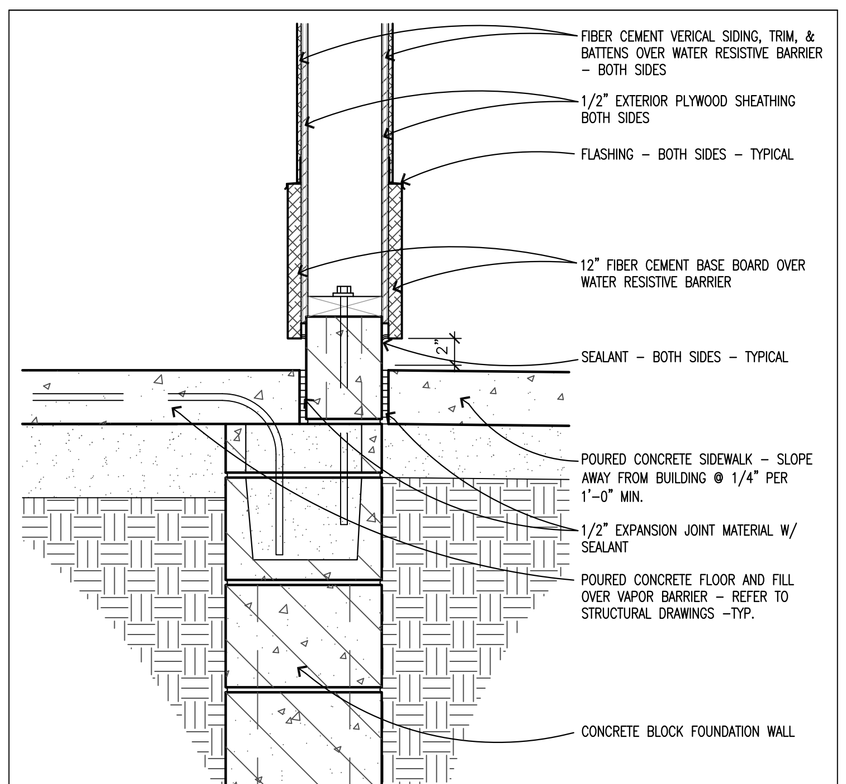
1 / A-6 SECTION @ STAIR
1/2"=1'-0"



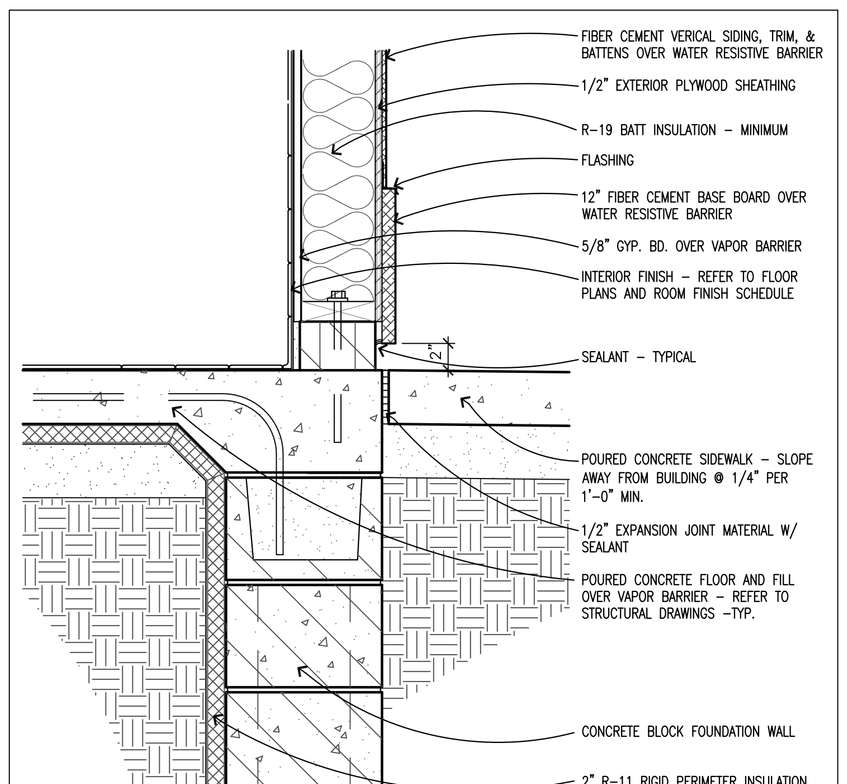
2 / A-6 SECTION @ DOOR
3/4"=1'-0"



3 / A-6 DETAIL @ DOOR JAMB/WALL
1"=1'-0"



4 / A-6 DETAIL @ WALL BASE
1-1/2"=1'-0"



5 / A-6 DETAIL @ WALL BASE
1-1/2"=1'-0"

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Date	10/25/13
Drawn by	B.J.R.
Checked by	B.P.B.
Drawing Number	A-6

NOTES

GENERAL CONSTRUCTION NOTES:

1. Reference Standards: Unless otherwise noted, all standards shall be current edition, with latest addenda if applicable.
2. Contractor shall verify all existing dimensions, member sizes and field conditions prior to any demolition, fabrication, construction or installation and notify engineer if conditions, materials, sizes and dimensions are different from those shown.
3. The contract structural drawings and specifications represent the finished structure. Unless otherwise indicated, they do not indicate the means or method of construction. The contractor is solely responsible for the protection of the structure during all phases of demolition, construction and installation. Provide all measures necessary to protect the structure, workmen or other persons by means of shoring, bracing, etc.
4. Cross reference all dimensions and details with architectural and mechanical drawings before commencing any fabrication and/or construction.
5. Details and conditions not specifically shown shall be constructed in accordance with details shown for similar conditions and material.
6. Shop drawings prepared by suppliers, sub-contractors, etc. shall be reviewed, coordinated and signed/stamped by general contractor prior to submitting to the engineer.
7. Verify location of all box outs and openings with mechanical contractors. Opening sizes and locations shown for pipes, ducts, mechanical units, etc. are for general information only and shall be verified with mechanical contractor before commencing the work.

DESIGN CRITERIA LOADS AND STRESSES:

CODES:

International Building Code (2006) with State of Minnesota Amendments.

LATERAL LOADS:

Wind: Basic Wind Speed = 90 mph (3-Second Gust); Exposure = "B"; Importance Factor, Iw = 1.00

ROOF SNOW LOADS:

Ground Snow Load, Pg = 50 PSF

2nd FLOOR LIVE LOAD

Office loading = 50 PSF

DEAD LOADS FOR WOOD TRUSS DESIGN:

Roof Trusses:
10 PSF top chord
5 PSF bottom chord

CONCRETE: (f'c) at 28 Days

3500 PSI Slab on grade
3000 PSI Footings
4000 PSI Piers, exterior platforms and sidewalks
3000 PSI Block core and bond beam fill with 3/8" max. aggregate
All exterior concrete work shall have 5% to 7% air entrainment.

STEEL: (Fy)

46,000 PSI ASTM A500 grade B, Structural Tubes (HSS)
60,000 PSI ASTM A615 grade 60 reinforcing
75,000 PSI ASTM A185 welded wire fabric
36,000 PSI ASTM A36 plates and angles, etc.
36,000 PSI ASTM F1554 threaded anchor rods
36,000 PSI ASTM A307 anchor bolts, grade C

MASONRY: (f'm)

1500 PSI concrete masonry

STRUCTURAL WOOD:

725 PSI (Fc) Spruce-pine-fir (SPF) Stud grade load bearing walls studs (2", 4" & wider)
500 PSI (Fc) Spruce-pine-fir (SPF) Post and timbers (5" x 5" and larger)
875 PSI (Fb) Spruce-pine-fir (SPF) Joists and beams
2400 PSI (Fb) Douglas fir-larch glued laminated beams
2000 PSI (Fc) Douglas fir-larch glued laminated posts
2600 PSI (Fb) Micro-lam LVL beams

FOUNDATION LOADS:

2000 PSF - Assumed soil bearing. To be field verified by a Geo-technical Engineering Company prior to the placement of any foundations.

TEMPORARY BRACING:

1. Provide temporary lateral support for all walls where grade varies on the two sides until slab has reached its design strength.
2. Provide required temporary bracing for structural steel until permanent bracing and walls are in place.
3. Provide temporary bracing for all walls, concrete, masonry, light gage metal or wood until they are of adequate design strength and are properly anchored in final form.
4. Provide temporary shoring for all existing walls, floors and roof members until new construction is in place and properly anchored or cured in final form.

GENERAL FOUNDATION NOTES:

1. All foundation excavations, backfill and compaction shall be inspected and certified by a qualified soils testing firm prior to the construction of any footings. All reports are to be submitted to structural engineer.
2. Cross reference all architectural, mechanical, electrical and structural drawings to assure proper dimensions and placement of all anchor bolts, inserts, etc.
3. All footing elevations shown are to top of footings, unless noted otherwise.
4. Furnish #4 and #5 continuous wall footing reinforcing in stock lengths. Field bend #4 around corners and through footing steps. Shop bend #5 through footing steps and around corners. Lap continuous footing reinforcing minimum 15" at splices and stagger splices.
5. Provide hot dip galvanized welded wire block reinforcing in all masonry walls at 16" o.c. maximum spacing.
6. Shore all foundation walls before backfilling and compacting.
7. Provide 6x6 W1.4xW1.4 W.W.F. (6x6 10/10 W.W.F.) in all slabs on grade and entrance platforms, unless noted otherwise.

GENERAL CONCRETE NOTES:

1. Concrete construction shall comply with all the requirements of the "ACI Manual of Concrete Practice" by the ACI.
2. The "ACI Detailing Manual" by the ACI shall govern detailing and fabrication of all reinforcing steel, unless noted otherwise.
3. Reinforcing supplier to provide all accessories, chairs, spacing bars and supports necessary to secure steel in accordance with "Manual of Standard Practice" by the Concrete Reinforcing Steel Institute.
4. Provide minimum concrete protection for all reinforcement as follows:

   Cast against and permanently exposed to earth = 3"

   Exposed to earth or weather:
   #5 bars and smaller = 1-1/2"
   #6 bars and larger = 2"

   Not exposed to weather or in contact with ground:
   Slabs, walls & joists (#3 to #11 bars) = 3/4"
   Beams, girders & columns, main reinforcement,
   ties, stirrups or spirals = 1-1/2"

GENERAL MASONRY NOTES:

1. All mortar in bearing walls shall be Type S above grade and Type M below grade.
2. Provide continuous bond beams with two #5 continuous near the top of all bearing walls and end walls or at joist bearing elevation. See details for angles and plates cast in bond beams.
3. Provide grout under all steel beam or lintel bearings a minimum of 5 courses down, for a 16" length of wall, (unless noted otherwise).
4. Wire reinforcing for single-wythe concrete block walls, masonry cavity walls, and multi-wythe composite masonry walls shall be hot dipped galvanized, corrosion resistant horizontal joint reinforcing with the following gage and vertical spacing:
   Any width masonry in running bond - 9 gage @ 16" on-center
   Masonry in other than running bond:
   a) 6" CMU - 9 gage @ 16" on-center
   b) 8" CMU - 9 gage @ 16" on-center
   c) 10" CMU - 9 gage @ 8" on-center
   d) 12" CMU - 9 gage @ 8" on-center
5. Grout for wall cells and bond beams shall be 3,000 PSI. Fill at all vertical or horizontal reinforcing noted on plans, details or schedules.
6. Block face shells and cross webs forming cells to be filled with grout shall be full bedded in mortar to prevent leakage.
7. Consolidate all grout by puddling or vibrating.
8. Masonry wall cells to be filled with grout shall be filled in lifts not exceeding 4'-0". High lift grouting can be utilized at the contractor's option. Provide clean outs at each bar location.
9. Vertical reinforcing bars shall be held in position at top and bottom and at 192 bar diameters. Length of reinforcing bars to be coordinated with general contractor and masonry sub-contractor.
1. Vertical reinforcing shall be lapped at all footing dowels to vertical wall reinforcing locations and at all vertical wall reinforcing splices as follows:

   #4 BAR = 24"
   #5 BAR = 30"
   #6 BAR = 36"
   #7 BAR = 42"
   #8 BAR = 48"
   Unless noted otherwise on the drawings.
2. Walls must be guyed and braced until floor and/or roof systems are in place.

CONCRETE SLAB AND JOINT NOTE AND DETAILS:

1. Construction Joints (Const. Jt.) - Pour interior slabs on grade in continuous lanes.
   a. Continuous lanes - 40' maximum width with construction joints occurring at column centerlines.
2. Control Joints (C.J.) - Locate saw-cut (1/4" x 1" deep) or zip strip control joints to create approximately square panels with the following maximum dimensions:
   b. Exposed finished slab - 20'.
   c. Finished slab to be covered with vinyl tile or carpet - 30'.
   d. Other conditions - Verify control joint limits with Architect.
   e. Rough Slabs - No limit. Create construction joint where rough slab meets finished slab.
3. Place slab reinforcing between 1/4 and 1/3 of slab thickness down from top of slab.
4. See architectural drawings for all floor finishes, slopes, recesses, floor drains, gutters, etc.

STRUCTURAL WOOD NOTES:

1. Provide 19/32" structural plywood roof decking as per specifications. Each panel shall be identified with the grade trademark of the American Plywood Association and shall meet the requirements of product standard (PS 1-95). Application and nailing of plywood panel shall be in accordance with the recommendations of the American Plywood Association unless requirements noted on these contract documents are more strict.
2. Wall sheathing shall be 15/32". Each panel shall be identified with the grade trademark of the American Plywood Association and shall meet the requirements of product standard (PS 1-95). Application and nailing of plywood panels shall be in accordance with the recommendations of the manufacturer, unless requirements noted on these contract documents are more strict.
3. Plywood wall panels shall be orientated with face grain parallel to support stud.
4. Plywood roof panels shall be oriented with face grain perpendicular to support trusses.
5. Wood construction, unless otherwise noted, shall conform to the "General Construction Requirements," Section 2304 of the International Building Code. All nailing shall conform to Table 2304.9.1 "Fastening Schedule" of the International Building Code, unless other requirements noted on the drawings are more strict. Joints in load bearing top plates shall be offset at least 48". Holes and notches in sawn lumber shall be limited as specified in the International Building Code.
6. Foundation plates on concrete or masonry walls shall be pressure treated lumber, #2 grade minimum. Sills shall be anchored to concrete or masonry with 1/2" x 9" galvanized anchor bolts spaced 48" o.c. maximum. There shall be a minimum of three bolts per piece with one bolt located within 8" of each end of each piece. There shall be no sill splice under any post or mullion.
7. Posts and beams constructed of multiple laminated veneer lumber members shall be fastened together according to manufacturer's recommendations.
8. Built up members, columns, beams and double joists shall be connected with two rows 16d nails at 12" o.c. staggered, unless noted otherwise.
9. All joists, roof beams and girders shall have full horizontal bearing of the member over support unless otherwise shown. Do not overcut.
10. All fabricated wood trusses shall be furnished in accordance with designs prepared by a professional engineer registered in the state that the project is located, using the design loads and span conditions indicated on the contract documents. No deviation of truss shape, bearing point locations or superimposed loads, from those shown on the architect and/or engineer drawings will be allowed. Shop drawings, including an overall erection plan indicating each type of truss, truss bearing point locations, required lateral bracing, each truss member's size and stress and connection details, shall be submitted for prior approval to the architect, engineer and general contractor.
11. All trusses are to be designed as simple span conditions, using bearing walls or beams as shown on plans.
12. Roof trusses shall be fastened to the support walls with Simpson "H3" ties or equal and shall be nailed per manufacturer's recommendations.
13. Handling of trusses and erection bracing is the responsibility of the sub-contractor. The sub-contractor shall provide temporary diagonal, lateral and cross bracing until roof sheathing, ceilings and permanent bracing can be applied and shear walls completed.
14. The truss manufacturer shall follow and provide the general contractor and sub-contractor with the publication "Guide to Good Practice for Handling, Installing and Bracing of Metal Plate Connected Wood Trusses" BCSI 1-03 by the Truss Plate Institute and Wood Truss Council.

INSPECTION & TESTING SCHEDULE

MATERIAL	SPECIFICATION	FREQUENCY	AGENCY	FREQUENCY OF REPORT	DESCRIPTION
EARTHWORK	02200	FULL TIME	TESTING AGENT	WORK IS DONE	1704.7
CONCRETE	03100 / 03300	PERIODIC	TESTING AGENT	WEEKLY	1704.4
CONCRETE REINFORCEMENT	03200	PERIODIC	TESTING AGENT	WEEKLY	1704.4
BOLTS IN CONCRETE	03300 / 05120	PERIODIC	TESTING AGENT	WEEKLY	1704.4
POST-INSTALLED ANCHORS	03300	PERIODIC	TESTING AGENT	WEEKLY	1704.4, 1704.13
WOOD FRAME CONSTRUCTION	061000	PERIODIC	TESTING AGENT	WEEKLY	———

EARTHWORK:

1. Observe all subgrades and excavation bases below footings and slabs before construction of footing is performed.
2. Verify footing bearing surfaces and depth of footing below frost depth.
3. Verify materials for backfilling excavation.
4. Verify compaction is performed in accordance with ASTM D698.

CONCRETE FORM WORK:

1. Observe erected form work, shoring and bracing to ensure that work is in accordance with form work design.

CONCRETE REINFORCEMENT:

1. Verify reinforcing bar grade.
2. Verify reinforcing bar size and placement.
3. Verify that bars are free of dirt, excessive rust and damage.
4. Verify reinforcing bars are adequately tied, chaired and supported to prevent displacement during concrete pour.

CONCRETE:

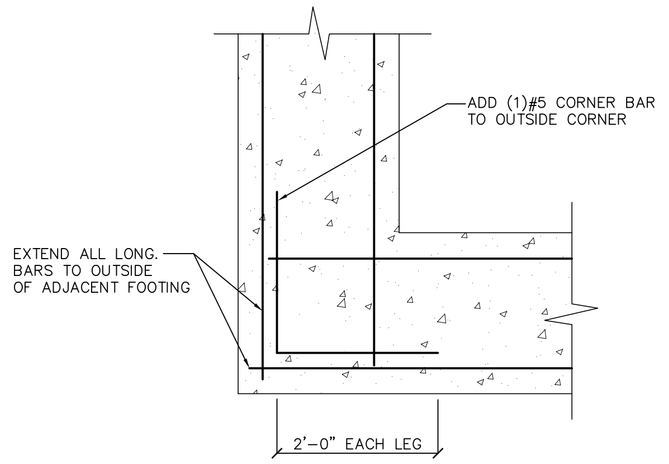
1. Submit proposed mix design for each class of concrete prior to commencement of the work.
2. Sample and test all cast in place concrete.
3. Verify ready mix concrete.
4. Observe placement of concrete.
5. Observe protection and curing of concrete.
6. Observe and inspect bolts and anchor rods installed in concrete.
7. Observe post-installed anchor installation, including anchor type, anchor dimensions, concrete type, concrete compressive strength, hole dimensions, hole cleaning procedures, anchor spacing, edge distances, concrete thickness, anchor embedment, and tightening torque.

MASONRY:

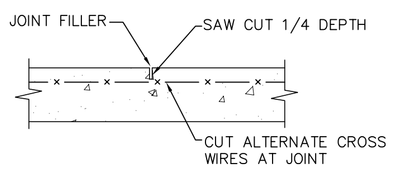
1. Submit proposed mortar and grout mix design prior to commencement of the work.
2. Verify masonry preparation and placement.
3. Verify masonry reinforcement placement.
4. Verify masonry grouting.
5. Periodic Inspection:
   a. Observe placing of units on a weekly basis and not less than once for every 2,000 square feet of surface.
   b. Observe at least 25 percent of each representative type of reinforced component prior to grouting.
   c. Observe at least 25 percent of each type of grouted component.

WOOD FRAME CONSTRUCTION:

1. Verify member sizes and their locations.
2. Verify sheathing type and thickness are as indicated in the plans and specifications.
3. Verify attachment of sheathing to framing members is as indicated in the plans and specifications.
4. Verify sheathing type, thickness and number of layers are as indicated in the shear wall schedule.
5. Verify fasteners size and spacing.
6. Verify blocking is in place.
7. Verify holddown type and anchorage are installed as indicated in the shear wall schedule.
8. Verify end jamb post.
9. Verify strap ties are installed as indicated.



1 FOOTING CORNER DETAIL
NOT TO SCALE



2 CONTROL JOINT DETAIL
NOT TO SCALE

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ELMCREST PARK COMMUNITY BUILDING

RAMSEY, MINNESOTA

No.	Date	Revision

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Printed Name: Michael A Fowler
Signature:
Date: 10/25/13 License #: 8596

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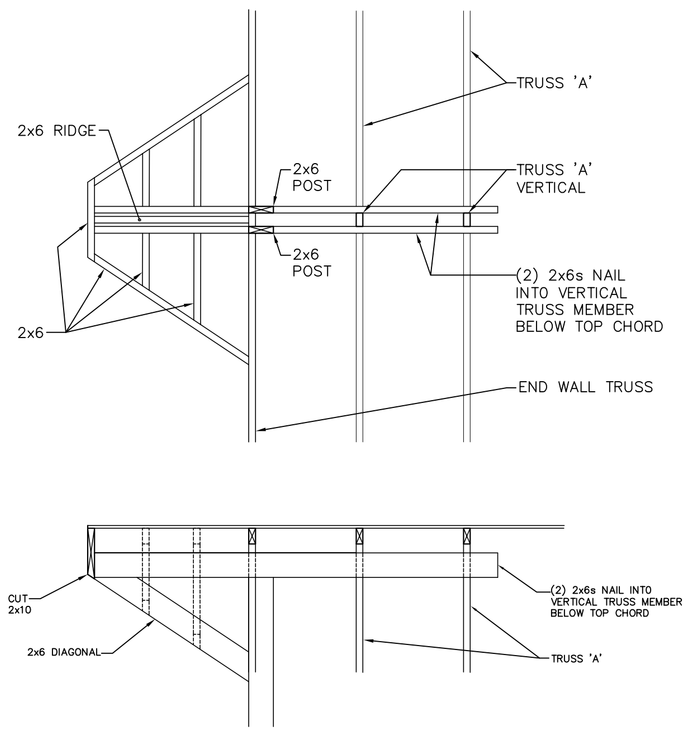
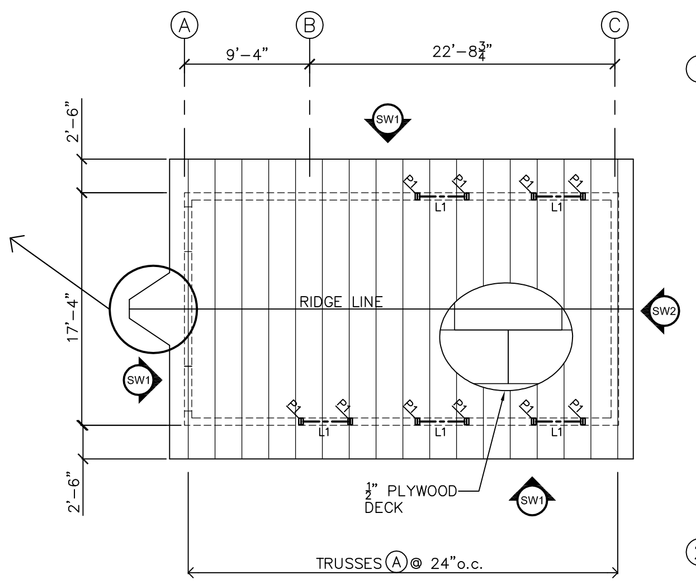
Checked by	MF

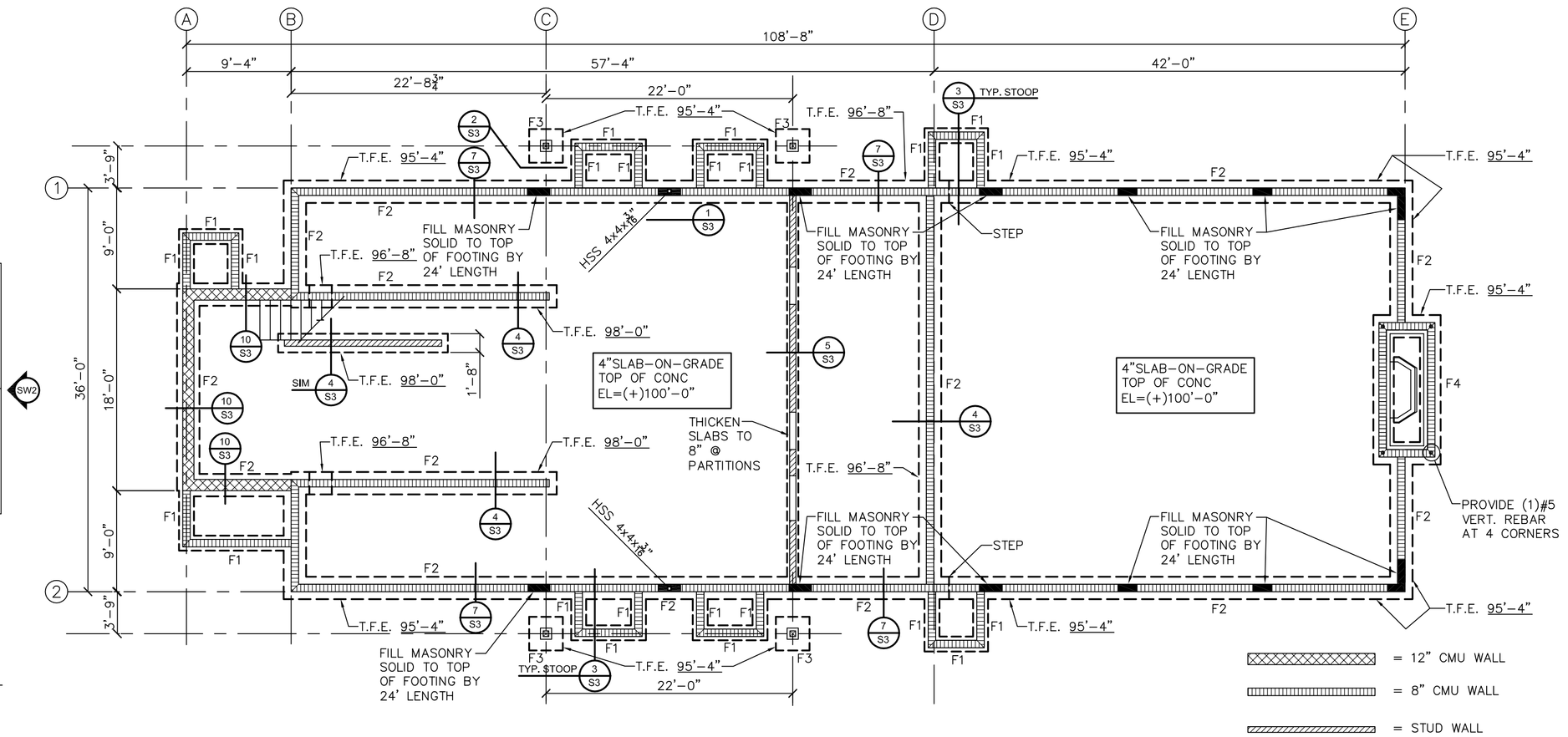
Drawing Number
S-1





HIGH ROOF FRAMING PLAN

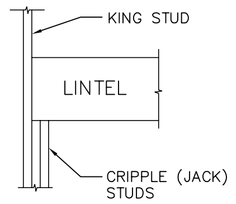
SCALE: 1/8" = 1'-0"



FOUNDATION PLAN

SCALE: 1/8" = 1'-0"

FOOTING SCHEDULE			
MARK	SIZE	DEPTH	REINFORCING
F1	16" x CONT.	10"	(2) #4 CONT.
F2	24" x CONT.	12"	(2) #5 CONT.
F3	36" x 36"	12"	(4) #5 BOTH WAYS
F4	6'-0" x 13'-4"	12"	#5 @ 12"o.c. BOTH WAYS



POST SCHEDULE			
MARK	CRIPPLE STUD	KING STUD	NOTES
P1	(1) 2x6	(1) 2x6	
P2	(2) 2x6	(1) 2x6	
P3	(2) 2x6	(2) 2x6	
P4	(3) 2x6	NONE	

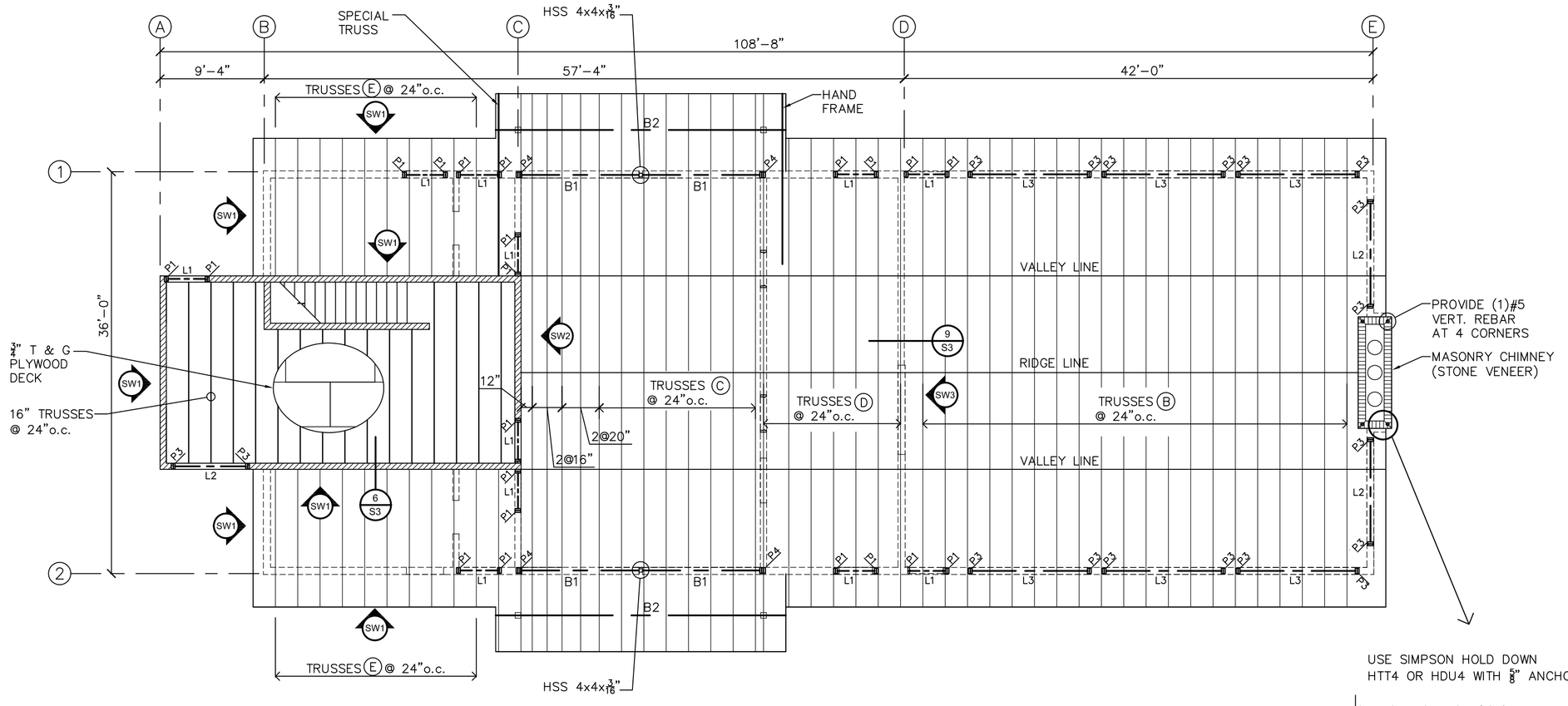
LINTEL SCHEDULE		
MARK	MEMBER	NOTES
L1	(2) 2x10	
L2	(3) 2x12	
L3	(3) 9 1/2" LVL	

BEAM SCHEDULE		
MARK	MEMBER	NOTES
B1	(3) 9 1/2" LVL	
B2	(3) 9 1/2" LVL	

SHEAR WALL SCHEDULE	
MARK	EDGE NAILING PATTERN
SW1	AT 6"o.c. – BASE TO HIGH OR LOW ROOF
SW2	AT 4"o.c. BASE TO LOW ROOF – AT 6"o.c. ABOVE
SW3	AT 4"o.c. BASE TO BOTTOM OF TRUSS 'D' AT 6"o.c. TO TRUSS MEMBERS

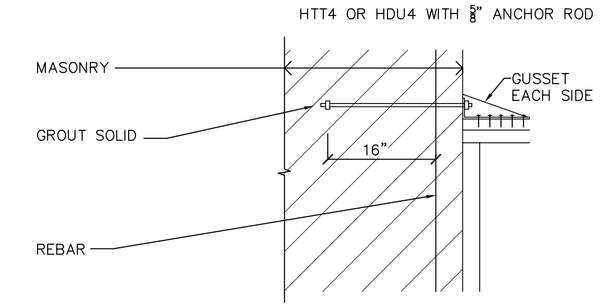
SHEAR WALL NOTES:

1. ALL SHEATHING IS ½" NOMINAL PLYWOOD – 15/32" ACTUAL.
2. ALL SHEATHING IS UN-BLOCKED.
3. INTERIOR PANEL NAILING IS AT 12"o.c.
4. ALL NAILS ARE 8d GALVANIZED.



ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0"



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ELMCREST PARK COMMUNITY BUILDING

RAMSEY, MINNESOTA

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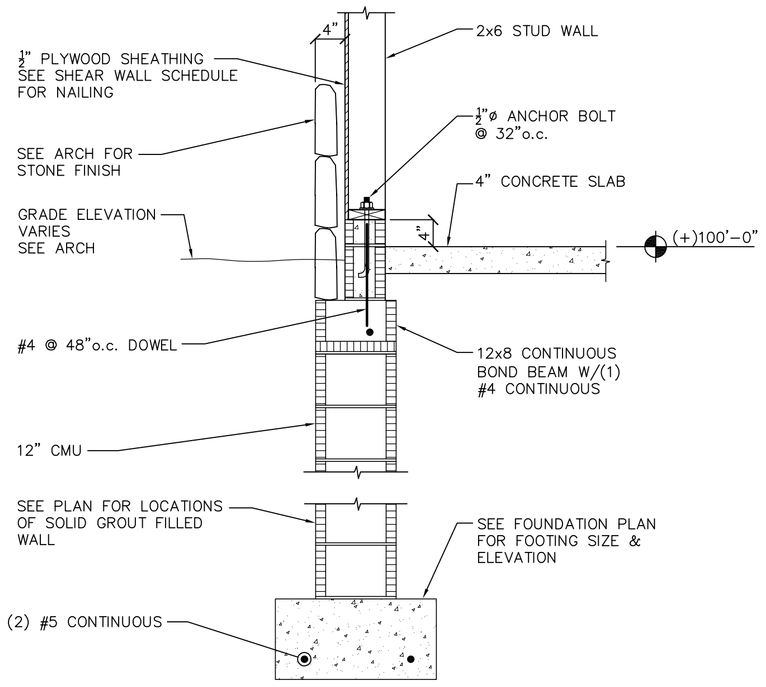
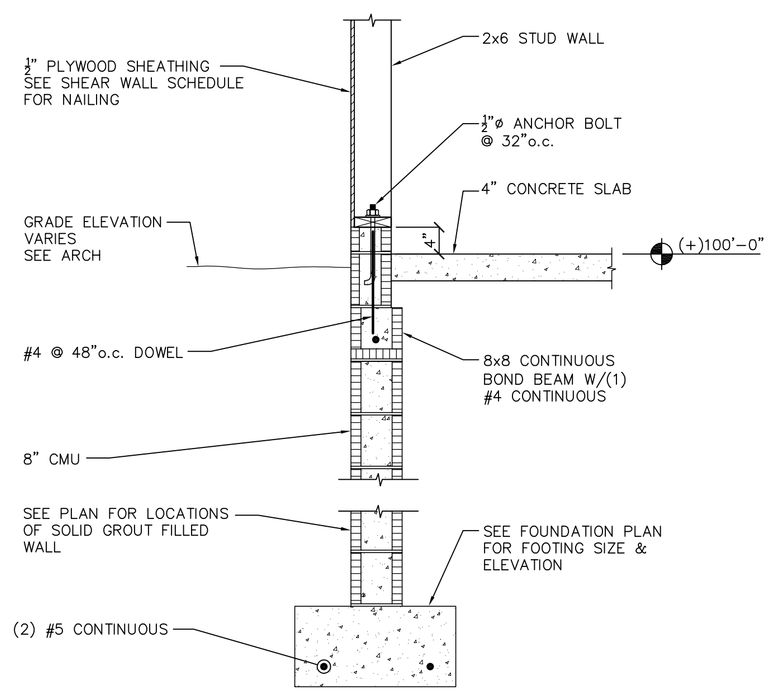
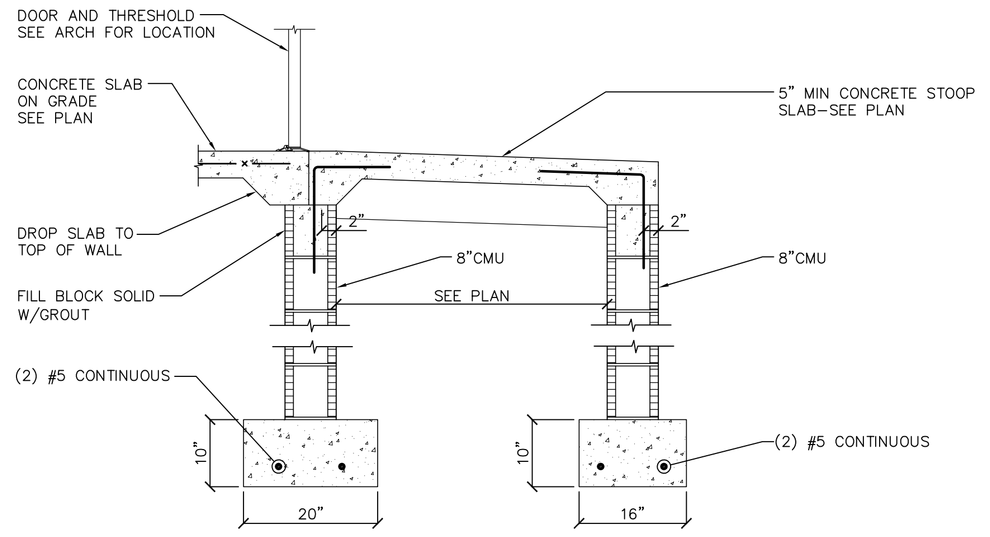
S-2



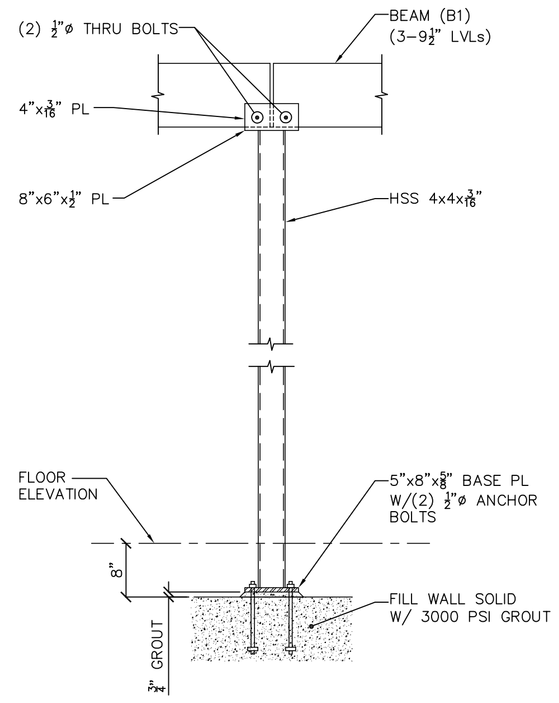
10 WALL SECTION
3/4" = 1'-0"



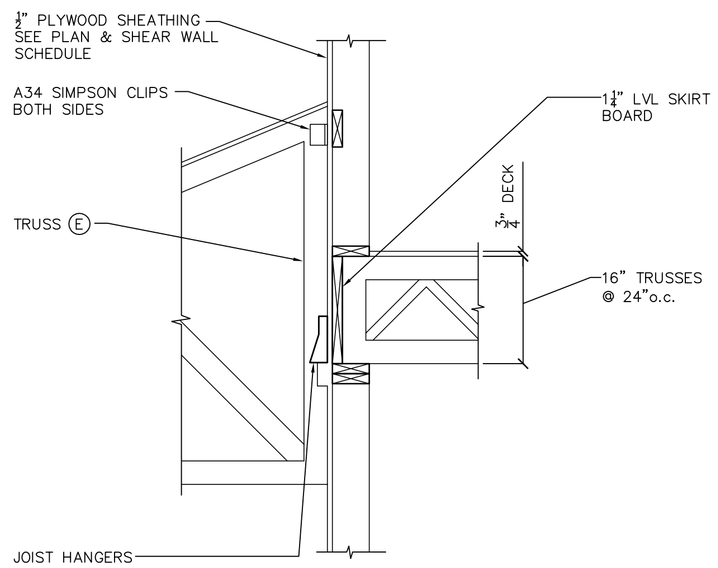
7 TYPICAL WALL SECTION
3/4" = 1'-0"



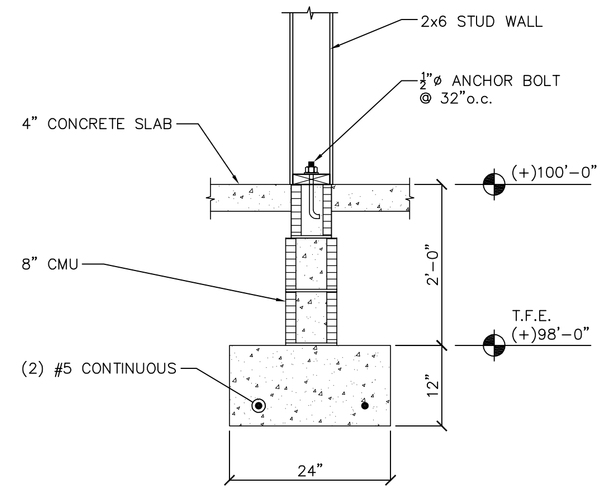
3 STOOP SECTION
3/4" = 1'-0"



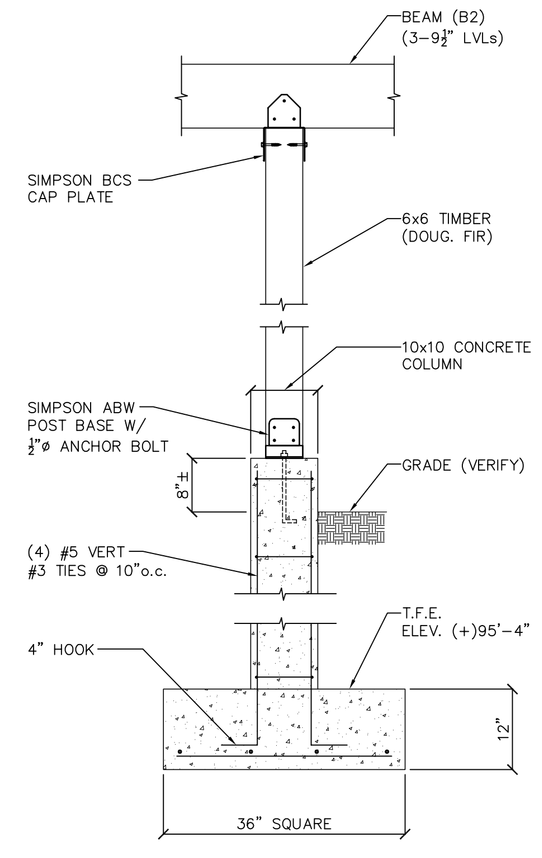
1 SECTION
3/4" = 1'-0"



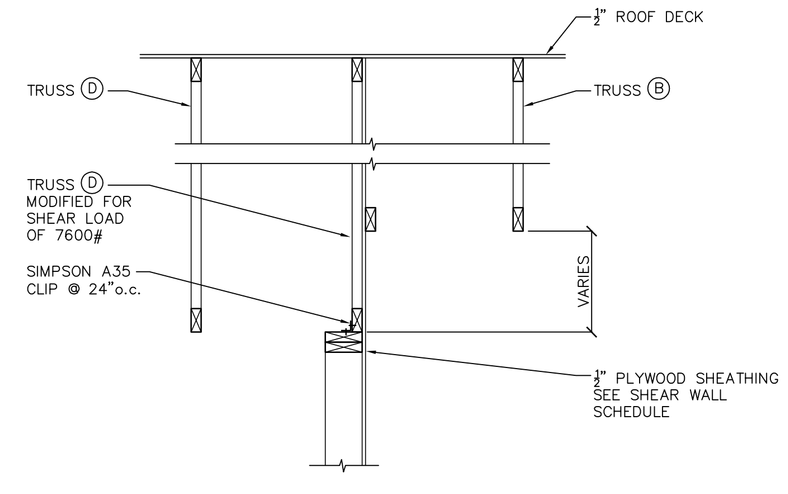
8 SECTION
3/4" = 1'-0"



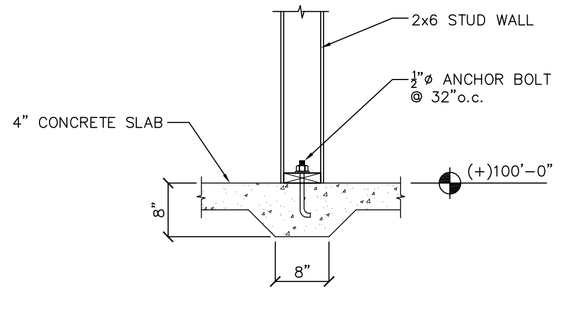
4 SECTION
3/4" = 1'-0"



2 SECTION
3/4" = 1'-0"



9 SECTION
3/4" = 1'-0"



5 SECTION
3/4" = 1'-0"

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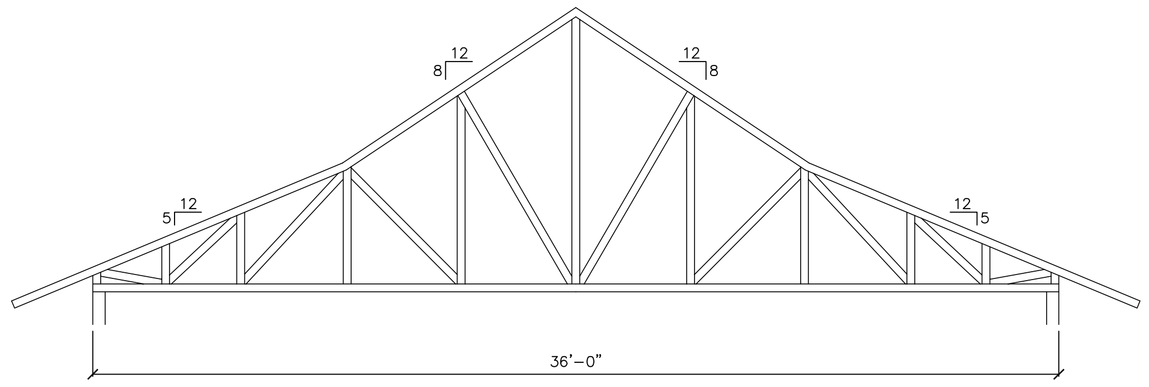
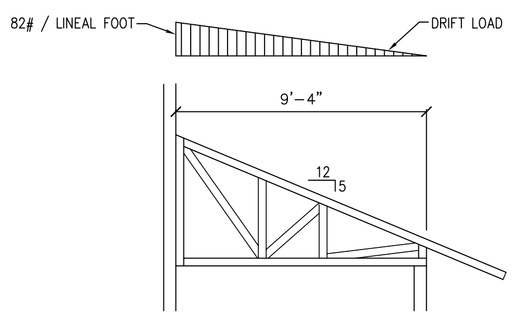
S-3



NOTE:

SPECIAL SHEAR LOAD
@ GRID 'D' SEE SECTION 9/S3

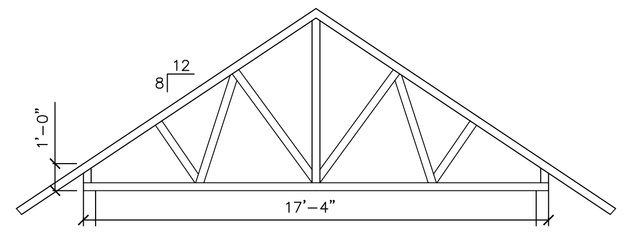
TRUSS (D)



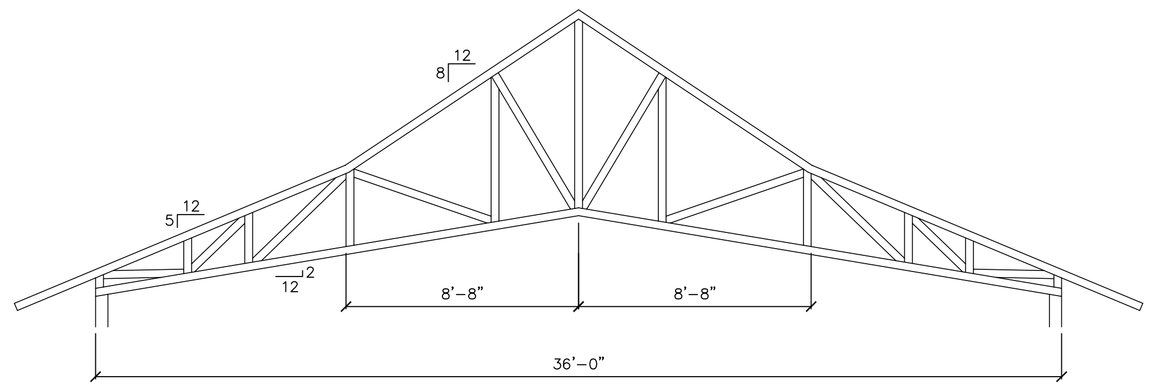
TRUSS (E)

TRUSS NOTES

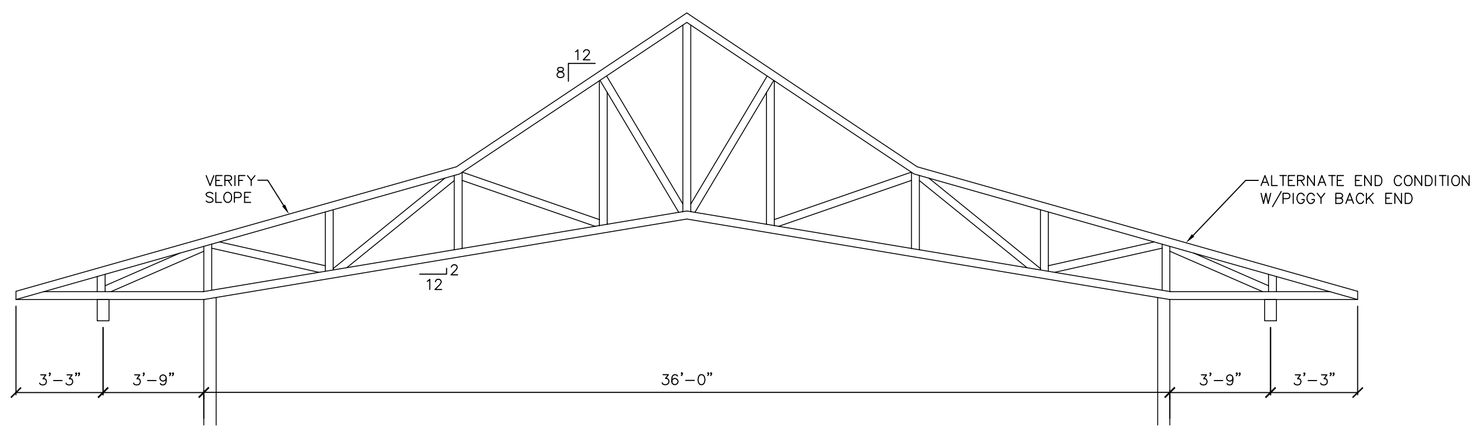
1. LIVE LOAD = 70# / LINEAL FOOT
2. DEAD LOAD = 30# / LINEAL FOOT
3. DRIFT LOAD AS NOTED



TRUSS (A)



TRUSS (B)



TRUSS (C)

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S-4