January 23, 2024

Addendum 1

Bid No. 24-021

Fairhope Public Library

Second Floor Renovation

Addendum 1 contains questions and answers submitted via email.

This bid will be opened at the City of Fairhope's City Services and Public Utilities Building, 555 South Section Street, Fairhope, AL 36532 at 10:00 AM on Tuesday, February 6, 2024. Vendors shall acknowledge this Addendum 1 on their submitted Bid Response Form.

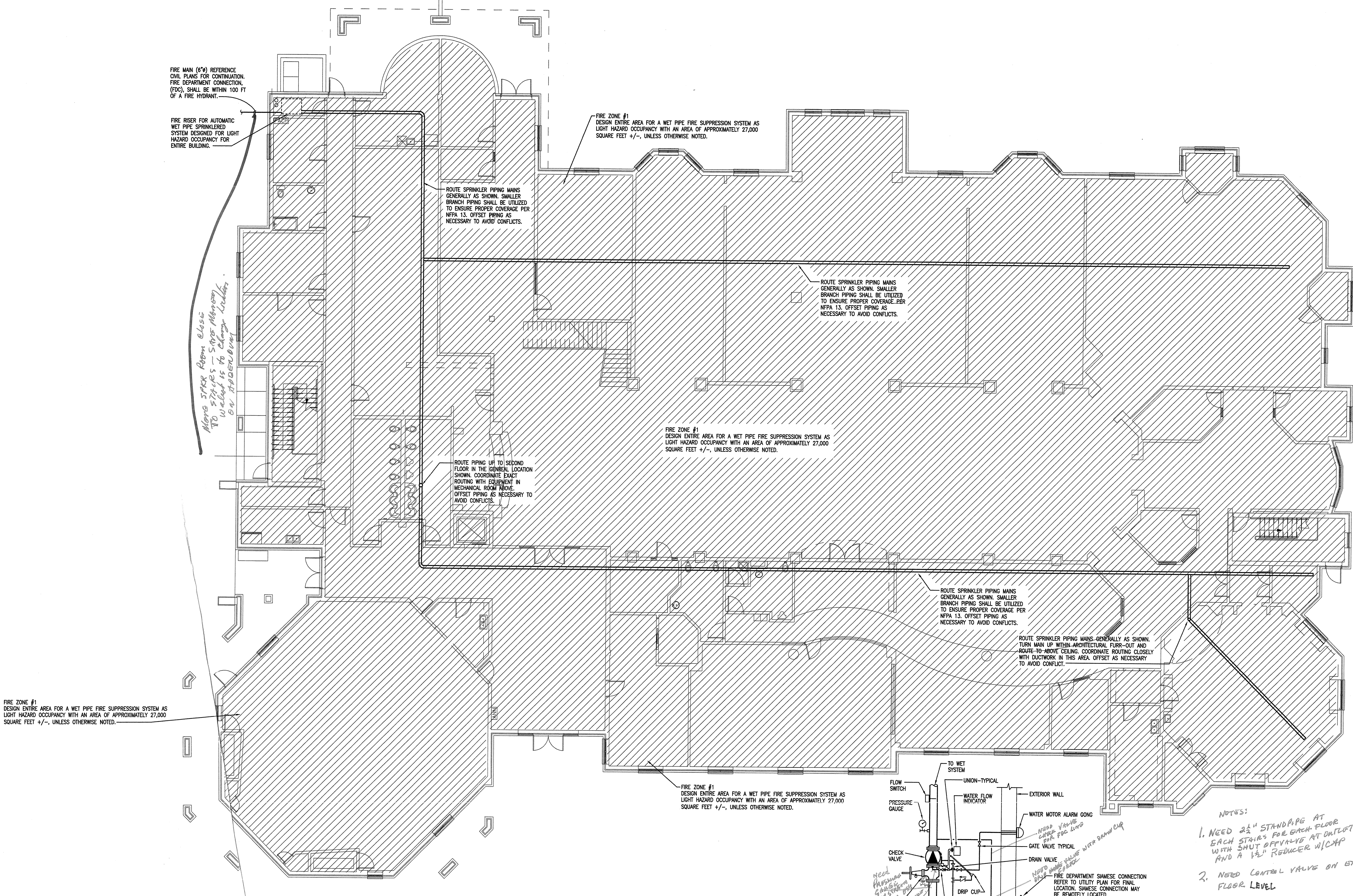
Questions Submitted Via Email:

1. Trade 15300 – Sprinkler/Fire Protection: Are there any as-built drawings available for the existing fire protection system?
   A. See attached existing building's fire protection drawings.

2. Where are the specifications located for this project?
   A. Please see the attached Outline Specifications.

3. Trade 08800 – Doors & Windows/ Glass & Glazing:
   Storefront Vs. fire rating – Is door 201 Storefront or wood per door schedule? Is the door 20 min rated per door schedule? Please advise which frames are storefront. Aluminum storefront is NOT fire rated.
   A. See attached Revised Sheet A6.0 – S-1. S-2, S-3, S-4 changes to 20 min. hollow metal frame with glazing. Door 201 is to be door type W-FG-2. Pair of stained wood full lite (stain to match existing facility doors).

4. I need to know the current fire alarm manufacturer installed at the site.
   A. It is an Edwards iO Series system.



FIRST FLOOR FIRE PROTECTION PLAN

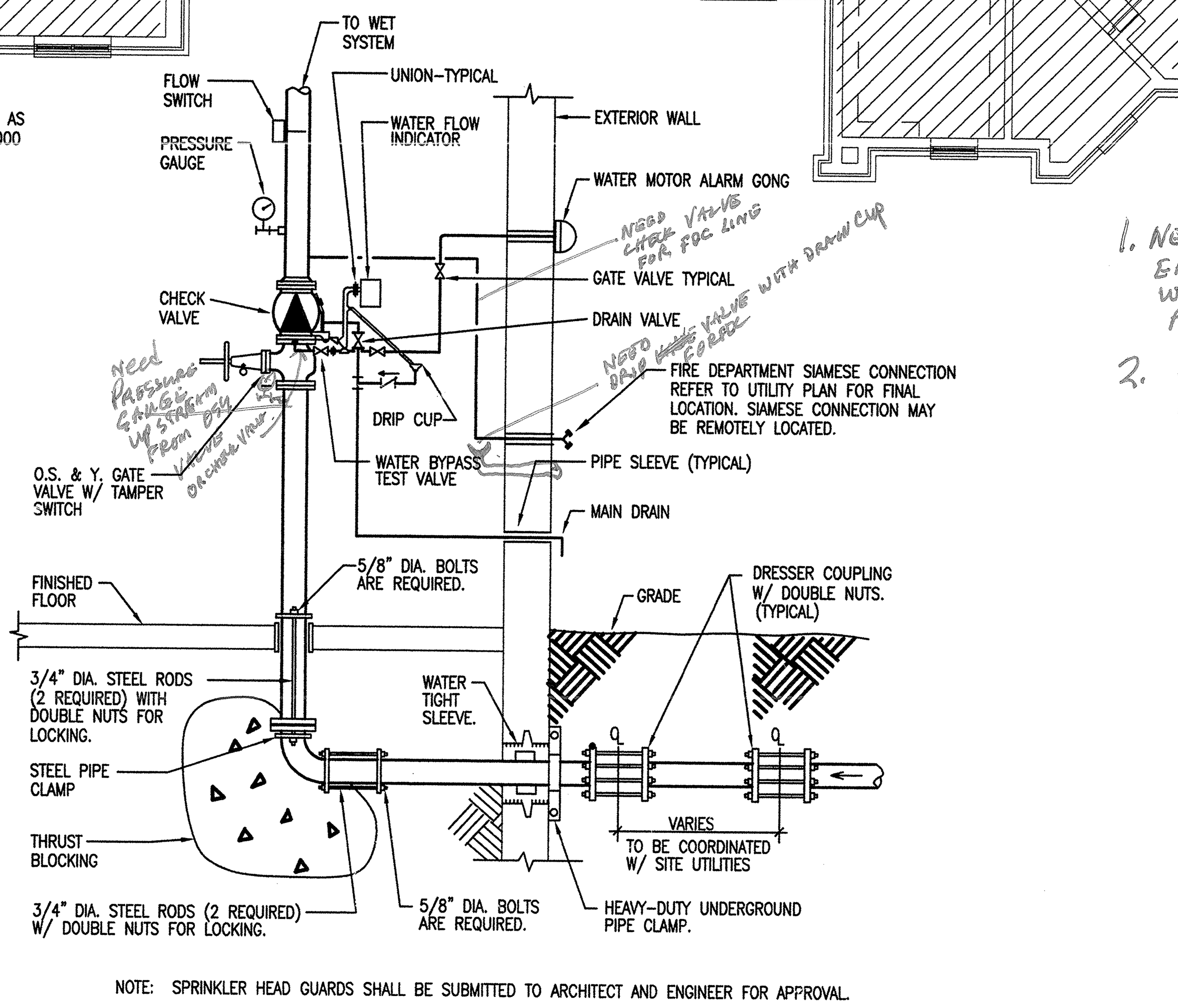
NORTH 1/8"=1'-0"

FIRE PROTECTION GENERAL NOTES:

1. THE SPRINKLER CONTRACTOR SHALL DESIGN AND INSTALL A WET PIPE SPRINKLER SYSTEM FOR THE ENTIRE FACILITY AS OUTLINED ON THE PLAN. DESIGN CRITERIA SHALL BE IN ACCORDANCE WITH NFPA-13. ALL AREAS SHALL BE CLASSIFIED AS NOTED ON THE PLAN.

NOTES:

1. NEED 2½" STANDPIPE AT EACH STAIRS FOR EACH FLOOR WITH SHUT OFF VALVE AT OUTLET AND A 1½" REDUCER W/CAP
2. NEED CONTROL VALVE ON EACH FLOOR LEVEL



NOTE: SPRINKLER HEAD GUARDS SHALL BE SUBMITTED TO ARCHITECT AND ENGINEER FOR APPROVAL.

WET PIPE FIRE RISER DETAIL

NOT TO SCALE

H.M. Yonge & Assoc., Inc.
Consulting Engineers
49 E. CHASE STREET, PENSACOLA, FLORIDA 32501, PHONE: (850) 434-2661
253 ST. ANTHONY STREET, MOBILE, ALABAMA 36603, PHONE: (251) 690-7446

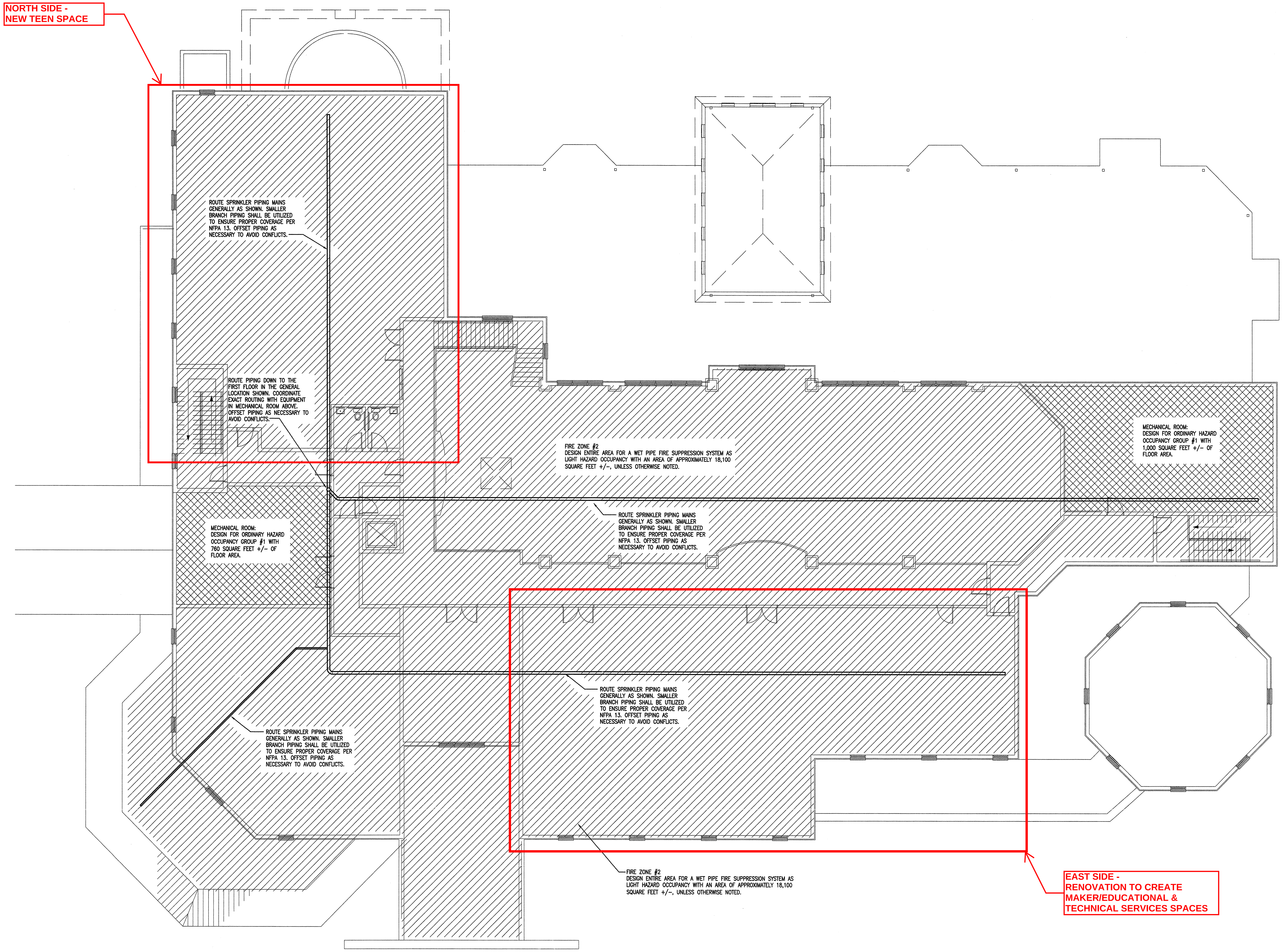
WALCOTT ADAMS VERNEUILLE ARCHITECTS
39 N. SECTION STREET
FAIRHOPE, AL. 36532
(251) 928-6041

A New
Fairhope Public Library
Fairhope, Alabama

Date	October 26, 2004
Revised	
Revised	
Revised	
Drawn	J.T. SHAFFER
Checked	H.M. YONGE

FP1.1

FIRST FLOOR FIRE PROTECTION PLAN



SECOND FLOOR FIRE PROTECTION PLAN

NORTH 1/8"=1'-0"

FIRE PROTECTION GENERAL NOTES:

1. THE SPRINKLER CONTRACTOR SHALL DESIGN AND INSTALL A WET PIPE SPRINKLER SYSTEM FOR THE ENTIRE FACILITY AS OUTLINED ON THE PLAN. DESIGN CRITERIA SHALL BE IN ACCORDANCE WITH NFPA-13. ALL AREAS SHALL BE CLASSIFIED AS NOTED ON THE PLAN.

WALCOTT ADAMS VERNEUILLE ARCHITECTS
39 N. SECTION STREET
FAIRHOPE, AL. 36532
(251) 928-6041

ROGER J. SMITH, PROFESSIONAL ENGINEER, ALABAMA, 24744, 10/26/04

A New Fairhope Public Library
Fairhope, Alabama

Date October 26, 2004
Revised
Revised
Revised
Drawn J.T. SHAFFER
Checked H.M. YONGE

EP1.2
FIRST FLOOR FIRE PROTECTION PLAN

H.M. Yonge & Assoc., Inc.
Consulting Engineers
49 E. CHASE STREET, PENSACOLA, FLORIDA 32501, PHONE: (850) 434-2661
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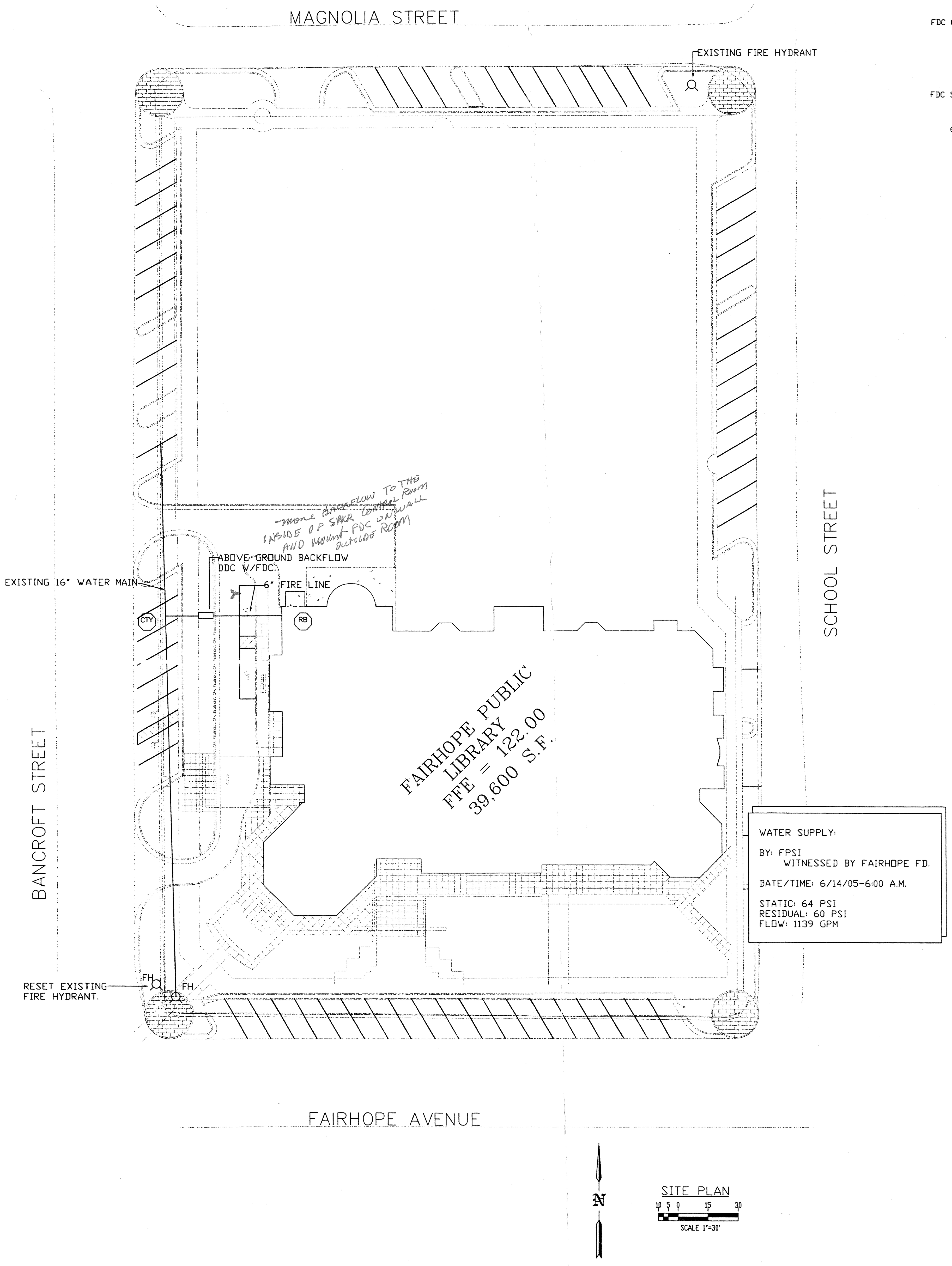
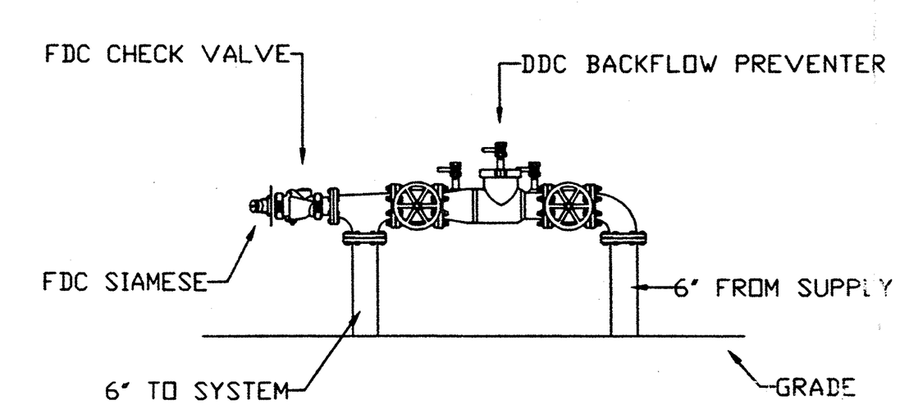
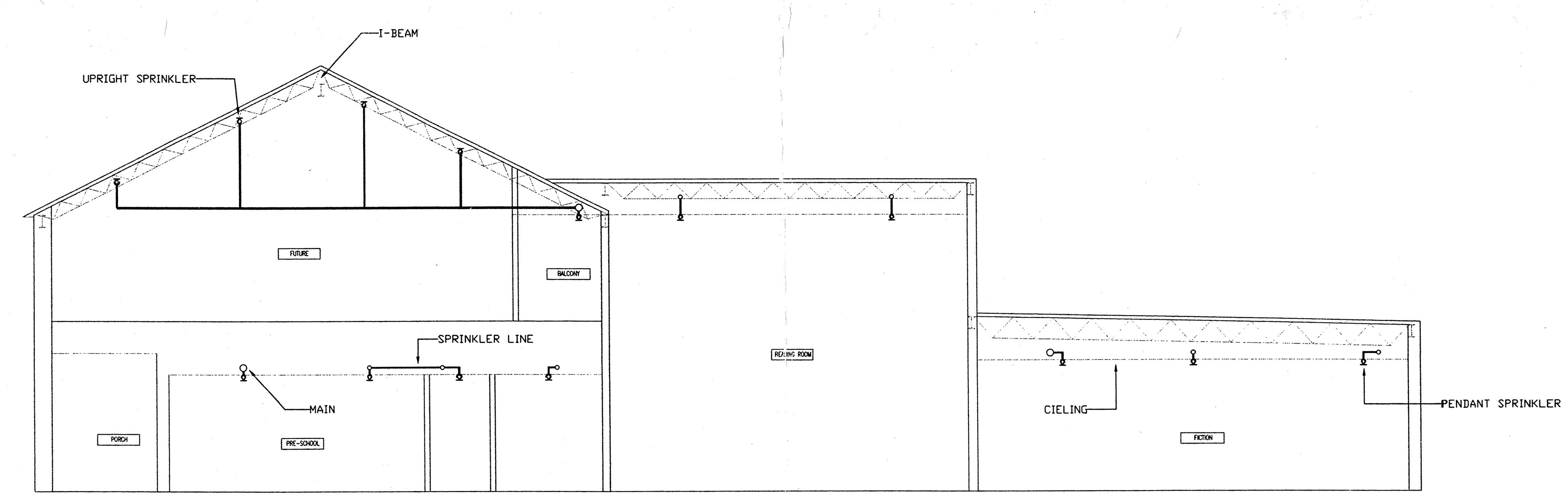


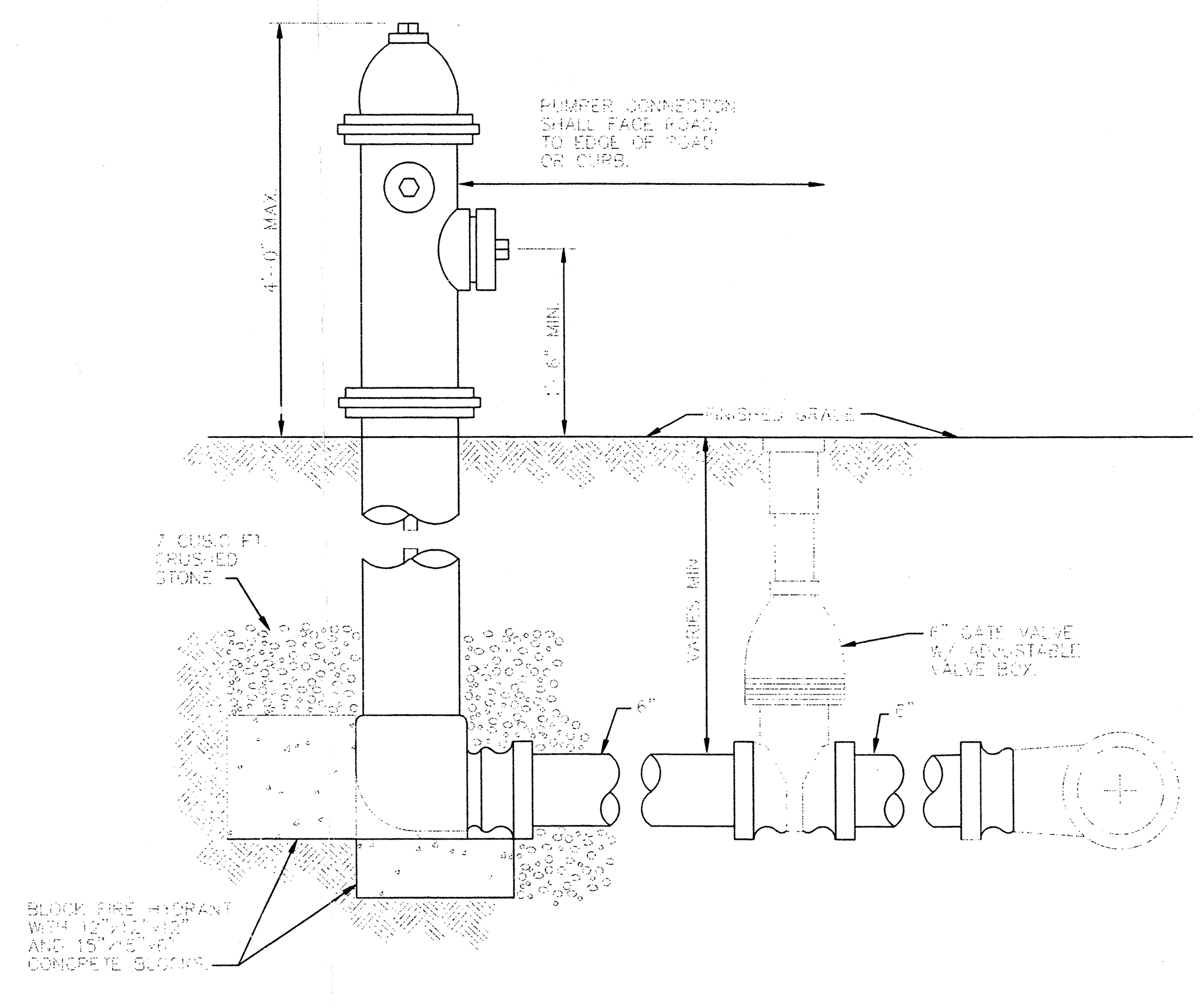


BACKFLOW DETAIL



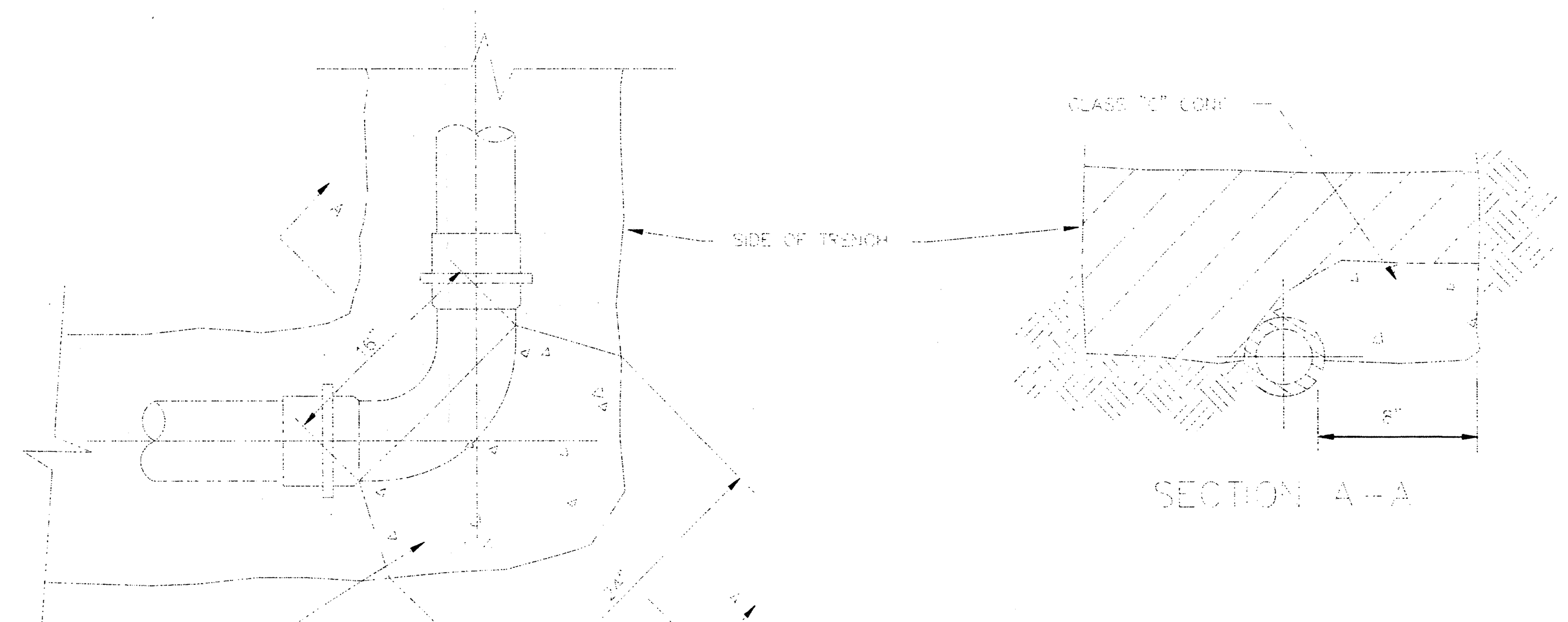
SECTION A-A

SCALE 1/8"=1'-0"



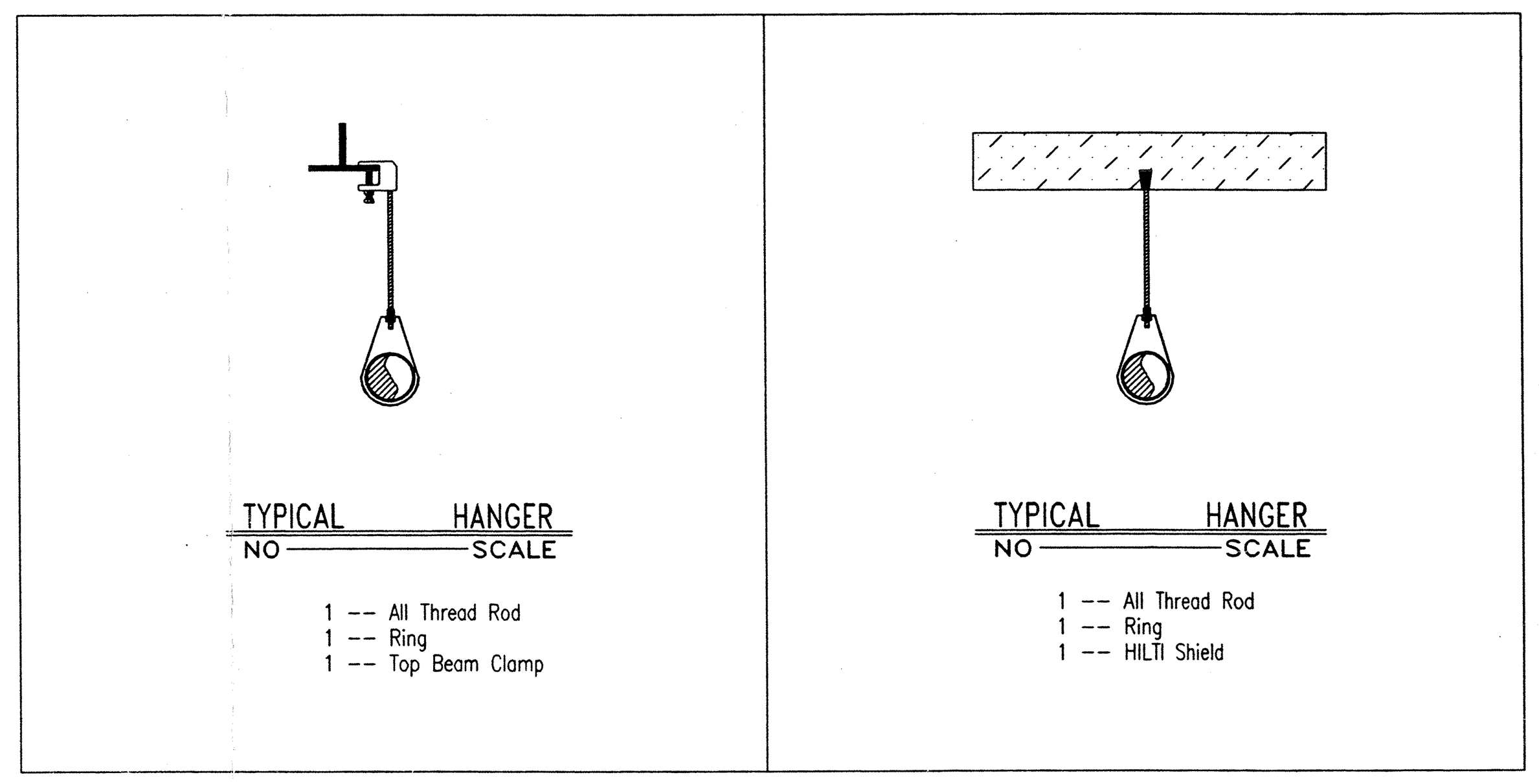
TYPICAL FIRE HYDRANT SETTING

NOT TO SCALE



THRUST BLOCK DETAIL

NOT TO SCALE



GENERAL NOTES - CONTRACT NO. T05033

- It is the building owners responsibility to provide adequate heat for all areas in the building protected by wet sprinkler systems and for all water filled supply pipes, valves and system risers in all dry pipe sprinkler systems.
- All new piping is to be hydrostatically tested at not less than 200 psi for 2 hours, or at 50 psi in excess of the maximum pressure, when the maximum pressure to be maintained is in excess of 150 psi. (Per NFPA 13)
- Whether or not indicated on drawings, the following items are to be provided:
  . Spare head cabinet with wrench (NFPA 13)
  . Provisions for flushing connections and draining of all pipe.
  . Inspectors test connection shall be provided for each system
    a) for wet pipe systems (see NFPA 13)
  . Water flow on all wet systems and zones.
  . Tamper switches on all indicating control valves.
  . Monitoring of all signal devices by an approved means.
- All pipe 2" and smaller is to be schedule 40 steel with cast iron screwed or malleable fittings.
- All pipe 2 1/2" and larger is to be schedule 10 steel with grooved couplings and grooved mechanical fittings or equivalent, with welded branch outlets.
- All sprinklers are listed quick repsonse unless noted otherwise.
- All hangers are to be field located for compliance with NFPA 13.
- All devices are to be listed or approved for use in fire protection systems.

FIRE INSPECTOR'S INSPECTION FILE.

APPROVED (AS NOTED)
CITY OF FAIRHOPE PLANNING AND BUILDING DEPARTMENT
(251) 990-0153
Tom Odom
Fire Safety Insp

Fire Protection Specialists Inc.

FPS

1701 Industrial Park Drive
P.O. Box 9123
Mobile, Alabama 36691
Tel: (251)666-7188
Fax: (251)666-7189

N

General Notes

1. All Pipe Dimensions Shown are Pipe Cut Lengths.
2. All Dimensions Shown are Center to Center.
3. High Temperature Heads are to be Field Located Where Required.
4. All Pipes and Hangers are to be Installed per NFPA #13.
5. Hangers are to be U.L. Listed and F.M. Approved.

ABBREVIATIONS

ECLH=EXTENDED COVERAGE LIGH HAZARD	PEND=PENDENT	
QR=QUICK RESPSONSE	WHT=WHITE	RES=RESIDENTIAL
REC=RECESSED	HSW=HORIZONTAL SIDEWALL	VKG=VIKING

Symbols

Symbol	Description
⬡	Hydraulic Reference Points
[18 Bts]	Elev. Below Top of Steel
[8-6]	Elev. Above Finished Floor
+ (TOS 20-0)	Elev. of Top of Steel
(10-0)	Ceiling Height
⟋	Denotes Hanger Location
o	Rise up or down

Number of Sprinklers

Total This Sheet 0 | Total This Job 297

Symbol	Description
◉ 39	(1/2",K=5.6) VKG VK 302 155 QR CHR PEND
○ 97	(1/2",K=5.6) VKG VK300 155 QR BR UPR
◉ 159	(3/4",K=11.2) VKG VK608 155 QR CHR PEND
◎ 2	(1/2",K=5.6) VKG VK300 155 QR BR UPR

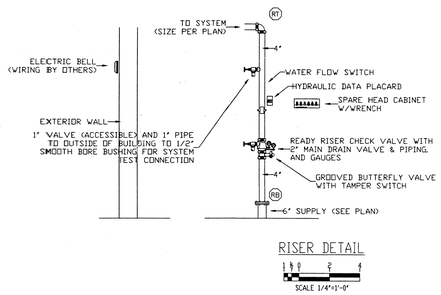
Drawing Title	SITE PLAN & DETAILS
Contract No.	T05033
Drawn By	SBE
Scale	1/8" = 1-0
Date	7/11/05
Approval By	

Revisions:	Date:

Job:
FAIRHOPE PUBLIC LIBRARY
BANCROFT ST. & FAIRHOPE AVE.
FAIRHOPE, ALABAMA

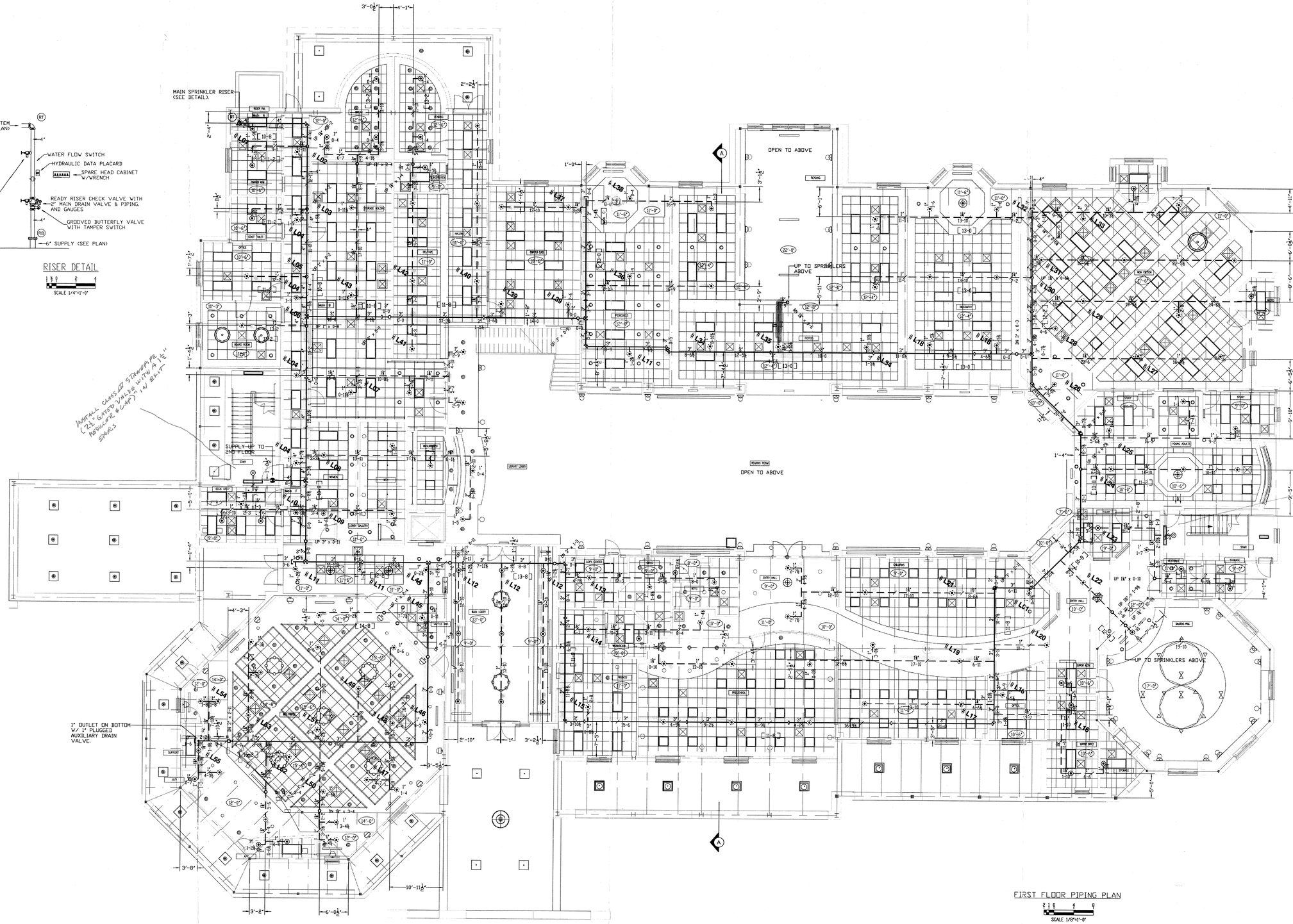
Contractor:
J F PATE & ASSOCIATES CONTRACTOR INC.
23 WEST MIDTOWN PARKL # A
MOBILE, ALABAMA 36606

FP-1



RISER DETAIL

SCALE 1/4"=1'-0"



FIRST FLOOR PIPING PLAN

SCALE 1/8"=1'-0"

Fire Protection Specialists Inc.

FPS

1701 Industrial Park Drive
P.O. Box 8123
Mobile, Alabama 36691
Tel: (251)666-7186
Fax: (251)666-7189

N

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Symbols

Symbol	Description
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[+ in.]	Elev. Below Top of Steel
(+-#)	Elev. Above Finished Floor
+ ITOS 20-03	Elev. of Top of Steel
⌯	Ceiling Height
—/—	Denotes Hanger Location
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Total This Sheet 159 | Total This Job 297

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Drawing Title	FIRST FLOOR PIPING PLAN
Contract No.	T05033
Drawn By	SBE
Scale	1/8" = 1-0
Date	7/11/05
Approval By	

Revisions: | Date:

Job:
FAIRHOPE PUBLIC LIBRARY
BANCROFT ST. & FAIRHOPE AVE.
FAIRHOPE, ALABAMA

Contractor:
J F PATE & ASSOCIATES CONTRACTOR INC.
23 WEST MIDTOWN PARK # A
MOBILE, ALABAMA 36606

FP-2

OUTLINE SPECIFICATIONS

FOR

FAIRHOPE LIBRARY
SECOND FLOOR RENOVATION

Fairhope Public Library

501 Fairhope Avenue
Fairhope, AL

PREPARED BY:

MOTT MACDONALD

107 Saint Francis Street, Suite 2900
Mobile, AL 36602

MM Project # 502100188

November 2023

Fairhope Public Library – Second Floor Renovations
Fairhope, Alabama

TABLE OF CONTENTS

SECTION 06 40 23

INTERIOR ARCHITECTURALWOODWORK

PART 1 - 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. This Section includes the following:

1. Plastic-laminate-faced architectural cabinets.
2. Wood furring, blocking, shims, and hanging strips for installing plastic-laminate-faced architectural cabinets that are not concealed within other construction.
3. Closet and utility shelving

B. Related Sections include the following:

1. Division 06 Section “Rough Carpentry” and/or "Miscellaneous Rough Carpentry" for wood furring, blocking, shims, and hanging strips required for installing woodwork and concealed within other construction before woodwork installation.
2. Division 07 Section “Joint Sealants.”
3. Division 09 Section “Non-Structural Metal Framing” for reinforcements in metal- framed partitions for anchoring wood casework.
4. Division 09 Section “Resilient Base and Accessories” for resilient base applied to wood casework.

1.3 DEFINITIONS

A. Interior Architectural Woodwork includes wood furring, blocking, shims, and hanging strips for installing woodwork items unless concealed within other construction before woodwork installation.

B. Exposed Portions of Cabinets: Surfaces visible when doors and drawers are closed, including bottoms of cabinets more than 42 inches (3’-6”) above floor, and surfaces visible in open cabinets including the following:

1. Cabinet interiors at retractable doors.
2. Cabinet interiors behind glass doors.
3. All surfaces of pull-out writing boards.
4. Cabinet interiors at display cases.

5. Top of sloped cases.

C. Semi exposed Portions of Cabinets: Surfaces behind opaque doors, such as interiors of cabinets, shelves, dividers, interiors and sides of drawers, and interior faces of doors. Tops of cases 78 inches (6'-6") or more above floor are defined as semi exposed.

D. Concealed Portions of Cabinets: Surfaces not usually visible after installation, including sleepers, web frames, dust panels, and ends and backs that are placed directly against walls or other cabinets.

1.4 ACTION SUBMITTALS

A. Product Data: For panel products, high-pressure decorative laminate, fire-retardant- treated materials, cabinet hardware and accessories, handrail brackets, and finishing materials and processes. Include copies of manufacturer's product data, installation instructions, accessories specified, and/or other accessories required by manufacturer.

1. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements.

B. Shop Drawings: Show location of each item, dimensioned plans and elevations, large- scale details, attachment devices, and other components. Comply with seismic requirement for fabrication where required.

1. Show details full size.
2. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement specified in other Sections. Comply with seismic requirements for restraint where required.
3. Show locations and sizes of cutouts and holes for plumbing fixtures, faucets, soap dispensers, and other items installed in architectural woodwork.
4. Show grain direction of wood veneer.

C. Samples for Verification:

1. Submit one set of three Samples of finish plywood, 8 x 10 inches in size illustrating wood grain, figure, the extent of natural characteristics (burl, knots, mineral streaks, worm tracks, vine marks, cross bars) and specified finish of each grade and species to be installed.
2. Lumber: Submit one set of three Samples of wood trim 8 inches long illustrating wood grain, figure, the extent of natural characteristics (burl, knots, mineral streaks, worm tracks, vine marks, cross bars) and specified finish of each grade and species to be installed.
3. Plastic laminates submit one (1) Sample 8 by 10 inches, for each type, color, pattern, and surface finish**,** with 1 sample applied to core material and specified edge material applied to 1 edge.
4. Control Samples: Contractor to retain duplicate set of submitted Samples

on site until the project is completed.

5. Corner pieces as follows:
   a. Cabinet-front frame joints between stiles and rails, as well as exposed end pieces, 18 inches high by 18 inches wide by 6 inches deep.
   b. Miter joints for standing trim.

6. Exposed cabinet hardware and accessories, one unit for each type and finish.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish complete touchup kit for each type and finish of Interior Architectural Woodwork provided. Include scratch fillers, stains, finishes, and other materials necessary to perform permanent repairs to damaged woodwork finish.

1.6 QUALITY ASSURANCE

A. Fabricator Qualifications: Shop with a minimum of ten years' experience that employs skilled workers who custom-fabricate products similar to those required for size and scope of this Project and whose products have a record of successful in-service performance. Shop is a certified participant in AWI's Quality Certification Program.

B. Installer Qualifications: Fabricator's authorized representative with a minimum of ten years' experience who is trained and approved for installation of units required for the size and scope of this project.

C. Quality Standard: Unless otherwise indicated, comply with AWI's "Architectural Woodwork Quality Standards" for grades of Interior Architectural Woodwork indicated for construction, finishes, installation, and other requirements.

D. Fire-Test-Response Characteristics: Where fire-retardant materials or products are indicated, provide materials and products with specified fire-test-response characteristics as determined by testing identical products per test method indicated by UL, ITS, or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify with appropriate markings of applicable testing and inspecting agency in the form of separable paper label or, where required by authorities having jurisdiction, imprint on surfaces of materials that will be concealed from view after installation.

E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

   1. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

F. Preinstallation Conference: Conduct conference at Project site prior to

commencement of Shop Drawings with Contractor, Subcontractor, Architect/Designer and others, as required.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Do not deliver woodwork until painting, utility roughing-in and similar operations that could damage, soil or deteriorate woodwork have been completed in installation areas. If woodwork

must be stored in other than installation areas, store only in areas where environmental

conditions comply with requirements specified in "Project Conditions" Article.

1.8 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

B. Field Measurements: Where woodwork is indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1. Locate concealed framing, blocking, and reinforcements that support woodwork by field measurements before being enclosed, and indicate measurements on Shop Drawings.

1.9 COORDINATION

A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that Interior Architectural Woodwork can be supported and installed as indicated.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Provide materials that comply with requirements of AWI's quality standard for each type of woodwork and quality grade specified, unless otherwise indicated.

B. Low-Emitting Materials: Fabricate Interior Architectural Woodwork, including

countertops, with adhesives and composite wood products containing no urea formaldehyde.

C. Wood Products: Comply with the following:

1. Medium Density Fiberboard (MDF): ANSI A208.2, Grade MD
2. Particleboard: ANSI A208.1, Grade M-3; Density -47 lbs. cu. Ft. (min.); Internal bond – 80 psi; screw holding face – 225 lbs. (min.); screw holding edge – 155 lbs.
3. Veneer-Faced Panel Products (Hardwood Plywood): HPVAHP-1

D. Thermoset Decorative Panels: Particleboard or medium-density fiberboard finished with thermally fused, melamine-impregnated decorative paper complying with LMA SAT-1.

E. Plastic Laminate: High-pressure decorative laminate complying with NEMA LD 3.

1. Manufacturers: See “Finish Materials Listing” in the Finish Drawings.

F. Edge banding for Plastic Laminate: Rigid PVC extrusions, through color with satin finish, 3 mm thick at doors and drawer fronts, 1 mm thick elsewhere, unless noted in the Drawings to the Contract Documents.

G. Edge banding for Thermoset Decorative Panels: PVC edge banding complying with LMA EDG-1 and matching thermoset decorative panels.

H. Solid-Surfacing Material: Refer to Division 12 Section “Simulated Stone Countertops” for specifications.

2.2 FIRE-RETARDANT-TREATED MATERIALS

A. General: Where fire-retardant-treated materials are indicated, use materials complying with requirements in this Article, that are acceptable to authorities having jurisdiction, and with fire- test-response characteristics specified.

1. Do not use treated materials that do not comply with requirements of referenced woodworking standard or that are warped, discolored, or otherwise defective.
2. Use fire-retardant-treatment formulations that do not bleed through or otherwise adversely affect finishes. Do not use colorants to distinguish treated materials from untreated materials.
3. Identify fire-retardant-treated materials with appropriate classification marking of UL,

U.S. Testing, Timber Products Inspection, or another testing and inspecting agency

acceptable to authorities having jurisdiction.

B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Comply with performance requirements of AWPA C20 (lumber) and AWPA C27 (plywood). Use the following treatment type:

1. Exterior Type: Organic-resin-based formulation thermally set in wood by kiln drying.
2. Interior Type A: Low-hygroscopic formulation.
3. Mill lumber before treatment and implement special procedures during treatment and drying processes that prevent lumber from warping and developing discolorations from drying sticks or other causes, marring, and other defects affecting appearance of treated woodwork.
4. Kiln-dry materials before and after treatment to levels required for untreated materials.

C. Fire-Retardant Particleboard: Panels complying with the following requirements, made from softwood particles and fire-retardant chemicals mixed together at time of panel manufacture to achieve flame-spread index of 25 or less and smoke-developed index of 25 or less per ASTM E 84.

1. For panels 3/4 inch thick and less, comply with ANSI A208.1 for Grade M-2 except for the following minimum properties: modulus of rupture, 1600 psi; modulus of elasticity, 300,000 psi; internal bond, 80 psi; and screw-holding capacity on face and edge, 250 and 225 lbf, respectively.
2. For panels 13/16 to 1-1/4 inches thick, comply with ANSI A208.1 for Grade M-1 except for the following minimum properties: Modulus of rupture, 1300 psi; modulus of elasticity, 250,000 psi; linear expansion, 0.50 percent; and screw- holding capacity on face and edge, 250 and 175 lbf, respectively.
3. Product: Subject to compliance with requirements, provide "Duraflake FR" by Weyerhaeuser.

D. Fire-Retardant Fiberboard: Medium-density fiberboard panels complying with ANSI A208.2, made from softwood fibers, synthetic resins, and fire-retardant chemicals mixed together at time of panel manufacture to achieve flame-spread index of 25 or less and smoke-developed index of 200 or less per ASTM E 84.

1. Product: Subject to compliance with requirements, provide "Medite FR" by SierraPine Ltd.; Medite Div.

2.3 CABINET HARDWARE AND ACCESSORIES

A. Hardware, General: Unless otherwise indicated, provide manufacturer's standard satin-finish, commercial-quality, heavy-duty hardware.

1. Use threaded metal or plastic inserts with machine screws for fastening to particleboard except where hardware is through-bolted from back side.

B. Butt Hinges (at exterior doors only): Heavy duty, five knuckle 2-3/4 inch institutional type hinge. Mill ground, hospital tip, tight pin feature with all edges

eased. Hinge to be full wrap around type of tempered steel .093 inch thick. Each hinge to have minimum nine screws, #7, 5/8 inch FHMS to assure positive door attachment. Provide 2 hinges for doors less than 48 inches high and 3 hinges for doors more than 48 inches high. Finish to match cabinet pulls.

C. Frameless Concealed Hinges (European Type – all interior locations): BHMA A156.9, Type B01602, 170 degrees of opening**,** self-closing and fitted with silencer bumpers. Fully adjustable for clockwise, counter-clockwise, toe-in and out door alignment.

D. Pocket Door Slide System: Hafele No. RP 42/60, Nickel-Plated, size as required.

E. Pulls: ADA compliant satin chrome-plated wire pulls, fastened from back with two screws. For sliding doors, provide recessed satin chrome-plated flush pulls. Provide 2 pulls for drawers more than 24 incheswide.

1. Stainless Steel: ADA compliant, Type 304 S.S. (non-ferrous) at MRIrooms.

F. Door Catches: Dual, self-aligning, permanent magnet catch. Provide 2 catches on doors more than 48 inches high.

1. Provide non-ferrous nylon roller spring-catch at MRI Rooms.

G. Drawer Slides: BHMA A156.9, Type B05091

1. Type:

a. Standard Duty (Grade 1 - 75 lbs.): Side mounted 3/4 extension type; zinc- plated steel with polymer rollers.
b. Heavy Duty (Grade 1HD-100 - 100 lbs. and Grade 1HD-200 - 200 lbs.): Side mounted; full-extension type; zinc-plated, steel ball-bearing slides.

2. Uses:

a. Box Drawer Slides: Grade 1HD-100, for drawers not more than 6 inches high and 24 inches wide.
b. File Drawer Slides: Grade 1HD-200, for drawers more than 6 inches high or 24 inches wide.
c. Lateral File Drawer Slides: Grade 1HD-200.
d. Pencil Drawer Slides: Grade 1, for drawers not more than 3 inches high and 24 inches wide.
e. Keyboard Slides: Grade 1, for computer keyboard shelves.
f. Trash Bin Slides: Grade 1HD-100, for trash bins not more than 20 inches high and 16 inches wide and weights of less than 100pounds.

H. Drawer and Hinged Door Locks: Finish to match cabinet pulls.

1. Cylindrical (cam) type, 5-pin tumbler, brass with chrome-plated finish, and complying with BHMA A156.11, Grade 1.
2. Provide a minimum of two keys per lock and six master keys.
3. Provide locks where indicated.
4. Casework subcontractor to coordinate with Owners areas to be keyed alike.

I. Sliding-Door Hardware Sets: Johnson Hardware 2204F Series, size as required.

J. Adjustable Shelf Supports:

1. 2-pin locking plastic shelf rests complying with BHMA A156.9, TypeB04013

K. Grommets for Cable Passage through Countertops:Doug Mockett and Company, EDP3 Flip-Top Series 2-1/2 inch Grommet Warm Grey

L. Workstation Brackets:A&M Hardware 1/8" Steel ADA Compliant Brackets, size as required.

1. Pre-Primed Finish

M. Wire Manager: Doug Mockett and Company Large J-Shape Wire Manager with Flange No. WM22A. Install per manufacturers' recommendations for double-sided tape installation.

2.4 MISCELLANEOUS MATERIALS

A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln dried to less than 15 percent moisture content.

B. Furring, Blocking, Shims, and Hanging Strips: Provide fire-retardant-treated softwood lumber,

kiln dried to less than 15 percent moisture content at areas indicated or as required by codes

and/or Authorities Having Jurisdiction.

C. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide nonferrous-metal or hot-dip galvanized anchors and inserts on inside face of exterior walls and elsewhere as required for corrosion resistance. Provide toothed-steel or lead expansion sleeves for drilled-in-place anchors.

2.5 FABRICATION, GENERAL

A. Interior Woodwork Grade: Unless otherwise indicated, provide custom-grade interior woodwork complying with referenced quality standard.

B. Wood Moisture Content: Comply with requirements of referenced quality standard for wood moisture content in relation to ambient relative humidity during fabrication and in installation areas.

C. Sand fire-retardant-treated wood lightly to remove raised grain on exposed surfaces before fabrication as per manufacturer recommendations.

D. Fabricate woodwork to dimensions, profiles, and details indicated.

1. Provide two layers 3/8” bendable substrate at curved and/or radiused surfaces.

E. Complete fabrication, including assembly**,** finishing, and hardware application, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

1. Trial fit assemblies at fabrication shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that various parts fit as intended and check measurements of assemblies against field measurements indicated on Shop Drawings before disassembling for shipment.

F. Shop-cut openings to maximum extent possible to receive hardware, appliances, plumbing fixtures, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.

1. Seal edges of openings in countertops with a coat of varnish.

G. Install glass to comply with applicable requirements in Division 08 Section "Glazing" and in GANA's "Glazing Manual." For glass in wood frames, secure glass with removable stops.

H. Interior Architectural Millwork ends to be self-returned with no end grain showing.

I. Applied moldings to be shop applied with spot glue and finish nails. Finish nails to be filled and sanded.

J. Hardware to be installed neatly without tear-out of surrounding stock.

K. CABINET FABRICATION

1. Sub-Base: To be separate and continuous (no cabinet body sides-to-floor), water-resistant exterior grade plywood with concealed fastening to cabinet bottom. Ladder-type construction of front, back and intermediates, to form a secure and level platform to which cabinets attach.
2. Dividers: 3/4-inch vertical and horizontal dividers. Provide structural dividers in cabinets over 36 inches wide.

3. Drawers: Provide 1/2-inch drawer bottoms glued and dadoed into front, back and sides of drawers.

    a. Reinforce drawer bottoms with 1/2-inch x 4-inch front-to-back intermediate underbody stiffeners. One at 24 inches, two at 36 inches, and 4 at 48 inches.

4. Drawer Fronts: Applied to separate drawer body component subfront.
5. Shelves: 3/4-inch at shelves up to 36 inches wide; 1 inch at shelves 36 inches wide and greater.

    a. Fixed shelves shall be fully-bound (dadoed or dowelled) at vertical dividers.

6. Doors:

    a. Stile and rail glass doors – all exposed edges to be trimmed and glazed with extruded vinyl glazing bead.

        1) 1/4" tempered float glass

    b. Frameless sliding glass doors shall be 1/4-inch tempered float glass with polished edges fit with anodized aluminum shoes and nylon rollers.
    c. Sliding Wood Doors: Minimum 3/4-inch.

7. Backs of Cabinets: 1/2-inch

    a. Rear, unexposed, side of back to receive continuous industrial grade hot melt glue at joint between back and sides/top/bottom for sealing against moisture and vermin, and further contribute to case rigidity.
    b. Cabinet back shall be fully-bound (dadoed) into sides, top and bottom.
    c. Provide 3/4-inch hang rails at rear of cabinet back and fastened to cabinet sides. Provide minimum of two at base, two at wall and three at tall cabinets.

8. Cabinet Ends: Holes drilled for adjustable shelves to accept 2-pin locking plastic shelf rests.

9. Dust Panels:

    a. 1/2-inch plywood above compartments and drawers, unless located directly under tops.

2.6 PLASTIC-LAMINATE CABINETS

A. Grade: Premium

B. AWI Type of Cabinet Construction: Flush overlay

C. Laminate Cladding for Exposed Surfaces:

1. Plastic Laminate: Grade VGS
2. Unless otherwise indicated, provide specified edge banding on all exposed edges.
3. Direction of wood grain plastic laminates at door and drawer faces to be vertical.

D. Materials for Semi exposed Surfaces:

1. Plastic Laminate: Grade CLS

a. Provide plastic laminate for interior faces of doors and drawer fronts and to balance exposed cabinet ends.

2. Thermoset Decorative Panels: Provide thermoset decorative panels for semi- exposed surfaces unless otherwise indicated.

a. White

3. Unless otherwise indicated, provide specified edge banding on all semi-exposed edges.

E. Concealed Cabinet Materials: Plastic laminate, Grade BKL

F. Colors, Patterns, and Finishes: See “Finish Materials Listing” in the Finish Drawings.

G. PVC Edge banding Color: See “Finish Materials Listing” in the Finish Drawings.

H. Cabinet Fabrication:

1. Plastic-Laminate-Faced Cabinet Construction: As required by referenced quality standard, but not less than the following:

a. Cabinet Sub-Base: To be separate and continuous (no cabinet body sides- to-floor), water-resistant exterior grade plywood with concealed fastening to cabinet bottom. Ladder-type construction of front, back and intermediates, to form a secure and level platform to which cabinets attach.

1) Cabinet sub-base to be 4” high unless noted in the Drawings.

b. Bottoms and Ends of Cabinets, and Tops of Wall Cabinets and Tall Cabinets: 3/4- inch particleboard, plastic-laminate faced on exposed surfaces, thermoset decorative panels on semi exposed surfaces.

1) Provide solid sub-top for all base cabinets.

c. Shelves: 3/4-inch particleboard, plastic-laminate faced on exposed surfaces,

thermoset decorative panels on semi exposed surfaces at shelves up to 36 inches wide; 1-inch particle board at shelves 36 inches wide and greater.

1) Fixed shelves shall be fully-bound (dadoed) at vertical dividers.
2) Provide 1 mm edge banding.

d. Backs of Cabinets: 1/2-inch particleboard, plastic-laminate faced on exposed surfaces, thermoset decorative panels on semi exposed surfaces.

1) Rear, unexposed, side of back to receive continuous industrial grade hot melt glue at joint between back and sides/top/bottom for sealing against moisture and vermin, and further contribute to case rigidity.
2) Cabinet back shall be fully-bound (dadoed) into sides, top and bottom.
3) Provide 3/4-inch hang rails at rear of cabinet back and fastened to cabinet sides. Provide minimum of two at base, two at wall and three at tall cabinets.

e. Drawer Fronts: 3/4-inch particleboard, plastic-laminate faced, applied to separate drawer body component subfront.
f. Drawer Sides and Backs: 1/2-inch thermoset decorative panels, with glued dovetail or multiple-dowel joints.
g. Drawer Bottoms: 1/2-inch thermoset decorative panels glued and dadoed into front, back, and sides of drawers.

1) Reinforce drawer bottoms with 1/2-inch x 4-inch front-to-back intermediate underbody stiffeners. One at 24 inches, two at 36 inches, and 4 at 48 inches.
2) Paper storage drawers to be fitted with hood at back.

h. Doors: 3/4-inch particleboard or MDF with wood stiles and rails, plastic- laminate faced.

1) Stile and rail glass doors - all exposed edges to be trimmed and glazed with extruded vinyl glazing bead. Glazing bead to be black unless noted in the Finish Materials Listing in the Finish Drawing.

a) 1/4” tempered glass

i. Frameless sliding glass doors shall be 1/4-inch tempered glass with polished edges fit with anodized aluminum shoes and nylon rollers.
j. Cabinet Ends: 3/4-inch particle board, plastic laminate-faced.

1) Holes drilled for adjustable shelves to accept twin pin design shelf supports with anti-tip-up shelf restraints.

2) Library stack end panels to be 1-inch.

k. Vertical and Horizontal Dividers: 3/4-inch particle board, plastic laminate- faced on exposed surfaces, thermoset decorative panels on semi exposed surfaces secured with molded plastic clips or dowels. Provide structural dividers in cabinets over 36 inches wide.

l. Door/Drawer Front Rail: 3/4-inch x 6-inch full width cabinet body rails immediately behind all door/drawer and multiple drawer horizontal joints to maintain exact body dimensions and close off reveal.

I. Filler Strips: Provide as needed to close spaces between cabinets and walls, ceilings, and

indicated equipment, minimum 1-inch; maximum 3-inch. Fabricate from same material and with same

finish as cabinets. On wall-to-wall elevations, center the cabinets with equal filler strips on both ends.

J. Dust Panels:

1. 1/2-inch particle board above compartments and drawers, unless located directly under tops.

2.7 PLASTIC-LAMINATE COUNTERTOPS

A. Grade: Premium

B. Countertops, General: Provide smooth, clean exposed tops and edges in uniform plane free of defects. Provide front and end overhang of 1 inch over base cabinets.

C. Plastic-Laminate Tops: Plastic-laminate sheet, shop bonded to both sides of plywood or particleboard. Sand surfaces to which plastic laminate is to be bonded. See Drawings for countertop thickness.

1. Plastic Laminate for Formed Tops: Grade HGP. Provide formed tops unless noted in the Drawings to the Contract Documents.

a. Construct top and backsplash from one piece of plastic laminate with rolled edges and coved intersection. Where indicated, provide separate end splashes fitted to top.

2. Plastic Laminate for Flat Tops: Grade HGS

a. Provide edge banding material per details.

3. Plastic Laminate for Backing: Grade BKL
4. Use exterior plywood for countertops containing sinks.

2.8 SOLID-SURFACING-MATERIALCOUNTERTOPS

A. Grade: Refer to Division 06 Section “Solid Surface Fabrications” for specifications.

2.9 SHOP FINISHING

A. Grade: Provide finishes of same grades as items to be finished.

B. General: Finish architectural woodwork at fabrication shop as specified in this Section. Defer only final touchup, cleaning, and polishing until after installation.

C. General: Shop finish transparent-finished Interior Architectural Woodwork at fabrication shop as specified in this Section. Refer to Division 09 painting Sections for finishing opaque-finished architectural woodwork.

D. Shop Priming: Shop apply the prime coat including back priming, if any, for items specified to be field finished. Refer to Division 09 painting Sections for material and application requirements.

E. Preparation for Finishing: Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for finishing architectural woodwork, as applicable to each unit of work.

1. Back priming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of woodwork. Apply two coats to back of paneling and to end-grain surfaces. Concealed surfaces of plastic-laminate-clad woodwork do not require back priming when surfaced with plastic laminate, backing paper, or thermoset decorative panels.

F. Transparent Finish:

1. Grade: Finish to match grade of Interior Architectural Woodwork.
2. AWI Finish System: Conversion varnish
3. Staining: Match Architect's sample.
4. Wash Coat for Stained Finish: Apply wash-coat sealer to woodwork made from closed- grain wood before staining and finishing.
5. Filled Finish for Open-Grain Woods: After staining (if any), apply paste wood filler to open-grain woods and wipe off excess. Tint filler to match stained wood.

a. Apply wash-coat sealer after staining and before filling.

b. Sand between each coat.

6. Sheen:Satin, 31-45 gloss units measured on 60-degree gloss meter per ASTM D 523.

PART 3 - EXECUTION

3.1 PREPARATION

A. Before installation, condition woodwork to average prevailing humidity conditions in installation areas.

B. Before installing architectural woodwork, examine shop-fabricated work for completion and complete work as required, including removal of packing and back priming.

3.2 INSTALLATION

A. Grade: Install woodwork to comply with requirements for the same grade specified in Part 2 for fabrication of type of woodwork involved.

B. Assemble woodwork and complete fabrication at Project site to comply with requirements for fabrication in Part 2, to extent that it was not completed in the shop.

C. Install woodwork level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb (including tops) to a tolerance of 1/8 inch in 96 inches.

D. Scribe and cut woodwork to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.

E. Fire-Retardant-Treated Wood: Handle, store, and install fire-retardant-treated wood to comply with chemical treatment manufacturer's written instructions, including those for adhesives used to install woodwork.

F. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure with countersunk, concealed fasteners and blind nailing as required for complete installation. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with woodwork and matching final finish if transparent finish is indicated. Comply with seismic requirements for restraint where required.

G. Cabinets:

1. Install level, plumb, and true; shim as required, using concealed shims. Where manufactured wood casework abuts other finished work, apply

filler strips and scribe for accurate fit, with fasteners concealed where practical.

2. Maintain veneer sequence matching of cabinets with transparent finish.
3. Base Cabinets: Set cabinets straight, level, and plumb. Adjust sub tops within 1/16 inch of a single plane. Fasten cabinets to masonry or framing, wood blocking, or reinforcements in walls and partitions with fasteners spaced 24 inches o.c. Bolt adjacent cabinets together with joints flush, tight, and uniform. Align similar adjoining doors and drawers to a tolerance of 1/16 inch.

    a. Where base cabinets are not installed adjacent to walls, fasten to floor at toe space with fasteners spaced 16 inches o.c. Secure sides of cabinets to floor, where they do not adjoin other cabinets, with not less than two fasteners.

4. Wall Cabinets: Hang cabinets straight, level, and plumb. Adjust fronts and bottoms within 1/16 inch of a single plane. Fasten to hanging strips, masonry, or framing, blocking, or reinforcements in walls or partitions. Align similar adjoining doors to a tolerance of 1/16 inch.

    a. Fasten through back, near top and bottom, at ends, and not more than 16 inches o.c.
    b. Use toggle bolts at hollow masonry.
    c. Use expansion anchors at solid masonry.
    d. Use No. 10 wafer-head screws sized for 1-inch penetration at wood hanging strips.
    e. Use No. 10 wafer-head sheet metal screws through metal backing or metal framing behind wall finish at metal-framed partitions.
    f. Use toggle bolts at plaster on metal lath.

5. Install hardware uniformly and precisely. Set hinges snug and flat in mortises unless otherwise indicated. Adjust and align hardware so moving parts operate freely and contact points meet accurately. Allow for final adjustment after installation.
6. Adjust casework and hardware so doors and drawers operate smoothly without warp or bind. Lubricate operating hardware as recommended by manufacturer.

H. Countertops:

1. Field Jointing: Where possible make in the same manner as shop jointing, using dowels, splines, adhesives, and fasteners recommended by manufacturer. Prepare edges to be joined in shop so Project-site processing of top and edge surfaces is not required. Locate field joints where shown on Shop Drawings.

    a. Secure field joints in plastic-laminate countertops with concealed clamping devices located within 6 inches of front and back edges and at intervals not exceeding 24 inches. Tighten according to manufacturer's written instructions to exert a constant, heavy-clamping pressure at joints.

2. Secure tops to cabinets with Z- or L-type fasteners or equivalent, using two or more fasteners at each front, end, and back.
3. Abut top and edge surfaces in one true plane, with internal supports placed to prevent deflection.
4. Secure backsplashes and end splashes to tops with concealed metal brackets at 16 inches o.c. and walls with adhesive.
5. Seal junctures of tops, splashes, and walls with mildew-resistant silicone sealant or another permanently elastic sealing compound recommended by countertop material manufacturer.

I. Shelving:

1. Securely fasten shelf standards to masonry, partition framing, wood blocking, or reinforcements in partitions. Comply with seismic requirements for installation where required.

   a. Fasten shelf standards at ends and not more than 12 inches o.c.
   b. Use toggle bolts at hollow masonry.
   c. Use expansion anchors at solid masonry.
   d. Use self-tapping sheet metal screws in metal framing or metal backing at metal- framed partitions. Do not use wall anchors in gypsum board.
   e. Use toggle bolts at plaster on metal lath.

2. Install shelf standards plumb and at heights to align shelf brackets for level shelves. Space standards not more than 36 inches o.c. between standards and 18 inches from shelf ends.
3. Install shelving level and straight, closely fitted to other work where indicated.

J. Touch up finishing work specified in this Section after installation of woodwork. Fill nail holes with matching filler where exposed.

3.3 ADJUSTING AND CLEANING

A. Repair damaged and defective woodwork, where possible, to eliminate functional and visual defects; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.

B. Clean, lubricate, and adjust hardware.

C. Clean woodwork on exposed and semi exposed surfaces. Touch up shop-applied finishes to restore damaged or soiled areas.

END OF SECTION 06 40 23

SECTION 064660

PLASTIC FABRICATIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the Plastic Fabrication as shown and specified in the described system(s):
   1. Translucent Resin Panels with framelsss hardware
   2. Bracket Supported Wall Panels

1.3 SUBMITTALS

A. Product Data: Submit manufacturer's product data; include product description, fabrication information, and compliance with specified performance requirements.

B. Submit product test reports from a qualified independent 3rd party testing agency indicating each type and class of panel system complies with the project performance requirements, based on comprehensive testing of current products. Previously completed test reports will be acceptable if for current manufacturer and indicative of products used on this project.
   1. Test reports required are:
      a. Rate of Burning (ASTM D 635)
      b. Self-Ignition Temperature (ASTM D 1929)
      c. Density of Smoke (ASTM D 2843)
      d. Flame spread and Smoke developed testing (ASTM E 84)
      e. Room Corner Burn Test (NFPA 286)
      f. Extent of Burning (UL 94)
      g. Impact strength (ASTM D 3763)
      h. Safety glazing impact resistance (ANSI Z97.1-2004)
      i. UPITT Test for Combustion Product Toxicity
      j. Dynamic environmental testing (ASTM standards D 5116 and D 6670)

C. Shop Drawings: Include plans, elevations, sections, panel dimensions, details, and attachments to other work.

D. Samples for Initial Selection:
   1. Submit minimum 7-inch by 7-inch samples. Indicate full color, texture and pattern variation.

E. Maintenance Data: Submit manufacturer's care and maintenance data, including care, repair and cleaning instructions. Include in Project closeout documents.

1.4 QUALITY ASSURANCE

A. Manufacturers Qualifications

1. Materials and systems shall be manufactured by a company continuously and regularly employed in the manufacture of specified materials for a period of at least five (5) consecutive years and which can show evidence of those materials being satisfactorily used on at least six (6) projects of similar size, scope and location. At least three (3) of the projects shall have been successful for use five (5) years or longer.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver Plastic Fabrications, systems and specified items in manufacturer's standard protective packaging.

B. Do not deliver Plastic Fabrications, system, components and accessories to Project site until areas are ready for installation.

C. Store materials in a flat orientation in a dry place that is not exposed to exterior elements.

1. Store curved elements in accordance with manufacturer's recommendations.

D. Handle materials to prevent damage to finished surfaces. Provide protective coverings to prevent damage or staining following installation for duration of project.

E. Before installing Plastic Fabrications, permit them to reach room temperature.

1.6 PROJECT CONDITIONS

A. Environmental Limitations: Do not install Solid Polymer Fabrications until ambient temperatures and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

1.7 WARRANTY

A. Manufacturer's Special Warranty on Plastic Fabrications: Manufacturer's standard form agreeing to repair or replace units that fail in material or workmanship within the specified warranty period.

B. Warranty Period: 1 year after the date of substantial completion.

C. The warranty shall not deprive the owner of other rights or remedies the Owner may have under other provisions of the Contract Documents, and is in addition to and runs concurrent with other warranties made by the Contractor under the requirements of the Contract Documents.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Manufacturer: 3form, Inc., Salt Lake City, Utah, USA / telephone 801-649-2500

B. Varia™ produced from ecoresin™ Sheet

1. Engineered polyester resin
2. Sheet Size: Maximum 4' x 10'
3. Thickness: As indicated on drawings
4. Product: The design of Plastic Fabrications is based on Varia™ produced with ecoresin™ as provided by 3form, Inc.

C. Interlayer Materials: Compatible with polyesters and bonding process to create a monolithic sheet of material when complete.

D. Sheet minimum performance attributes:

1. Rate of Burning (ASTM D 635). Material must attain CC1 Rating for a nominal thickness of 1.5 mm (0.060 in.) and greater.
2. Self-Ignition Temperature (ASTM D 1929). Material must have a Self-ignition temperature greater than 650°F.
3. Density of Smoke (ASTM D 2843). Material must have a smoke density less than 75%.
4. Flame spread and Smoke developed testing (ASTM E 84). Material must be able to meet a level of Class A (Flame spread less than 25 and smoke less than 450) at thickness of 1".
5. Room Corner Burn Test (NFPA 286). Material must meet Class A criteria at ¼" thickness as described by the 2003 *International Building Code*.
6. Extent of Burning (UL 94). Must submit UL card.
7. Impact strength. Minimum impact strength test as measured by ASTM D 3763 of 20 ft. lbs. (for durability, shipping, installation, and use).
8. Safety Glazing. Material must attain a Class A impact rating in accordance with ANSI Z97.1-2004 at 1/8" thickness.
9. UPITT Test for Combustion Product Toxicity: Product must be recorded as "not more toxic than wood".
10. Dynamic environmental testing (ASTM standards D 5116 and D 6670). Panels must not have detectable VOC off-gassing agents and must be have Greenguard™ Indoor Air Quality certified.

2.2 BRACKETS

A. Product: As identified on the Drawings.

2.3 FABRICATION

A. General: Fabricate Plastic Fabrications to designs, sizes and thicknesses indicated and to comply with indicated standards. Sizes, profiles and other characteristics are indicated on the drawings.

1. Polish all exposed edges and radius outside corners where indicated. Ease all exposed edges 1/32 inch.
2.

B. Comply with manufacturer's written recommendations and the following for fabrication:

1. Polish all exposed edges and radius outside corners where indicated.
2. Ease all exposed edges 1/32 inch.
3. Oversize hole diameter for material penetrating through plastic by 1/8 inch.

C. Machining: Acceptable means of machining are listed below. Ensure that material is not chipped or warped by machining operations.

1. Sawing: Select equipment and blades suitable for type of cut required.
2. Drilling: Drills specifically designed for use with plastic products.
3. Milling: Climb cut where possible.
4. Routing
5. Tapping

D. Forming: Form products to shapes indicated using the appropriate method listed below. Comply with manufacturer's written instructions.

1. Cold Bending
2. Hot Bending
3. Thermoforming: Acceptable only on uncoated material.
4. Drape Forming
5. Matched Mold Forming
6. Mechanical Forming

2.4 MISCELLANEOUS MATERIALS

A. General: Provide products of material, size, and shape required for application indicated, and with a proven record of compatibility with surfaces contacted in installation.

B. Cleaner: Type recommended by manufacturer.

C. Fasteners: Use fasteners appropriate to the application and as approved by the manufacturer.

D. Bonding Cements: May be achieved with solvents or adhesives, suitable for use with product and application.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions where installation of Plastic Fabrications will occur, with Installer present, for compliance with manufacturer's requirements. Verify that substrates and conditions are satisfactory for installation and comply with requirements specified.

3.2 INSTALLATION

A. General: Comply with manufacturer's written instructions for the installation of Plastic Fabrications.

B. Manufacturer's shop to fabricate items to the greatest degree possible.

C. Utilize fasteners, adhesives and bonding agents recommended by manufacturer for type of installation indicated. Material that is chipped, warped, hazed or discolored as a result of installation or fabrication methods shall be replaced.

D. Install components plumb, level and rigid, in accordance with approved shop drawings and product data.

E. Form field joints using manufacturer's recommended procedures. Locate seams in panels so that they are not directly in line with seams in substrates.

3.3 BRACKET SUPPORTED PANELS

A. Install panels using mounting brackets indicated. Secure mounting brackets to top of wall. Shim between bracket and plastic fabrication with resilient material recommended by the manufacturer and to provide even bearing of plastic panel across each bracket.

B. Shim and oversize hole in plastic fabrication shall be such that the plastic fabrication is not supported on and does not touch the penetrating anchor of the bracket.

C. Polish and ease edges and radius corners as indicated.

3.4 ALUMINUM FRAMED PANELS

A. Install panel in aluminum framing in accordance with manufacturer's recommendations.

B. Secure framing to floor, wall and ceiling structure using ¼ inch diameter anchors appropriated to the construction and at not more than 16 inches oc.

3.5 TOP SUPPORTED WALL PANELS

A. Install panel in aluminum top support trim in accordance with manufacturer's recommendations.

B. Secure support trim to ceiling structure using ¼ inch diameter anchors appropriated to the construction and at not more than 16 inches oc.

C. Polish and ease edge exposed edges.

3.6 CLEANING AND PROTECTION

A. Protect surfaces from damage until date of substantial completion. Repair work or replace damaged work, which cannot be repaired to Architect's satisfaction.

END OF SECTION

SECTION 08212

FLUSH WOOD DOORS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes flush pre-finished wood doors; flush and flush glazed configuration; fire rated and non-rated.

B. Related Sections:
1. Section 08115 - Standard Steel Frames.
2. Section 08710 - Door Hardware.
3. Section 08800 - Glazing.

1.2 REFERENCES

A. American National Standards Institute:
1. ANSI A135.4 - Basic Hardboard.

B. American Society for Testing and Materials:
1. ASTM E413 - Standard Classification for Rating Sound Insulation.

C. Architectural Woodwork Institute:
1. AWI - Quality Standards Illustrated.

D. Hardwood Plywood and Veneer Association:
1. HPVA HP-1 - American National Standard for Hardwood and Decorative Plywood.

E. National Electrical Manufacturers Association:
1. NEMA LD 3 - High Pressure Decorative Laminates.

F. National Fire Protection Association:
1. NFPA 80 - Standard for Fire Doors, Fire Windows.
2. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies.

G. Underwriters Laboratories Inc.:
1. UL 10B - Fire Tests of Door Assemblies.
2. UL - Building Materials Directory.

H. Uniform Building Code
1. UBC Standard 7-2 - Fire Tests of Door Assemblies.

I. Warnock Hersey:
1. WH - Certification Listings.

1.3 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Illustrate door opening criteria, elevations, sizes, types, swings, special blocking for hardware, identify cutouts for glazing.

C. Product Data: Submit information on door core materials and construction, and on veneer species, type and characteristics.

D. Samples: Submit two samples of door construction, 12 x 12 inch in size cut from bottom corner of door.

E. Samples: Submit two samples of door veneer, 12 x 12 inch in size illustrating wood grain.

F. Manufacturer's Installation Instructions: Submit special installation instructions.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with AWI Quality Standard Section 1300, Premium Grade.

B. Fire Door Construction: Conform to NFPA 252 UL 10B.

C. Fire Rated Door Construction: Rate of rise of 450 degrees F across door thickness for stair doors.

D. Installed Fire Rated Door and Transom Panel Assembly: Conform to NFPA 80 for fire rated class as scheduled.

E. Maintain one copy of each document on site.

1.5 QUALIFICATIONS

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

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01600 - Product Requirements: Product storage and handling requirements.

B. Accept doors on site in manufacturer's packaging. Inspect for damage.

1.7 COORDINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Coordinate Work with door opening construction, doorframe and door hardware installation.

1.8 WARRANTY

A. Section 01700 - Execution Requirements: Product warranties and product bonds.

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

C. Furnish manufacturer's "Life of Installation" warranty for interior and exterior doors.

PART 2 PRODUCTS

2.1 FLUSH WOOD DOORS

A. Manufacturers:
1. VT Industries
2. Marshfield
3. Graham

B. Product Description: Solid core flush wood doors; wood veneer facing material; fire rated and non-rated types; flush glazed design; without louvers; factory pre-fit; pre-finished; wood doors.
1. Flush Interior Doors: 1-3/4 inches thick; solid core, five ply construction, fire rated and non-fire rated, as indicated on Drawings.

2.2 COMPONENTS

A. Solid Core, Non-Rated: AWI Section 1300, Drop-in particleboard bonded core door.

B. Solid Core, Fire Rated: AWI Section 1300, Drop-in particleboard bonded core door.

C. Transparent Finish:
1. Interior Veneer Facing: AWI Section 500 Premium grade, 5-ply, pre-finished.
a. Wood: **Verify Existing**
b. Slicing of Veneer: **Plain Sliced**
c. Face Grade: **AA**
d. Matching of individual leaves to each other: **Slip and Architectural Matching**
e. Matching Across Panel Face: **Balanced. Center balance matching.**
f. Stain/Color: **Match existing stained wood doors**

2. Opaque Finish:
a. 5-ply rotary cut paint grade Birch. (if required)

D. Facing Adhesive: Type I - waterproof.

E. Glazing Stops: Rolled steel channel shape, mitered corners; prepared for countersink style tamper proof screws.

2.3 FABRICATION

A. Fabricate non-rated doors in accordance with AWI Quality Standards requirements.

B. Fabricate fire rated doors in accordance with AWI Quality Standards and to UL requirements. Attach fire rating label and temperature rise label to door.

C. Astragals for Fire Rated Double Doors: Steel, T shaped, overlapping and recessed at face edge, specifically for double doors.

D. Sound Rating for Single Door Leaf and Frame Assembly: ASTM E413, minimum STC 35.

E. Furnish lock blocks at lock edge and top of door for closer for hardware reinforcement.

F. Vertical Exposed Edge of Stiles: Of same species as veneer facing for transparent finish.

G. Fit door edge trim to edge of stiles after applying veneer facing.

H. Bond edge banding to cores.

I. Factory machine doors for finish hardware in accordance with hardware requirements and dimensions. Do not machine for surface hardware. Furnish solid blocking for through bolted hardware.

J. Factory fit doors for frame opening dimensions identified on shop drawings.

K. Cut and configure exterior door edge to receive recessed weather stripping devices.

L. Provide edge clearances in accordance with AWI 1300.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify opening sizes and tolerances are acceptable.

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

3.2 INSTALLATION

A. Install fire rated and non-rated doors in accordance with AWI Quality Standard, NFPA 80, and to requirements for fire rating label by UL.

B. Trim non-rated door width by cutting equally on both jamb edges.

C. Trim door height by cutting bottom edges to maximum of 3/4 inch.
   1. Trim fire door height at bottom edge only, in accordance with fire rating requirements.

D. Machine cut doors for hardware installation.

E. Coordinate installation of doors with installation of frames specified in Section 08112 and hardware specified in Section 08710.

F. Install door louvers plumb and level.

G. Coordinate installation of glass and glazing specified in Section 08800.

H. Site finish doors in accordance with Section 09900.

3.3 INSTALLATION TOLERANCES

A. Section 01400 - Quality Requirements: Tolerances.

B. Conform to AWI requirements for fit and clearance tolerances.

C. Conform to AWI Section 1300 requirements for maximum diagonal distortion.

D. Maximum Vertical Distortion (Bow): 1/8 inch measured with straight edge or taut string, top to bottom, over imaginary 36 x 84 inches surface area.

E. Maximum Width Distortion (Cup): 1/8 inch measured with straight edge or taut string, edge to edge, over imaginary 36 x 84 inches surface area.

3.4 ADJUSTING

A. Section 01700 - Execution Requirements: Testing, adjusting, and balancing.

B. Adjust door for smooth and balanced door movement.

C. Adjust closer for full closure.

END OF SECTION

SECTION 084113

ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS PART

1 – GENERAL

1.1 SUMMARY

A. Section Includes:

1. Interior storefront framing.
2. Storefront framing for punched openings.
3. Exterior and interior manual-swing entrance doors and door-frame units.

1.2 PERFORMANCE REQUIREMENTS

A. General Performance: Aluminum-framed systems shall withstand the effects of the following performance requirements without exceeding performance criteria or failure due to defective manufacture, fabrication, installation, or other defects in construction:

1. Movements of supporting structure indicated on Drawings including, but not limited to, story drift and deflection from uniformly distributed and concentrated live loads.
2. Dimensional tolerances of building frame and other adjacent construction.
3. Failure includes the following:

a. Deflection exceeding specified limits.
b. Thermal stresses transferring to building structure.
c. Framing members transferring stresses, including those caused by thermal and structural movements to glazing.
d. Noise or vibration created by wind and by thermal and structural movements.
e. Loosening or weakening of fasteners, attachments, and other components.
f. Sealant failure.
g. Failure of operating units.

B. Deflection of Framing Members:

1. Deflection Normal to Wall Plane: Limited to edge of glass in a direction perpendicular to glass plane shall not exceed L/175 of the glass edge length for each individual glazing lite or an amount that restricts edge deflection of individual glazing lites to 3/4 inch (19 mm), whichever is less.
2. Deflection Parallel to Glazing Plane: Limited to L/360 of clear span or 1/8 inch (3.2 mm), whichever is smaller.

C. Structural-Test Performance: Provide aluminum-framed systems tested according to ASTM E 330 as follows:

1. When tested at positive and negative wind-load design pressures, systems do not evidence deflection exceeding specified limits.
2. When tested at 150 percent of positive and negative wind-load design pressures, systems, including anchorage, do not evidence material failures, structural distress, and permanent deformation of main framing members exceeding 0.2 percent of span.
3. Test Durations: As required by design wind velocity, but not fewer than 10 seconds.

D. Windborne-Debris-Impact Resistance Performance: Shall be tested in accordance with ASTM E 1886, information in ASTM E 1996 and TAS 201/203.

1. Large-Missile Impact: For aluminum-framed systems located within 30 feet (9.1 m) of grade.
2. Small-Missile Impact: For aluminum-framed systems located above 30 feet (9.1 m) of grade.

E. Air Infiltration: Provide aluminum-framed systems with maximum air leakage through fixed glazing and framing areas of 0.06 cfm/sq. ft. (0.03 L/s per sq. m) of fixed wall area when tested according to ASTM E 283 at a minimum static-air-pressure difference of 1.57 lbf/sq. ft. (75 Pa).

F. Water Penetration under Static Pressure: Provide aluminum-framed systems that do not evidence water penetration through fixed glazing and framing areas when tested according to ASTM E 331 at a minimum static-air-pressure difference of 20 percent of positive wind-load design pressure, but not less than 6.24 lbf/sq. ft. (300 Pa).

G. Thermal Movements: Provide aluminum-framed systems that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
2. Interior Ambient-Air Temperature: 75 deg F (24 deg C).

H. Condensation Resistance: Provide aluminum-framed systems with fixed glazing and framing areas having condensation-resistance factor (CRF) of not less than 53 when tested according to AAMA 1503.

I. Thermal Conductance: Provide aluminum-framed systems with fixed glazing and framing areas having an average U-factor of not more than 0.69 Btu/sq. ft. x h x deg F (3.92 W/sq. m x K) when tested according to AAMA 1503.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for aluminum-

framed systems.

B. Shop Drawings: For aluminum-framed systems. Include plans, elevations, sections, details, and attachments to other work.

1. Include details of provisions for system expansion and contraction and for drainage of moisture in the system to the exterior.
2. For entrance doors, include hardware schedule and indicate operating hardware types, functions, quantities, and locations.

C. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for aluminum-framed systems, indicating compliance with performance requirements.

D. Maintenance Data: For aluminum-framed systems to include in maintenance manuals.

E. Warranties: Sample of special warranties.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.

B. Engineering Responsibility: Prepare data for aluminum-framed systems, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in systems similar to those indicated for this Project.

C. Product Options: Information on Drawings and in Specifications establishes requirements for systems' aesthetic effects and performance characteristics. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Performance characteristics are indicated by criteria subject to verification by one or more methods including preconstruction testing, field testing, and in-service performance.

1. Do not revise intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If revisions are proposed, submit comprehensive explanatory data to Architect for review.

D. Accessible Entrances: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines.

E. Source Limitations for Aluminum-Framed Systems: Obtain from single source from single manufacturer.

1.5 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of structural supports for aluminum-framed systems by field measurements before fabrication and indicate measurements on Shop Drawings.

1.6 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of aluminum-framed systems that do not comply with requirements or that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures including, but not limited to, excessive deflection.
b. Noise or vibration caused by thermal movements.
c. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
d. Water leakage through fixed glazing and framing areas.
e. Failure of operating components.

2. Warranty Period: Five years from date of Substantial Completion.

B. Special Finish Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components on which finishes do not comply with requirements or that fail in materials or workmanship within specified warranty period. Warranty does not include normal weathering.

1. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Kawneer North America; an Alcoa company.
2. Oldcastle.

2.2 MATERIALS

A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.

1. Sheet and Plate: ASTM B 209 (ASTM B 209M).
2. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221 (ASTM B 221M).
3. Extruded Structural Pipe and Tubes: ASTM B 429.
4. Structural Profiles: ASTM B 308/B 308M.

B. Steel Reinforcement: Manufacturer's standard zinc-rich, corrosion-resistant primer, complying with SSPC-PS Guide No. 12.00; applied immediately after surface preparation and pretreatment. Select surface preparation methods according to recommendations in SSPC-SP COM and prepare surfaces according to applicable SSPC standard.

1. Structural Shapes, Plates, and Bars: ASTM A 36/A 36M.

2.3 FRAMING SYSTEMS

A. Framing Members: Manufacturer's standard extruded-aluminum framing members of thickness required and reinforced as required to support imposed loads.

1. Construction: Thermally broken.
2. Glazing System: Retained mechanically with gaskets on four sides.
3. Glazing Plane: As indicated.

B. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

C. Fasteners and Accessories: Manufacturer's standard stainless steel fasteners and accessories compatible with adjacent materials.

1. Use self-locking devices where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration.
2. Reinforce members as required to receive fastener threads.
3. No exposed fasteners will be permitted.

D. Concrete and Masonry Inserts: Hot-dip galvanized cast-iron, malleable-iron, or steel inserts, complying with ASTM A 123/A 123M or ASTM A 153/A 153M.

E. Concealed Flashing: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding flashing compatible with adjacent materials.

F. Framing System Gaskets and Sealants: Manufacturer's standard, recommended by manufacturer for joint type.

1. Provide sealants for use inside of the weatherproofing system that have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2.4 GLAZING SYSTEMS

A. Glazing: As specified in Division 08 Section "Glazing."

B. Glazing Gaskets: Manufacturer's standard compression types; replaceable, molded or extruded, of profile and hardness required to maintain watertight seal.

C. Spacers and Setting Blocks: Manufacturer's standard elastomeric type.

2.5 ENTRANCE DOOR SYSTEMS

A. Entrance Doors: Manufacturer's standard glazed entrance doors for manual-swing operation.

1. Door Construction: 1-3/4-inch (44.5-mm) overall thickness, with minimum 0.125-inch-(3.2-mm-) hick, extruded-aluminum tubular rail and stile members. Mechanically fasten corners with reinforcing brackets that are deeply penetrated and fillet welded or that incorporate concealed tie rods.
2. Door Design: Wide stile; 5-inch (127-mm) nominal width.

    a. Accessible Doors: Smooth surfaced for width of door in area within 10 inches (255 mm) above floor or ground plane.

3. Glazing Stops and Gaskets: Square, snap-on, extruded-aluminum stops and preformed gaskets.

    a. Provide nonremovable glazing stops on outside of door.

2.6 ACCESSORY MATERIALS

A. Joint Sealants: For installation at perimeter of aluminum-framed systems, as specified in Division 07 Section "Joint Sealants."

1. Provide sealants for use inside of the weatherproofing system that have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

B. Bituminous Paint: Cold-applied, asphalt-mastic paint complying with SSPC-Paint 12 requirements except containing no asbestos; formulated for 30-mil (0.762-mm) thickness per coat.

C. Flashing Pan: Manufacturer's standard window sill flashing pan with end dams.

2.7 FABRICATION

A. Form or extrude aluminum shapes before finishing.

B. Framing Members, General: Fabricate components that, when assembled, have the following characteristics:

1. Profiles that are sharp, straight, and free of defects or deformations.
2. Accurately fitted joints with ends coped or mitered.
3. Means to drain water passing joints, condensation within framing members, and moisture migrating within the system to exterior.
4. Physical and thermal isolation of glazing from framing members.
5. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
6. Provisions for field replacement of glazing from interior.
7. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.

C. Storefront Framing: Fabricate components for assembly using shear-block system or screw-spline system.

D. Entrance Door Frames: Reinforce as required to support loads imposed by door operation and for installing entrance door hardware.

1. At interior doors, provide silencers at stops to prevent metal-to-metal contact. Install three silencers on strike jamb of single-door frames and two silencers on head of frames for pairs of doors.

E. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

2.8 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General:

1. Comply with manufacturer's written instructions.
2. Do not install damaged components.
3. Fit joints to produce hairline joints free of burrs and distortion.
4. Rigidly secure nonmovement joints.
5. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration.
6. Seal joints watertight unless otherwise indicated.

B. Metal Protection:

1. Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or applying sealant or tape, or by installing nonconductive spacers as recommended by manufacturer for this purpose.
2. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

C. Install components to drain water passing joints, condensation occurring within framing members, and moisture migrating within the system to exterior.

D. Set continuous sill members and flashing in full sealant bed as specified in Division 07 Section "Joint Sealants" to produce weathertight installation.

E. Install components plumb and true in alignment with established lines and grades, and without warp or rack.

F. Install glazing as specified in Division 08 Section "Glazing."

G. Entrance Doors: Install doors to produce smooth operation and tight fit at contact points.

1. Field-Installed Entrance Door Hardware: Install surface-mounted entrance door hardware according to entrance door hardware manufacturers' written instructions using concealed fasteners to greatest extent possible.

H. Install perimeter joint sealants as specified in Division 07 Section "Joint Sealants" to produce weathertight installation.

3.3 ERECTION TOLERANCES

A. Install aluminum-framed systems to comply with the following maximum erection tolerances:

1. Location and Plane: Limit variation from true location and plane to 1/8 inch in 12 feet (3 mm in 3.7 m); 1/4 inch (6 mm) over total length.
2. Alignment:

a. Where surfaces abut in line, limit offset from true alignment to 1/16 inch (1.5 mm).
b. Where surfaces meet at corners, limit offset from true alignment to 1/32 inch (0.8 mm).

B. Diagonal Measurements: Limit difference between diagonal measurements to 1/8 inch (3 mm).

3.4 ADJUSTING

A. Adjust operating entrance door hardware to function smoothly as recommended by manufacturer.

1. For entrance doors accessible to people with disabilities, adjust closers to provide a 3-second closer sweep period for doors to move from a 70-degree open position to 3 inches (75 mm) from the latch, measured to the leading door edge.

END OF SECTION 084113

SECTION 08800

GLAZING

PART 1 GENERAL

1.1 SUMMARY

A. Section includes glass and glazing for metal-framed storefronts, doors, and curtain walls.
   1. Glass glazing materials and installation requirements are included in this section for other sections referencing this section.

B. Related Sections:
   1. Section 08212 - Flush Wood Doors: Glazed doors.
   2. Section 08410 – Aluminum Entrances and Storefronts.

1.2 REFERENCES

A. American National Standards Institute:
   1. ANSI Z97.1 - Safety Glazing Materials Used in Buildings Safety.

B. American Society of Civil Engineers:
   1. ASCE 7 - Minimum Design Loads for Buildings and Other Structures.

C. American Society for Testing and Materials:
   1. ASTM C570 - Standard Specification for Oil- and Resin-Base Caulking Compound for Building Construction.
   2. ASTM C669 - Standard Specification for Glazing Compounds for Back Bedding and Face Glazing of Metal Sash.
   3. ASTM C864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
   4. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
   5. ASTM C1036 - Standard Specification for Flat Glass.
   6. ASTM C1048 - Standard Specification for Heat-Treated Flat Glass-Kind HS, Kind FT Coated and Uncoated Glass.
   7. ASTM C1172 - Standard Specification for Laminated Architectural Flat Glass.
   8. ASTM C1193 - Standard Guide for Use of Joint Sealants.
   9. ASTM D4802 - Standard Specification for Poly (Methyl Methacrylate) Acrylic Plastic Sheet.
   10. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
   11. ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors By Uniform Static Air Pressure Difference.
   12. ASTM E546 - Standard Test Method for Frost Point of Sealed Insulating Glass Units.
   13. ASTM E576 - Standard Test Method for Frost Point of Sealed Insulating Glass Units in the Vertical Position.

14. ASTM E773 - Standard Test Methods for Seal Durability of Sealed Insulating Glass Units.
15. ASTM E774 - Standard Specification for Sealed Insulating Glass Units.
16. ASTM E1425 - Standard Practice for Determining the Acoustical Performance of Exterior Windows and Doors.

D. Glass Association of North America:
1. GANA - FGMA Sealant Manual.
2. GANA - Glazing Manual.
3. GANA - Laminated Glass Design Guide.

E. National Fire Protection Association:
1. NFPA 80 - Standard for Fire Doors, Fire Windows.

F. Underwriters Laboratories Inc.:
1. UL - Building Materials Directory.

1.3 PERFORMANCE REQUIREMENTS

A. Provide glass and glazing materials for continuity of building enclosure:
1. In conjunction with materials described in Section 07900.
2. To utilize inner pane of multiple pane sealed units for continuity of air barrier and vapor retarder seal.
3. To maintain continuous air barrier and vapor retarder throughout glazed assembly from glass pane to heel bead of glazing sealant.

B. Size glass to withstand dead loads and positive and negative live loads acting normal to plane of glass as calculated in accordance with applicable code as measured in accordance with ASTM E330.

C. Limit glass deflection to 1/200 or flexure limit of glass with full recovery of glazing materials, whichever is less.

D. All exterior glass shall be large and small missile impact rated.

1.4 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Product Data:
1. Glass: Provide structural, physical and environmental characteristics, size limitations, and special handling or installation requirements.
2. Glazing Sealants, Compounds and Accessories: Provide chemical, functional, and environmental characteristics, limitations, special application requirements. Identify available colors where exposed.

C. Samples:
1. Glass: Submit two samples 12 x 12 inch in size, illustrating each glass units, coloration and design.

2. Glazing Materials: Submit 12-inch long bead of glazing sealant and gaskets, color as selected.

D. Certificates: Certify products meet or exceed specified requirements.

E. Manufacturer's Certificate: Certify sealed insulated glass, meets or exceeds specified requirements.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with GANA Glazing Manual, GANA Sealant Manual, GANA Laminated Glass Design Guide for glazing installation methods.

B. Maintain one copy of each document on site.

1.6 QUALIFICATIONS

A. Installer: Company specializing in performing Work of this section with minimum three years documented experience and approved by manufacturer.

1.7 PRE-INSTALLATION MEETING

A. Section 01300 - Administrative Requirements: Preinstallation meeting.

B. Convene minimum one week before starting Work of this section.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Section 01600 - Product Requirements.

B. Do not install glazing when ambient temperature is less than 50 degrees F.

C. Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

1.9 WARRANTY

A. Section 01700 - Execution Requirements: Product warranties and product bonds.

B. Furnish ten-year warranty to include coverage for sealed glass units from seal failure, interpane dusting or misting, and replacement of same.

C. Furnish ten-year warranty to include coverage for delamination of laminated glass and replacement of same.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers
1. Guardian
2. Viracon
3. Arch Aluminum and Glass
4. PPG
5. Substitutions: Under provisions of Section 01600.

2.2 COMPONENTS

A. Glass Types:

Type 1: 1/4" clear tempered glass

Type 2: 19/32" Laminated glass (2 layers 1/4" glass with polyvinyl butyral interlayer) and Low-E coating. (Match Existing Color)

Type 3: Insulated glass unit: (MATCH EXISTING) - 1-5/16" thick outer pane of clear glass with low E coating. Inner pane of clear glass.
Visible light transmission – 68%, shading coefficient .43 (Verify)

Type 4: Insulated glass unit: (MATCH EXISTING)- 1-5/16" thick outer pane of clear glass with Low-E coating. Inner pane of clear glass.
Visible light transmission – 68%, shading coefficient .43
Spandrel - color to match architects' sample on #3 surface (Verify).

2.2 ACCESSORIES

A. Elastomeric Glazing Sealants: Materials compatible with adjacent materials including glass, laminated glass core, insulating glass seals, and glazing channels.
1. Silicone Glazing Sealant: ASTM C920, Type S, Grade NS, Class and Use suitable for glazing application indicated; single component; chemical curing; capable of water immersion without loss of properties; non-bleeding, non-staining, cured Shore A hardness of 15 to 25.
a. Structural Silicone: Furnish high-modulus structural silicone glazing materials where sealant bonds glass to substrate.

B. Pre-Formed Glazing Tape: Size to suit application.
1. Glazing Tape: Closed cell polyvinyl chloride foam, coiled on release paper over adhesive on two sides, maximum water absorption by volume of 2 percent, designed for compression of 25 percent to affect an air barrier and vapor retarder seal.
a. Type: manufactured by

C. Setting Blocks: ASTM C864 Option I, Neoprene, 80 to 90 Shore A udometer hardness, length of 0.1 inch for each square foot of glazing or minimum 4 inch x width of glazing rabbet space minus 1/16 inch x height to suit glazing method and pane weight and area.

D. Spacer Shims: ASTM C864 Option I, Neoprene, 50 to 60 Shore A udometer hardness, minimum 3 inch long x one half the height of glazing stop x thickness to suit application, self adhesive on one face.

E. Glazing Clips: Manufacturer's standard type.
1. Thickness: inch Manufacturer’s standard.

2.3 SOURCE QUALITY CONTROL AND TESTS

A. Provide testing and analysis of glass to Section 01400.

B. Provide shop inspection and testing for safety and insulated glass.

C. Test samples in accordance with ANSI Z97.1, ASTM E773, ASTM E546, and ASTM E576.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify openings for glazing are correctly sized and within acceptable tolerance.

C. Verify surfaces of glazing channels or recesses are clean, free of obstructions impeding moisture movement, weeps are clear, and ready to receive glazing.

3.2 PREPARATION

A. Clean contact surfaces with solvent and wipe dry.

B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.

C. Prime surfaces scheduled to receive sealant.

3.3 INSTALLATION

A. Perform installation in accordance with GANA Glazing Manual.
1. Glazing Sealants: Comply with ASTM C1193.
2. Fire Rated Openings: Comply with NFPA 80

B. Exterior Wet/Dry Method (Preformed Tape and Sealant) Installation:
1. Cut glazing tape to length and set against permanent stops, 3/16 inch below sight line. Seal corners by butting tape and dabbing with compatible butyl sealant.

2. Apply heel bead of butyl sealant along intersection of permanent stop with frame ensuring full perimeter seal between glass and frame to complete continuity of air and vapor seal.
3. Place setting blocks at 1/4 points with edge block no more than 6 inches from corners.
4. Rest glazing on setting blocks and push against tape and heel bead of sealant with sufficient pressure to attain full contact at perimeter of pane or glass unit.
5. Install removable stops, with spacer strips inserted between glazing and applied stops, 1/4 inch below sight line. Place glazing tape on glazing pane or unit with tape 1/4 inch below sight line.
6. Fill gap between glazing and stop with Elastomeric glazing sealant to depth equal to bite of frame on glazing, but not more than 3/8 inch below sight line.
7. Apply cap bead of Elastomeric glazing sealant along void between stop and glazing, to uniform line, flush with sight line. Tool or wipe sealant surface smooth.

C. Interior Wet/Dry Method (Tape and Sealant) Installation:
1. Cut glazing tape to length and install against permanent stops, projecting 1/16 inch above sight line.
2. Place setting blocks at 1/4 points with edge block no more than 6 inches from corners.
3. Rest glazing on setting blocks and push against tape to ensure full contact at perimeter of pane or unit.
4. Install removable stops, spacer shims inserted between glazing and applied stops at 24-inch intervals, 1/4 inch below sight line.
5. Fill gaps between pane and applied stop with Elastomeric glazing sealant to depth equal to bite on glazing, to uniform and level line.
6. Trim protruding tape edge.

3.4 FIELD QUALITY CONTROL

A. Section 01400 - Quality Requirements: Testing and Inspection Services 01700 - Execution Requirements: Testing, adjusting, and balancing.

B. Monitor quality of glazing.

3.5 MANUFACTURER'S FIELD SERVICES

A. Section 01400 - Quality Requirements: Manufacturers’ field services.

B. Glass and glazing product manufacturers to provide field surveillance of installation.

C. Monitor and report installation procedures, and unacceptable conditions.

3.6 CLEANING

A. Section 01700 - Execution Requirements: Final cleaning.

B. Remove glazing materials from finish surfaces.

C. Remove labels after Work is complete.

D. Clean glass and adjacent surfaces.

3.7 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01700 - Execution Requirements: Protecting installed construction.

B. After installation, mark pane with an 'X' by using removable plastic tape or paste. Do not mark heat absorbing or reflective glass units.

3.8 SCHEDULE

A. See Drawings for location of glass types.

END OF SECTION

SECTION 09260

GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Interior metal stud wall framing.
2. Metal channel ceiling framing.
3. Shaft wall system.
4. Gypsum board and joint treatment.
5. Exterior sheathing.
6. Tile backer board.
7. Acoustic insulation.
8. Textured finishes.

B. Related Requirements:
1. Section 06105 - Miscellaneous Rough Carpentry: Wood blocking for support of.

1.2 REFERENCE STANDARDS

A. ASTM International:
1. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.
2. ASTM C514 - Standard Specification for Nails for the Application of Gypsum Board.
3. ASTM C557 - Standard Specification for Adhesives for Fastening Gypsum Wallboard to Wood Framing.
4. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members.
5. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.
6. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.
7. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board.
8. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness.
9. ASTM C1002 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases.
10. ASTM C1007 - Standard Specification for Installation of Load Bearing (Transverse and Axial) Steel Studs and Related Accessories.
11. ASTM C1178/C1178M - Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel.
12. ASTM C1280 - Standard Specification for Application of Gypsum Sheathing.
13. ASTM C1288 - Standard Specification for Discrete Non-Asbestos Fiber-Cement Interior Substrate Sheets.

14. ASTM C1325 - Standard Specification for Non-Asbestos Fiber-Mat Reinforced Cement Substrate Sheets.
15. ASTM C1396/C1396M - Standard Specification for Gypsum Board.
16. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
17. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
18. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
19. ASTM F1667 - Standard Specification for Driven Fasteners: Nails, Spikes, and Staples.

B. American Society of Civil Engineers:
1. ASCE 7 - Minimum Design Loads for Buildings and Other Structures.

C. California Department of Health Services:
1. CA/DHS/EHLB/R-174 - Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda.

D. Gypsum Association:
1. GA 214 - Recommended Levels of Gypsum Board Finish.
2. GA 216 - Application and Finishing of Gypsum Board.
3. GA 600 - Fire Resistance Design Manual Sound Control.

E. Intertek Testing Services (Warnock Hersey Listed):
1. WH - Certification Listings.

F. National Fire Protection Association:
1. NFPA 265 - Standard Methods of Fire Tests for Evaluating Room Fire Growth Contribution of Textile Coverings on Full Height Panels and Walls, Method B.
2. NFPA 286 - Standard Methods of Fire Tests for Evaluating Room Fire Growth Contribution of Wall and Ceiling Interior Finish.

G. South Coast Air Quality Management District:
1. SCAQMD Rule 1168-January 7, 2005 - Adhesive and Sealant Applications.

H. Underwriters Laboratories Inc.:
1. UL - Fire Resistance Directory.

1.3 SUBMITTALS

A. Section 01330 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data on metal framing, gypsum board, joint tape; and acoustic accessories.

C. Shop Drawings:
1. Indicate special details associated with fireproofing, and acoustic seals.
2. Indicate installation details required for seismic design loads.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with ASTM C840. ASTM C1280, GA-214, GA-216 and GA-600.

B. Fire Rated Wall Construction: Rating as indicated on Drawings in conjunction with Section 05400, 06105
   1. Tested Rating: Determined in accordance with ASTM E119.
   2. Fire Rated Partitions: Listed assembly by UL (see drawings for UL nos.).

C. Surface Burning Characteristics:
   1. Textile Wall Coverings: Comply with one of the following:
      a. Maximum 25/450 flame spread/smoke developed index when tested in accordance with ASTM E84.
      b. Requirements of applicable code when tested in accordance with NFPA 265 Method B test protocol.
      c. Requirements of applicable code when tested in accordance with NFPA 286.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with documented experience.

B. Installer: Company specializing in performing Work of this section with documented experience.

PART 2 PRODUCTS

2.1 GYPSUM BOARD ASSEMBLIES

A. Manufacturers
   1. Gold Bond.
   2. United States Gypsum.
   3. Georgia Pacific.
   4. Substitutions: Section 01600 - Product Requirements.

Note: Refer to Section 05400 Cold-Formed Metal Framing for metal stud manufacturers.

2.2 COMPONENTS

A. Framing Materials:
   1. Studs and Tracks: ASTM C645; GA-216 and GA-600; 20 gauge to 14', 18 gauge over 14' unless otherwise noted on drawings. C shape, with knurled faces. Galvanize to G68 class coating. See Section 05400 for exterior metal stud framing.
   2. Furring, Framing, and Accessories: ASTM C645, GA-216 and GA-600.
   3. Fasteners: ASTM C1002, GA-216; length to suit application.
   4. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.
   5. Adhesive: ASTM C557.

B. Gypsum Board Materials: ASTM C1396/C1396M; Type X fire resistant.
   1. Fire Rated Gypsum Board: ASTM C1396; fire resistive type, UL or WH rated; 5/8 inch thick, maximum available length in place; ends square cut, tapered tapered and beveled square round edges.
   2. Fire Rated Mold and Moisture Resistant Gypsum Board: ASTM C36; fire resistive type, UL or WH rated; 5/8 inch thick, maximum available length in place; ends square cut, tapered and beveled square round edges.
      a. USG: 5/8” Mold Tough Firecorde C
      b. Certainteed: 5/8” ProRoc Mold and Moisture Resistant Type X.
      c. National Gypsum: 5/8” XP, Fire-Shield C
   3. Exterior Sheathing Board: ASTM C1396; 5/8” thick.
      a. USG, Securock.
      b. Georgia Pacific DensGlas.
   4. Shaftwall: ASTM C1396, type SLX, 1" thick with ASTM C1396, type X face boards.
   5. Hi-Impact Gypsum Board:
      a. National Gypsum Gold Bond Hi-Impact 5/8” XP Gypsum Board
      b. USG, Fiberock VHI

C. Tile Backer Boards:
   1. Glass Mat Gypsum Tile Backer Board: ASTM C1178/C1178M; 5/8 inch thick, Type X fire resistant, maximum available length in place; ends square cut, tapered edges; mold resistant.
   2. Fiber Cement Tile Backer Board: ASTM C1288; 5/8 inch thick; mold resistant.
   3. Tile Backer Board Joint Tape: 2 inch wide, coated glass fiber tape for joints and corners.

2.3 ACCESSORIES

A. Acoustic Insulation: ASTM C665; preformed glass fiber, friction fit type, un-faced, 6 inch thick.

B. Acoustic Sealant: Non-hardening, non-skinning, for use in conjunction with gypsum board;

C. Gypsum Board Accessories: ASTM C1047; metal; corner beads, edge trim, and expansion joints.
   1. Metal Accessories: Zinc.
   2. Edge Trim: Type L bead.

D. Joint Materials: GA-216; reinforcing tape, joint compound, and water.

E. Textured Finish Materials: Latex based texturing material.

F. Gypsum Board Screws: ASTM C954, ASTM C1002; length to suit application.
   1. Screws for Steel Framing: Type S.

G. Gypsum Board Nails: ASTM C514 or ASTM F1667; blued steel wire, deformed shank; length to suit application.

H. Plate Blocking: 14 gauge steel.

I. Exterior Sheathing Tape: 2” wide 10 x 10 woven thread per inch, self-adhering fiberglas joint tape.

J. Fiberglass Column Wrap: Gordon; Size as shown on plans.

K. Gordon Reveals: Size as shown on plans.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01700 - Execution and Closeout Requirements: Requirements for installation examination.

B. Verify site conditions are ready to receive work and opening dimensions are as indicated on shop drawings.

3.2 INSTALLATION

A. Metal Stud Installation:
1. Install studs in accordance with ASTM C754.
2. Install acoustical sealant under floor track of all studs.
3. Metal Stud Spacing: 16 inches on center.
4. Refer to Drawings for indication of partitions extending stud framing through ceiling to structure above. Maintain clearance under structural building members to avoid deflection transfer to studs. Provide extended leg ceiling runners.
5. Door Opening Framing: Install double studs at doorframe jambs.
6. Blocking: Nail wood blocking to studs. Install blocking for support of plumbing fixtures, toilet partitions, wall cabinets, wood frame opening, toilet accessories, hardware, and other accessories.
7. Install bridging at 1/3 points.

B. Wall Furring Installation:
1. Erect wall furring for direct attachment to concrete masonry and walls.
2. Erect furring channels horizontally; space maximum 16 inches oc, not more than 4 inches from floor and ceiling lines and abutting walls. Secure in place on alternate channel flanges at maximum 24 inches on center.
3. Erect metal stud framing tight to concrete masonry walls, attached by adjustable furring brackets.

C. Furring For Fire Ratings: Install furring as required for fire resistance ratings indicated.

D. Ceiling Framing Installation:
1. Install in accordance with ASTM C754.
2. Coordinate location of hangers with other work.
3. Install ceiling framing independent of walls, columns, and above ceiling work.
4. Reinforce openings in ceiling suspension system which interrupt main carrying channels or furring channels, with lateral channel bracing. Extend bracing minimum 24 inches past each end of openings.
5. Laterally brace entire suspension system.
6. Install 1-1/2” metal channels at max. 48” o.c. and 7/8” furring channels at 16” o.c.

E. Acoustic Accessories Installation:
   1. Place acoustic insulation in partitions tight within spaces, around cut openings, behind and around electrical and mechanical items within or behind partitions, and tight to items passing through partitions.
   2. Install acoustic sealant at gypsum board perimeter at:
      a. Metal Framing: One bead.
      b. Seal penetrations of partitions by conduit, pipe, ductwork, and rough-in boxes.

F. Gypsum Board Installation:
   1. Install gypsum board in accordance with GA-216 and GA-600.
   2. Erect single layer gypsum board in most economical direction, with ends and edges occurring over firm bearing.
   3. Erect single layer fire rated gypsum board vertically, with edges and ends occurring over firm bearing.
   4. Erect exterior gypsum sheathing in accordance with ASTM C1280 and manufacturer's recommendations, horizontally, with edges butted and ends occurring over firm bearing.
   5. Use screws when fastening gypsum board to metal furring or framing.
   6. Tape all joints on exterior gypsum sheathing with 2" wide 10 x 10 woven threads per inch, self-adhering fiberglass joint tape.
   7. Double Layer Applications: Secure second layer to first with fasteners.
   8. Place second layer perpendicular to first layer. Offset joints of second layer from joints of first layer.
   9. Treat cut edges and holes in moisture resistant gypsum board and exterior gypsum sheathing with sealant.
   10. Place control joints consistent with lines of building spaces as indicated on Drawings.
   11. Place corner beads at external corners. Use longest practical length. Place edge trim where gypsum board abuts dissimilar materials.

   12. Install reveals moldings at locations indicated on Drawings.
   13. All rated and smoke walls shall be stenciled above the ceiling with the rating of the wall.
   14. Install control joints at maximum 30’ o.c. Location by Architect.

G. Joint Treatment:
   1. Finish in accordance with GA-214 Level 4.
   2. Fill and finish joints and corners of cementitious backing board.

H. Texture Finish: Light Texture.

I. Shaft Wall Installation: Install vertically between steel runners attached to floor and ceiling. Insert panel edges into specially form studs spaced 24" o.c. Finish one side in accordance with Finish Schedule. Install materials as required for one or two hour rating as shown on plans.

J. Exterior Sheathing Installation:
   1. Apply sheathing perpendicular or parallel to framing with smooth side towards exterior. Fit ends closely.
   2. Install fasteners in accordance with manufacturer’s recommendations.
   3. Caulk all joints.

4. Tape all joints with 2” wide fiberglass tape.

3.3 ERECTION TOLERANCES

A. Section 01400 - Quality Requirements: Tolerances.

B. Maximum Variation of Finished Gypsum Board Surface from Flat Surface: 1/8 inch in 10 feet.

3.4 SCHEDULES

A. Material:

Location	Type
1. Equipment Rooms, , Toilet Rooms,	Mold Resistant Gypsum Bd.
2. Ceilings and Furr Downs	Fire-Rated Gypsum Board
3. Walls	Fire-Rated Gypsum Board

B. Finishes:
1. Gypsum Board Walls and Ceilings: GA. 214 Level 4

C. Acoustic Insulation:
1. Install acoustical sealant under all interior stud tracks that have acoustical insulation.
2. Insulate walls, full thickness as indicated on Drawings.
3. Ceilings, 6” thick as indicated on Drawings.

D. Access Panels:
1. Install in gypsum board ceilings at all HVAC box units and at each floor of all fire rated shafts final location to be determined by Architect.

END OF SECTION

SECTION 09300

TILING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Porcelain floor tile.
2. Porcelain wall tile.

B. Related Sections include the following:

1. Division 07 Section "Joint Sealants" for sealing of expansion, contraction, control, and isolation joints in tile surfaces.
2. Division 09 Section "Gypsum Board" for glass-mat, water-resistant backer board.

1.2 PERFORMANCE REQUIREMENTS

A. Static Coefficient of Friction: For tile installed on walkway surfaces, provide products with the following values as determined by testing identical products per ASTM C 1028:

1. Level Surfaces: Minimum 0.6.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Samples for Verification:

1. Full-size units of each type and composition of tile and for each color and finish required.
2. Assembled samples with grouted joints for each type and composition of tile and for each color and finish required, at least 12 inches square and mounted on rigid panel. Use grout of type and in color or colors approved for completed work.
3. Full-size units of each type of trim and accessory for each color and finish required.

C. LEED Submittal:

1. Credit EQ 4.1: Manufacturers' product data for sealants, including printed statement of VOC content.
2. Product Certificates for Credit MR 5: For products and materials required to comply with requirements for regional materials indicating location and distance from Project of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include statement indicating cost for each regional material and the fraction by weight that is considered regional.

D. Master Grade Certificates: For each shipment, type, and composition of tile, signed by tile manufacturer and Installer.

E. Product Certificates: For each type of product, signed by product manufacturer.

F. Material Test Reports: For each tile-setting and -grouting product.

1.4 QUALITY ASSURANCE

A. Source Limitations for Tile: Obtain all tile of same type and color or finish from one source or producer.

1. Obtain tile from same production run and of consistent quality in appearance and physical properties for each contiguous area.

B. Source Limitations for Setting and Grouting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from a single manufacturer and each aggregate from one source or producer.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirement in ANSI A137.1 for labeling sealed tile packages.

B. Store tile and cementitious materials on elevated platforms, under cover, and in a dry location.

C. Store aggregates where grading and other required characteristics can be maintained, and contamination avoided.

D. Store liquid latexes in unopened containers and protected from freezing.

E. Handle tile that has temporary protective coating on exposed surfaces to prevent coated surfaces from contacting backs or edges of other units. If coating does contact bonding surfaces of tile, remove coating from bonding surfaces before setting tile.

1.6 PROJECT CONDITIONS

A. Environmental Limitations: Do not install tile until construction in spaces is complete and ambient temperature and humidity conditions are maintained at the levels indicated in referenced standards and manufacturer's written instructions.

1.7 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Tile and Trim Units: Furnish quantity of full-size units equal to 3 percent of amount installed, for each type, composition, color, pattern, and size indicated.

PART 2 - PRODUCTS

2.1 PRODUCTS, GENERAL

A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1, "Specifications for Ceramic Tile," for types, compositions, and other characteristics indicated.

1. Provide tile complying with Standard grade requirements, unless otherwise indicated.

B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI standards referenced in "Setting and Grouting Materials" Article.

C. Colors, Textures, and Patterns: Where manufacturer's standard products are indicated for tile, grout, and other products requiring selection of colors, surface textures, patterns, and other appearance characteristics, provide specific products or materials complying with the following requirements:

1. As indicated in the Finish Schedule for each building and Legend Sheet G-11.

D. Factory Blending: For tile exhibiting color variations within ranges selected during Sample submittals, blend tile in factory and package so tile units taken from one package show same range in colors as those taken from other packages and match approved Samples.

E. Factory-Applied Temporary Protective Coating: Where indicated under tile type, protect exposed surfaces of tile against adherence of mortar and grout by precoating with continuous film of petroleum paraffin wax, applied hot. Do not coat unexposed tile surfaces.

2.2 TILE PRODUCTS

A. Unglazed Wall and Floor Tile: Flat tile as follows:

1. Composition: Porcelain.
2. Facial Dimensions: As indicated in Finish Schedule and Legend in Drawings.
3. Thickness: 3/8 inch.
4. Face: Plain with square or cushion edges.
5. Basis-of-Design Product: As indicated in Section 090690 Color Schedule or a comparable product.

Basis of Design
Crossville, Inc.
349 Sweeney Drive, Crossville, TN 38555
931-484-2110 https://www.crossvilleinc.com/
Rep: Brian Banter (850)505-7676 c(850)723-7047 bbanter@crossvillestudios.com

B. Wall Tile Trim Units: Matching characteristics of adjoining flat tile and coordinated with sizes and coursing of adjoining flat tile where applicable. Provide shapes as follows, selected from manufacturer's standard shapes:

1. Base for Thin-Set Mortar Installations: Straight, module size as indicated in Section 090690 Color Schedule.
2. External Corners for Thin-Set Mortar Installations: Surface bullnose.
3. Internal Corners: Field-butted square corners except with coved base and cap angle pieces designed to fit with stretcher shapes.

2.3 SETTING AND GROUTING MATERIALS

A. Latex-Portland Cement Mortar (Thin Set): ANSI A118.4, consisting of the following:

1. Prepackaged dry-mortar mix containing dry, redispersible, ethylene vinyl acetate additive to which only water must be added at Project site.

a. For wall applications, provide nonsagging mortar that complies with Paragraph F-4.6.1 in addition to the other requirements in ANSI A118.4.

B. Polymer-Modified Tile Grout: ANSI A118.7, color as indicated.

1. Polymer Type: Either ethylene vinyl acetate, in dry, redispersible form, prepackaged with other dry ingredients, or acrylic resin or styrene-butadiene rubber in liquid-latex form for addition to prepackaged dry-grout mix.

a. Sanded grout mixture for joints 1/8 inch and wider.

2.4 MISCELLANEOUS MATERIALS

A. Temporary Protective Coating: Either product indicated below that is formulated to protect exposed surfaces of tile against adherence of mortar and grout; compatible with tile, mortar, and grout products; and easily removable after grouting is completed without damaging grout or tile.

1. Petroleum paraffin wax, fully refined and odorless, containing at least 0.5 percent oil with a melting point of 120 to 140 deg F per ASTM D 87.
2. Grout release in form of manufacturer's standard proprietary liquid coating that is specially formulated and recommended for use as temporary protective coating for tile.

B. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.

C. Grout Sealer: Manufacturer's standard silicone product for sealing grout joints that does not change color or appearance of grout.

2.5 MIXING MORTARS AND GROUT

A. Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers'

written instructions.

B. Add materials, water, and additives in accurate proportions.

C. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of installed tile.

1. Verify that substrates for setting tile are firm; dry; clean; free of oil, waxy films and curing compounds; and within flatness tolerances required by referenced ANSI A108 Series of tile installation standards for installations indicated.
2. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of work, and similar items located in or behind tile has been completed before installing tile.
3. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust joint locations in consultation with Architect.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove coatings, including curing compounds and other substances that contain soap, wax, oil, or silicone, that are incompatible with tile-setting materials.

B. Blending: For tile exhibiting color variations within ranges selected during Sample submittals, verify that tile has been factory blended and packaged so tile units taken from one package show same range of colors as those taken from other packages and match approved Samples. If not, factory blended, either return to manufacturer or blend tiles at Project site before installing.

C. Field-Applied Temporary Protective Coating: Where indicated under tile type or needed to prevent grout from staining or adhering to exposed tile surfaces, precoat them with continuous film of temporary protective coating, taking care not to coat unexposed tile surfaces.

3.3 INSTALLATION, GENERAL

A. ANSI Tile Installation Standards: Comply with parts of ANSI A108 Series "Specifications for Installation of Ceramic Tile" that apply to types of setting and grouting materials and to methods indicated in ceramic tile installation schedules.

B. TCA Installation Guidelines: TCA's "Handbook for Ceramic Tile Installation." Comply with TCA installation methods indicated in ceramic tile installation schedules.

C. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions, unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.

D. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.

E. Jointing Pattern: Lay tile in grid pattern shown on the drawings. Provide uniform joint widths, unless otherwise indicated.

F. Expansion Joints: Locate expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.

1. Locate joints in tile surfaces directly above joints in concrete substrates.

G. Grout tile to comply with requirements of the following tile installation standards:

1. For ceramic tile grouts (sand-portland cement; dry-set, commercial portland cement; and latex-portland cement grouts), comply with ANSI A108.10.

3.4 FLOOR TILE INSTALLATION

A. General: Install tile to comply with requirements in the Floor Tile Installation Schedule, including those referencing TCA installation methods and ANSI A108 Series of tile installation standards.

1. For installations indicated below, follow procedures in ANSI A108 Series tile installation standards for providing 95 percent mortar coverage.

a. Tile floors in wet areas.
b. Tile floors composed of tiles 8 by 8 inches or larger.

B. Joint Widths: Install tile on floors with the following joint widths:

1. Porcelain Tile: 1/8 inch.

C. Grout Sealer: Apply grout sealer to cementitious grout joints according to grout-sealer manufacturer's written instructions. As soon as grout sealer has penetrated grout joints, remove excess sealer and sealer that has gotten on tile faces by wiping with soft cloth.

3.5 WALL TILE INSTALLATION

A. Install types of tile designated for wall installations to comply with requirements in the Wall Tile Installation Schedule, including those referencing TCA installation methods and ANSI setting-bed standards.

B. Joint Widths: Install tile on walls with the following joint widths:

1. Porcelain Tile: 1/8 inch.

3.6 CLEANING AND PROTECTING

A. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.

1. Remove latex-portland cement grout residue from tile as soon as possible.
2. Clean grout smears and haze from tile according to tile and grout manufacturer's written instructions, but no sooner than 10 days after installation. Use only cleaners recommended by tile and grout manufacturers and only after determining that cleaners are safe to use by testing on samples of tile and other surfaces to be cleaned. Protect metal surfaces and plumbing fixtures from effects of cleaning. Flush surfaces with clean water before and after cleaning.
3. Remove temporary protective coating by method recommended by coating manufacturer that is acceptable to tile and grout manufacturer. Trap and remove coating to prevent it from clogging drains.

B. When recommended by tile manufacturer, apply coat of neutral protective cleaner to completed tile walls and floors. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear.

C. Prohibit foot and wheel traffic from tiled floors for at least seven days after grouting is completed.

D. Before final inspection, remove protective coverings and rinse neutral cleaner from tile surfaces.

3.7 FLOOR TILE INSTALLATION SCHEDULE

A. Tile Installation: Interior floor installation on concrete; thin-set mortar; TCA F113 and ANSI A108.5.

1. Tile Type: Porcelain tile.
2. Thin-Set Mortar: Latex- portland cement mortar.
3. Grout: Polymer-modified sanded grout.

3.8 WALL TILE INSTALLATION SCHEDULE

A. Tile Installation: Interior wall installation over glass-mat, water-resistant backer board; thin-set mortar; TCA W245 and ANSI A108.5.

1. Tile Type: Porcelain wall tile.
2. Thin-Set Mortar: Latex- portland cement mortar.
3. Grout: Polymer-modified unsanded grout.

END OF SECTION 093000

SECTION 09511

SUSPENDED ACOUSTICAL CEILINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Suspended metal grid ceiling system and perimeter trim.

B. Acoustical tile panels.

C. Non-fire rated assembly.

1.02 REFERENCES

A. ASTM C635 - Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings.

B. ASTM E1264 - Classification of Acoustical Ceiling Products.

C. Ceilings and Interior Systems Contractors Association (CISCA) - Acoustical Ceilings: Use and Practice.

D. UL - Fire Resistance Directory and Building Material Directory.

1.03 SYSTEM DESCRIPTION

A. Suspension system to rigidly secure acoustical ceiling system including integral mechanical and electrical components with maximum deflection of 1/360.

1.04 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Provide data on metal grid system components, acoustical units and accessories.

C. Samples: Submit two samples 6 x 6 inch in size illustrating material and finish of acoustical units.

D. Samples: Submit two samples each, 12 inches long, of suspension system main runner, cross runner, and edge trim.

E. Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention.

1.05 QUALIFICATIONS

A. Grid Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

B. Acoustical Unit Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

1.06 REGULATORY REQUIREMENTS

A. Conform to applicable code for fire rated assembly and combustibility requirements for materials.

1.07 ENVIRONMENTAL REQUIREMENTS

A. Maintain uniform temperature of minimum 60 degrees F, and maximum humidity of 60 percent prior to, during, and after acoustical unit installation.

1.08 SEQUENCING

A. Sequence work under the provisions of Section 01010.

B. Sequence work to ensure acoustical ceilings are not installed until building is enclosed, sufficient heat is provided, dust generating activities have terminated, and overhead work is completed, tested, and approved.

C. Install acoustical units after interior wet work is dry.

1.09 EXTRA MATERIALS

A. Furnish under provisions of Section 01700.

B. Provide 100 sq ft of extra tile panels to Owner.

PART 2 PRODUCTS

2.01 MANUFACTURERS - SUSPENSION SYSTEM

A. Armstrong

2.02 SUSPENSION SYSTEM MATERIALS

A. Non-fire Rated Grid: ASTM C635, intermediate; exposed T; components die cut and interlocking.

B. Grid Materials: Commercial quality cold rolled steel with hot dipped galvanized coating.

C. Exposed Grid Surface Width: 15/16 inch or 9/16 inch. See 2.04 Acoustical Materials.

D. Grid Finish: White.

E. Accessories: Stabilizer bars, clips, splices, edge moldings, hold down clips and other accessories required for suspended grid system.

F. Support Channels and Hangers: Galvanized steel; size and type to suit application and ceiling system flatness requirement specified.

2.03 MANUFACTURERS - ACOUSTICAL UNITS

A. Armstrong or USG – (Match existing)

B. Substitutions: Under provisions of Section 01600.

2.04 ACOUSTICAL UNIT MATERIALS

ACT-1: MATCH EXISTING

2.05 ACCESSORIES

A. Touch-up Paint: Type and color to match acoustical and grid units.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify site conditions under provisions of Section 01300.

B. Verify that layout of hangers will not interfere with other work.

3.02 INSTALLATION - LAY-IN GRID SUSPENSION SYSTEM

A. Install suspension system in accordance with ASTM C636 and manufacturer's instructions and as supplemented in this section.

B. Install system capable of supporting imposed loads to a deflection of 1/360 maximum.

C. Lay out system to a balanced grid design with edge units no less than 50 percent of acoustical unit size.

D. Install after major above ceiling work is complete. Coordinate the location of hangers with other work.

E. Supply hangers or inserts for installation to other Sections with instructions for their correct placement.

F. Provide hanger clips during steel deck erection. Provide additional hangers and inserts as required.

G. Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.

H. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.

I. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability. Support fixture loads by supplementary hangers located within 6 inches of each corner; or support components independently.

J. Do not eccentrically load system, or produce rotation of runners.

K. Install edge molding at intersection of ceiling and vertical surfaces, using longest practical lengths. Miter corners. Provide edge moldings at junctions with other interruptions. Caulk edge molding to vertical surfaces.

3.03 INSTALLATION - ACOUSTICAL UNITS

A. Install acoustical units in accordance with manufacturer's instructions.

B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.

C. Lay directional patterned units one way with pattern parallel to longest room axis. Fit border trim neatly against abutting surfaces.

D. Install units after above ceiling work is complete.

E. Install acoustical units level, in uniform plane, and free from twist, warp and dents.

F. Cut panels to fit irregular grid and perimeter edge trim. Field rabbet panel edge.

3.04 ERECTION TOLERANCES

A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet.

B. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

3.05 SCHEDULE

A. As noted on Finish Schedule.

END OF SECTION

SECTION 09 65 19

RESILIENT TILE FLOORING

PART 1 - 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. Section Includes:

1. Luxury Vinyl floor tiles, plank and square tile
2. Adhesive and related accessories
3. Surface-applied moisture mitigation and related products

B. Related Sections:

1. Division 07 Section “Joint Sealants” for single-component and multi-component elastomeric, latex, silicone, urethane and other joint sealants.
2. Division 09 Section "Resilient Base and Accessories" for resilient base, reducer strips, and other accessories installed with resilient floorcoverings.

1.3 ACTION SUBMITTALS

A. Submit items in accordance with Division 01 Section “Submittal Procedures.”

B. Product Data: For each type of product indicated, submit two (2) copies of manufacturers’ product data, installation instructions and accessories specified and/or required by manufacturer.

C. Shop Drawings: Submit Drawings for each type of floor tile. Include floor tile layouts, edges, columns, doorways, enclosing partitions, built-in furniture, cabinets, and cutouts.

1. Show details of special patterns, type, locations and direction. See Finish Drawings.
2. Transition details to other flooring materials.

D. Samples for Verification: Submit one (1) Sample, maximum 6 x 6 inches in size, illustrating color and pattern of floor tile required.

E. Control Samples: Contractor to retain duplicate set of submitted Samples from the same production as the submitted Samples on site until the Project is completed.

F. Product Schedule: See Finish Material Listing in Finish Drawings.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For each type of floor tile, provide maintenance manuals including manufacturers' written instructions for cleaning and maintenance.

1.5 MATERIALS MAINTENANCE SUBMITTALS

A. Furnish extra materials/attic stock that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Maintenance Materials: Contractor to coordinate with Owner the quantity of maintenance materials required for each product.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who employs workers for this Project who are competent in techniques required by manufacturer for floor tile installation and seaming method indicated.

1. Engage an installer who employs workers for this Project who are trained or certified by manufacturer for installation techniques required.

B. Fire-Test-Response Characteristics: As determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.

1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

C. Prior to installation of flooring, submit written certification by both flooring and adhesive manufacturers that condition of sub-floor is acceptable.

D. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution including substrate preparation and required testing.

1. Build mockups for floor tile including resilient base and accessories.

a. Size: Minimum 100 sq. ft. for each type, color, and pattern in locations directed by Architect/Interior Designer.
b. Maintain accepted mock-up throughout the construction process.
c. Accepted and approved mock-up may remain as part of the finished Work as a standard for subsequent Work.

E. Contractor to schedule pre-installation conference with flooring sub-contractor, Architect/Interior Designer and Owner to review seaming diagrams, adhesives, floor preparation procedures, moisture mitigation procedures, bond/adhesion tests, and installation procedures.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store floor tile and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F. Store floor tiles on flatsurfaces.

1.8 PROJECT CONDITIONS

A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 95 deg F, in spaces to receive floor tile during the following time periods:

1. 48 hours before installation.
2. During installation.
3. 48 hours after installation.

B. Until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 degF.

C. Close spaces to traffic during floor tile installation.

D. Close spaces to walking traffic for 48 hours and to rolling traffic for 72 hours after floor tile installation.

E. Install floor tile after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. FloorScore Compliance: Resilient tile flooring shall comply with requirements of FloorScore Standard developed by the Resilient Floor Covering Institute (RFCI).

2.2 LUXURY VINYL FLOOR TILE

A. Products: Subject to compliance with requirements, see Finish Material Listing for Basis of Design.

B. Tile Standard: ASTM F 1700

C. Size, Seaming Method, Colors and Patterns: See Finish Material Listing in Finish Drawings.

2.3 INSTALLATION MATERIALS

A. Substrate Preparation Products:

1. Trowelable Leveling and Patching Compounds: Portland cement-based or blended hydraulic cement-based formulation provided or approved by floor covering manufacturer for applicationsindicated.
2. Moisture Mitigation Product – As approved by flooring manufacturer and adhesive manufacturer to provide warrantiedinstallation.

B. Adhesives: Water-resistant type recommended by manufacturer to suit floor tile and substrate conditions indicated.

1. Adhesives shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24): Not more than 50g/L
2. Coordinate with Owner any areas with heavy rolling equipment (patient rooms, trauma rooms, holding rooms, etc. and all associated corridors along travel route which may require additional preparation and/oradhesives.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content, moisture vapor emission, temperature, alkalinity, installation tolerance, moisture mitigation, and other conditions affecting performance of the Work.

B. At areas which require moisture mitigation, brush blasting, bead blasting, shot blasting, scarifying or other substrate preparation, consult with Architect and Structural Engineer prior to performing Work.

C. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of floor tile.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.

B. Concrete Substrates: Prepare according to ASTM F 710.
1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods

recommended by manufacturer. Do not use solvents.

3. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
4. Moisture Testing: Perform tests recommended by manufacturer and as follows. Proceed with installation only after all substrates pass testing.

    a. Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of allowed / permissible by manufacturer(s) for each product specified in 24 hours.
    b. Perform relative humidity test using in situ probes, ASTM F 2170. Proceed with installation only after substrates have the maximum relative humidity level measurement allowed by manufacturer(s) for each product specified.
    c. If required, apply the moisture mitigation product per the manufacturer's recommendations and provide any additional calcium chloride testing of the prepared substrate per moisture mitigation manufacturer's recommendations prior to installation of floor covering and register results with the moisture mitigation manufacturer, General Contractor, Owner and Architect.

C. Access Flooring Panels: Remove protective film of oil or other coating using method recommended by access flooring manufacturer.

D. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.

E. Do not install floor tiles until they are same temperature as space where they are to be installed.

1. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.

F. Sweep and vacuum clean substrates to be covered by resilient products immediately before installation.

3.3 FLOOR TILE INSTALLATION

A. Comply with manufacturer's written instructions for installing floor tile.

B. Lay out floor tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.

C. Lay tiles square with room axis or as indicated in Finish Drawings. Match floor tiles for color and pattern by selecting tiles from cartons in the same sequence as manufactured and packaged, if so numbered. Discard broken, cracked, chipped, or deformed tiles.

1. Lay tiles with grain running in one direction or as indicated in Finish Drawings.

D. Scribe, cut, seal and fit floor tiles to butt neatly and tightly to vertical surfaces and

permanent fixtures including built-in furniture, cabinets, pipes, outlets, and door frames.

E. Extend floor tiles into toe spaces, door reveals, closets, and similar openings. Extend floor tiles to center of door openings.

F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on floor tiles as marked on substrates. Use chalk or other nonpermanent, non staining marking device.

G. Install floor tiles on covers for telephone and electrical ducts, building expansion-joint covers, and similar items in finished floor areas. Maintain overall continuity of color and pattern between pieces of tile installed on covers and adjoining tiles. Tightly adhere tile edges to substrates that abut covers and to cover perimeters.

H. Adhere floor tiles to flooring substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

I. At areas receiving integral base, extend flooring material or pre-molded base up the wall to the height indicated on the drawings. Carefully miter corners and heat seal seams. The cut style at mitered corners must be consistent throughout entire project as approved at the pre-installation conference or as per approved mock-up.

1. Install integral base cove cap. Clean thoroughly and apply sealant between the cove cap and wall and to bottom of door frame to floor. See Division 07 Section “Joint Sealants.”

J. Protect flooring installations and do not allow walking traffic for 24 hours or rolling loads for 72 hours after completion of installation to allow for setting and drying of adhesive.

3.4 CLEANING AND PROTECTION

A. Comply with manufacturer's written instructions for cleaning and protection of floor tile.

B. Perform the following operations immediately after completing floor tile installation:

1. Remove adhesive and other blemishes from exposed surfaces.
2. Sweep and vacuum surfaces thoroughly.
3. Damp-mop surfaces to remove marks and soil.

C. Protect floor tile products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.

D. Joint Sealant: Apply sealant to resilient tile flooring at door frames and at other joints and penetrations.

E. Cover floor tile until Substantial Completion.

END OF SECTION 09 65 19

SECTION 096513

RESILIENT BASE AND ACCESSORIES

PART 1 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. Section Includes:
   1. Resilient base
   2. Resilient molding accessories
   3. Adhesive and related accessories

B. Related Sections:
   1. Division 07 Section “Joint Sealants” for single-component and multi-component elastomeric, latex, silicone, urethane and other joint sealants.
   2. Division 09 Section "Resilient Tile Flooring" for resilient floor tile.

1.3 ACTION SUBMITTALS

A. Submit items in accordance with Division 01 Section “Submittal Procedures.”

B. Product Data: For each type of product indicated, submit two (2) copies of manufacturers’ product data, installation instructions, and accessories specified and/or required by manufacturer.

C. Samples for Verification: Submit one (1) Sample for each type of product indicated in manufacturer's standard-size, of each resilient product color, texture, and pattern required.

D. Control Samples: Contractor to retain duplicate set of submitted Samples from the same production as the submitted Samples on site until the Project is completed.

E. Product Schedule: See Finish Material Listing in Finish Drawings.

1.4 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials/attic stock that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
   1. Maintenance Materials: Contractor to coordinate with Owner the quantity of maintenance materials required for each product.

1.5 QUALITY ASSURANCE

A. Fire-Test-Response Characteristics: As determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.
   1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

B. Mockups: Provide resilient products with mockups specified in other Sections.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store resilient products and installation materials in dry spaces protected from the

weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F.

1.7 PROJECT CONDITIONS

A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 95 deg F, in spaces to receive resilient products during the following time periods:
   1. 48 hours before installation.
   2. During installation.
   3. 48 hours after installation.

B. Until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.

C. Install resilient products after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 RESILIENT BASE

A. Resilient Base:
   1. Manufacturers: Subject to compliance with requirements, see Finish Material Listing in Finish Drawings for Basis of Design.

B. Resilient Base Standard: ASTM F 1861
   1. Material Requirement: Type TS (rubber, vulcanized thermoset)
   2. Manufacturing Method: Group I (solid, homogeneous)

C. Style: See finish materials listing in the finish drawings

D. Minimum Thickness: See Finish Material Listing in Finish Drawings.

E. Height: See Finish Material Listing in Finish Drawings.

F. Lengths: Sticks for profile and coils in manufacturer's standard length

G. Outside Corners: Job formed

H. Inside Corners: Job formed

I. Finish Colors and Patterns: See Finish Material Listing in Finish Drawings.

2.2 RESILIENT MOLDING ACCESSORY

A. Resilient Molding Accessory:
   1. Manufacturers: Subject to compliance with requirements, see Finish Material Listing in Finish Drawings for Basis of Design. Description: See Finish Material Listing and floor transition details in Finish Drawings.

B. Material: As standard with manufacturer.

C. Profile and Dimensions: See Finish Material Listing and floor transition

details in Finish Drawings.

D. Colors and Patterns: See Finish Material Listing and floor transition details in Finish Drawings.

2.3 INSTALLATION MATERIALS

A. Trowelable Leveling and Patching Compounds: Portland cement based or blended hydraulic-cement-based formulation provided or approved by manufacturer for applications indicated.

B. Adhesives: Water-resistant type recommended by manufacturer to suit resilient products and substrate conditions indicated.

1. Adhesives shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24), except that adhesive for rubber stair treads shall have a VOC content of 60 g/L or less.

C. Stair-Tread-Nose Filler: Two-part epoxy compound recommended by resilient tread manufacturer to fill nosing substrates that do not conform to tread contours.

D. Metal Edge Strips: Extruded aluminum with mill finish of width shown, of height required to protect exposed edges of tiles, and in maximum available lengths to minimize running joints.

E. Floor Polish: Provide protective liquid floor polish products as recommended by resilient stair tread manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient product.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of

resilient products.

B. Concrete Substrates for Resilient Stair Treads and Accessories: Prepare according to ASTM F 710.

1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.

2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by

manufacturer. Do not use solvents.

3. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer.
4. Moisture Testing: Perform tests recommended by manufacturer and as follows. Proceed with installation only after all substrates pass testing.
   a. Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate allowed by manufacturer(s) for each product specified in 24hours.
   b. Perform relative humidity test using in situ probes, ASTM F 2170. Proceed with installation only after substrates have maximum relative humidity level measurement allowed by manufacturer(s) for each product specified.

C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.

D. Do not install resilient products until they are same temperature as the space where they are to be installed.

E. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.

F. Sweep and vacuum clean substrates to be covered by resilient products immediately before installation.

3.3 RESILIENT BASE INSTALLATION

A. Comply with manufacturer's written instructions for installing resilient base.

B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.

C. Install resilient base in lengths as long as practicable without gaps at seams and with tops of adjacent pieces aligned. Install Profile base in sticks.

D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.

E. Do not stretch resilient base during installation.

F. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.

G. Job-Formed Inside and Outside Corners:
   1. Inside and Outside Corners: Use straight pieces of maximum lengths possible. Form without producing discoloration (whitening) at bends.

3.4 RESILIENT ACCESSORY INSTALLATION

A. Comply with manufacturer's written instructions for installing resilient accessories.

B. Resilient Stair Accessories:

1. Use stair-tread-nose filler to fill nosing substrates that do not conform to tread contours.
2. Tightly adhere to substrates throughout length of each piece.
3. For treads installed as separate, equal-length units, install to produce a flush joint between units.

C. Resilient Molding Accessories: Butt to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips at edges of all resilient floor covering that would otherwise be exposed per floor transition details.

3.5 CLEANING AND PROTECTION

A. Comply with manufacturer's written instructions for cleaning and protection of resilient products.

B. Perform the following operations immediately after completing resilient product installation:
1. Remove adhesive and other blemishes from exposed surfaces.
2. Sweep and vacuum surfaces thoroughly.
3. Damp-mop surfaces to remove marks and soil.

C. Protect resilient products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.

D. Floor Polish: Remove soil, visible adhesive, and surface blemishes from resilient stair treads before applying liquid floor polish.

E. Apply liquid floor polish per manufacturers’ recommendations.

F. Joint Sealant: Coordinate with floor finish material for requirements concerning applying sealant at door frames and other joints and penetrations.

G. Cover resilient products until Substantial Completion.

END OF SECTION 09 65 13

SECTION 09685

TILE CARPETING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Carpet tile, fully adhered.
2. Accessories.

1.2 REFERENCE STANDARDS

A. ASTM International:
1. ASTM D2859 - Standard Specification for Ignition Characteristics of Finished Textile Floor Covering Materials.

B. California Department of Health Services:
1. CA/DHS/EHLB/R-174 - Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda.

C. Carpet and Rug Institute:
1. CRI Carpet Installation Standard - Standard for Installation of Commercial Carpet.
2. CRI Green Label Plus Testing Program.
3. CRI Model Specifications for Commercial Carpets.

D. Consumer Products Safety Commission:
1. CPSC 16 CFR 1630 - Standard for the Surface Flammability of Carpets and Rugs.

E. National Fire Protection Association:
1. NFPA 253 - Standard Method of Test for Critical Radiant Flux for Floor Covering Systems Using a Radiant Heat Energy Source.

F. South Coast Air Quality Management District:
1. SCAQMD Rule 1168[**-January 7, 2005**] - Adhesive and Sealant Applications.

1.3 PRE-INSTALLATION MEETINGS

A. Section 01300 - Administrative Requirements: Pre-installation meeting.

B. Convene minimum one week prior to commencing work of this section.

1.4 SUBMITTALS

A. Section 01330 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.

C. Shop Drawings: Indicate layout of joints, and direction of carpet pile.

D. Samples:
   1. Submit two carpet tiles illustrating color and pattern design for each carpet color selected. Matching roll carpet samples.

E. Manufacturer's Instructions: Submit special procedures, perimeter conditions requiring special attention.

1.5 CLOSEOUT SUBMITTALS

A. Section 01700 - Execution and Closeout Requirements: Requirements for submittals.

B. Operation and Maintenance Data: Submit maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Section 01700 - Execution and Closeout Requirements: Requirements for maintenance materials.

B. Extra Stock Materials:
   1. Furnish 100 sq. ft. of carpet tiles of each color and pattern selected.

1.7 QUALITY ASSURANCE

A. Surface Burning Characteristics:
   1. Floor Finishes: Comply with one of the following:
      a. Class I, minimum 0.45 watts/sq cm when tested in accordance with NFPA 253.
      b. CPSC 16 CFR 1630 and ASTM D 2859.

B. Texture Appearance Retention Rating: Rating classifications as determined by CRI Model Specifications for Commercial Carpets.
   1. Greater than or equal to 3.0 TARR for Heavy Traffic Level Classification.

1.8 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with documented experience.

B. Installer: Company specializing in performing work of this section with documented experience and approved by manufacturer.
   1. FCIB or IFCI certified carpet installers.

1.9 AMBIENT CONDITIONS

A. Section 01500 - Temporary Facilities and Controls: Ambient conditions control facilities for product storage and installation.

B. Store materials in area of installation for 48 hours prior to installation.

PART 2 PRODUCTS

2.1 CARPET TILE

A. See Finish Schedule.

2.2 SUSTAINABILITY CHARACTERISTICS

A. Section 01351 - Sustainable Project Requirements: Requirements for sustainable design compliance.

2.3 COMPONENTS

A. See Finish Schedule.

2.4 ACCESSORIES

A. Sub-Floor Filler: latex Type recommended by flooring material manufacturer.

B. Moldings and Edge Strips: Johnsonite Metal Edge

C. Contact Adhesive: Recommended by carpet manufacturer, zero VOC.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01700 - Execution and Closeout Requirements: Requirements for installation examination.

B. Verify floor surfaces are smooth and flat within tolerances specified in Section 03 35 00 and are ready to receive work.

C. Perform Calcium Chloride Test in accordance with ASTM F1869 and Relative Humidity Test (RH test) in accordance with ASTM F-2170. If tests indicate vapor mitigation is required, install vapor barrier per Section 09 96 66 Water Vapor Emission Control Systems. If vapor mitigation is not required, the Contractor shall credit the Owner $3.00/s.f. for the cost of the vapor mitigation barrier.

3.2 PREPARATION

A. Section 01700 - Execution and Closeout Requirements: Requirements for installation preparation.

B. Remove sub-floor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with sub-floor filler.

C. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Prohibit traffic until filler is cured.

D. Clean substrate.

3.3 INSTALLATION

A. Install carpet tile in accordance with CRI Carpet Installation Standard.

B. Do not mix carpet from different cartons unless from same dye lot.

C. Cut carpet tile clean. Fit carpet tight to intersection with vertical surfaces without gaps.

D. Install carpet tile in square pattern, with pile direction as indicated on shop drawings.

E. Locate change of color or pattern between rooms under door centerline.

F. Fully adhere carpet tile to substrate.

G. Trim carpet tile neatly at walls and around interruptions.

H. Complete installation of edge strips, concealing exposed edges.

3.4 CLEANING

A. Section 01700 - Execution and Closeout Requirements: Requirements for cleaning.

B. Remove excess adhesive from floor, base, and wall surfaces without damage.

C. Clean and vacuum carpet surfaces.

END OF SECTION

SECTION 09900

PAINTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation and field application of paints and coatings.

1.02 RELATED SECTIONS

A. Section 06200 - Finish Carpentry.

B. Section 06410 - Architectural Woodwork

C. Section 09260 - Gypsum Board Assemblies

1.02 REFERENCES

A. ASTM D16 - Definitions of Terms Relating to Paint, Varnish, Lacquer, and Related Products.

B. ASTM D2016 - Test Method for Moisture Content of Wood.

C. NPCA (National Paint and Coatings Association) - Guide to U.S. Government Paint Specifications.

1.03 DEFINITIONS

A. Conform to ASTM D16 for interpretation of terms used in this Section.

1.04 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Provide data on all finishing products.

C. Samples: Submit samples illustrating range of colors and textures available for each surface finishing product scheduled.

D. Samples: Submit samples illustrating selected colors and textures for each color selected.

E. Manufacturer's Instructions: Indicate special surface preparation procedures, substrate conditions requiring special attention.

1.05 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing the Products specified in

this section with minimum three years documented experience.

B. Applicator: Company specializing in performing the work of this section with minimum three years experience.

1.06 REGULATORY REQUIREMENTS

A. Conform to applicable code for flame and smoke rating requirements for finishes.

1.07 FIELD SAMPLES

A. Provide field sample of paint under provisions of Section 01400.

B. Locate where directed.

A. Accepted sample may not remain as part of the Work.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, protect and handle products to site under provisions of Section 01600.

B. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

C. Container label to include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

D. Store paint materials at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.09 ENVIRONMENTAL REQUIREMENTS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
B. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.
C. Minimum Application Temperature for Varnish Finishes: 65 degrees F for interior or exterior, unless required otherwise by manufacturer's instructions.
D. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

1.10 EXTRA MATERIALS

A. Furnish under provisions of Section 01700.

B. Provide 1 gallon of each color, type, and surface texture to Owner.

C. Label each container with color, type, texture, and room locations, in addition to the manufacturer's label.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Manufacturer:
1. Sherwin Williams Basis of Design

B. Products:
1. Primers
a. Interior:
1) Wood: Opaque Finish: S-W Preprite Classic Primer B28W101
2) Gypsum Board: S-W Preprite 200 Latex Primer B28W200.
3) Metal: S-W All Surface Enamel Primer, A41W210
4) Gypsum Board Epozy: Promar B28-200
5) CMU: S-W Heavy Duty Block - Filler
d. International Coatings Limited; Interzinc 315 Epoxy Zinc-Rich Primer.
e. PPG Architectural Finishes, Inc.; Aquapon Zinc-Rich Primer 97-670.
f. Sherwin-Williams Company (The); Corothane I GalvaPac Zinc Primer.
g. Tnemec Company, Inc.; Tneme-Zinc 90-97.

3. Finish Coats:
a. Interior
1) Wood (Opaque Finish): S-W Promar 200 Latex Sem-Gloss B31W2200 Series
2) Wood (Transparent Finish):
a. Stain: S-W Wood Classics Interior Oil Stain A49 Series
b. Wood Filler: S-W Sherwood Natural Filler, D70T1
c. Varnish: S-W Wood Classics Fast Dry Varnish, Satin and Gloss A66 Series
3) Gypsum Board: S-W Promar 200 Semi-gloss
4) Mechanical Room concrete floors: Sikatop Seal 107
5) Gypsum Board Epoxy: waterbase catalized epoxy #B 70.
6) CMU: S-W Duration Home Latex SemiGloss B97-100 Series
b. Exterior
1) Architecturally Exposed Structural Steel (AESS):
High-Performance Coating for Steel, Topcoat: High-build, semigloss polyurethane enamel.

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

2. Products: Subject to compliance with requirements, provide one of the following:

a. Benjamin Moore & Co.; M73/M75 Aliphatic Acrylic Urethane Semi-Gloss.
b. Carboline Company; Carbothane 133 HB Aliphatic Polyurethane.
c. ICI Devoe Coatings; Devthane378 Aliphatic Urethane Semi-Gloss Enamel.
d. International Coatings Limited; Interthane 870.
e. PPG Architectural Finishes, Inc.; Aquapon 95-612 Semi-Gloss Polyurethane.
f. Sherwin-Williams Company (The); Corothane II Satin B65-200 Series.
g. Tnemec Company, Inc.; Series 1075 Endura-Shield.

2.02 MATERIALS

A. Coatings: Ready mixed, except field catalyzed coatings. Process pigments to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating; good flow and brushing properties; capable of drying or curing free of streaks or sags.

B. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve the finishes specified, of commercial quality.

C. Patching Materials: Latex filler.

B. Fastener Head Cover Materials: Latex filler.

2.03 FINISHES

A. Refer to schedule at end of section for surface finish

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify site conditions under provisions of Section 01300.

B. Verify that surfaces and substrate conditions are ready to receive work as instructed by the product manufacturer.

C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

D. Test shop applied primer for compatibility with subsequent cover materials.

E. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces is below the following maximums:
1. Plaster and Gypsum Wallboard: 12 percent.
2. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.
3. Interior Wood: 15 percent, measured in accordance with ASTM D2016.
4. Exterior Wood: 15 percent, measured in accordance with ASTM D2016.
5. Concrete Floors: 8 percent.

3.02 PREPARATION

A. Remove electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.

B. Correct defects and clean surfaces which affect work of this section. Remove existing coatings that exhibit loose surface defects.

C. Seal with shellac and seal marks which may bleed through surface finishes.

D. Impervious Surfaces: Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

E. Concrete Floors: Remove contaminations, acid etch, and rinse floors with clear water. Verify required acid-alkali balance is achieved. Allow to dry.

F. Gypsum Board Surfaces: Fill minor defects with filler compound. Spot prime defects after repair.

G. Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.

I. Interior Wood Items Scheduled to Receive Paint Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats.

J. Interior Wood Items Scheduled to Receive Transparent Finish: Wipe off dust and grit prior to sealing, seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lightly between coats.

K. Wood and Metal Doors Scheduled for Painting: Seal top and bottom edges with primer.

3.03 APPLICATION

A. Apply products in accordance with manufacturer's instructions.

B. Do not apply finishes to surfaces that are not dry.

C. Apply each coat to uniform finish.

D. Apply each coat of paint slightly darker than preceding coat unless otherwise approved.

E. Sand wood and metal lightly between coats to achieve required finish.

F. Vacuum clean surfaces free of loose particles. Use tack cloth just prior to applying next coat.

G. Allow applied coat to dry before next coat is applied.

H. Where clear finishes are required, tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.

I. Prime concealed surfaces of interior and exterior woodwork with primer paint.

J. Prime concealed surfaces of interior woodwork scheduled to receive stain or varnish finish with gloss varnish reduced 25 percent with mineral spirits.

3.04 FIELD QUALITY CONTROL

A. Field inspection and testing will be performed under provisions of Section 01400.

3.05 CLEANING

A. Clean work under provisions of 01700.

B. Collect waste material which may constitute a fire hazard, place in closed metal containers and remove daily from site.

3.06 SCHEDULE - SHOP PRIMED ITEMS FOR SITE FINISHING

A. Architecturally Exposed Structural Steel (Section 05125): All exterior exposed structural steel.

B. Metal Fabrications (Section 05500): Exposed surfaces of lintels, elevator pit ladders, bollards, and all exposed to view structural members.

3.07 SCHEDULE - EXTERIOR SURFACES

General: Provide the following paint systems for the various substrates, as indicated.

A. Metal - Architecturally Exposed Structural Steel (AESS) See Section 05125;
   1. Polyurethane Finish
      a. Primer Coat: Inorganic Zinc-Rich Primer: Complying with SSPC-Paint 20 or SSPC-Paint 29 and compatible with topcoat.
      b. Intermediate Coat: High-Performance Coating for Steel, High-build urethane or epoxy coating recommended by manufacturer for application over specified zinc-rich primer under specified polyurethane enamel.
      c. Finish Coat: High-Performance Coating for Steel, Topcoat: High-build, semigloss polyurethane enamel.

3.08 SCHEDULE - INTERIOR SURFACES

General: Provide the following paint systems for the various substrates, as indicated.

A Gypsum Board:
   1. Low Luster Latex
      a. First Coat: Gypsum Board Primer.
      b. Second Coat: Gypsum Board Finish Coat
      c. Third Coat: Gypsum Board Finish Coat
   2. Epoxy Paint
      a. First Coat: Primer
      b. Secont Coat: Epoxy paint
      c. Third Coat: Epoxy paint

B. Wood
   1. Opaque Finish
      a. First Coat: Opaque WoodPrimer.
      b. Second Coat: Opaque Wood Finish Coat.
      c. Third Coat: Opaque Wood Finish Coat.
   2. Transparent Finish
      a. First Coat: Transparent Wood Stain.
      b. Filler: Wood filler.
      c. Second Coat: Wood Varnish Gloss.
      d. Third Coat: Wood Varnish Satin.

C. Wall surfaces Under Vinyl Wall Covering:
   1. Primer/Sealer: One coat, type recommended by wallcovering manufacturer.

D. Concrete Floors
   1. Clear Sealer
      a. First Coat: Sikatop Seal 107
      b. Second Coat: Sikatop Seal 107

END OF SECTION

SECTION 102800

TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Public-use washroom accessories.
2. Custodial accessories.

B. Related Sections:
1. Section 088300 "Mirrors" for frameless mirrors.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include the following:
1. Construction details and dimensions.
2. Anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.
3. Material and finish descriptions.
4. Features that will be included for Project.
5. Manufacturer's warranty.

1.3 INFORMATIONAL SUBMITTALS

A. Warranty: Sample of special warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For toilet and bath accessories to include in maintenance manuals.

1.5 QUALITY ASSURANCE

A. Source Limitations: For products listed together in the same Part 2 articles, obtain products from single source from manufacturer.

1.6 COORDINATION

A. Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Stainless Steel: ASTM A 666, Type 304, 0.031-inch minimum nominal thickness unless otherwise indicated.

B. Brass: ASTM B 19, flat products; ASTM B 16/B 16M, rods, shapes, forgings, and flat products with finished edges; or ASTM B 30, castings.

C. Steel Sheet: ASTM A 1008/A 1008M, Designation CS (cold -rolled, commercial steel), 0.036-inch minimum nominal thickness.

D. Galvanized-Steel Sheet: ASTM A 653/A 653M, with G60 hot-dip zinc coating.

E. Galvanized-Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.

F. Fasteners: Screws, bolts, and other devices of same material as accessory unit and tamper-and-theft resistant where exposed, and of galvanized steel where concealed.

G. Chrome Plating: ASTM B 456, Service Condition Number SC 2 (moderate service).

2.2 PUBLIC-USE WASHROOM ACCESSORIES

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Bradley Corporation.
2. A & J Washroom Accessories, Inc.
3. Bobrick Washroom Equipment, Inc.
4. GAMCO Specialty Accessories; a division of Bobrick Washroom Equipment, Inc.

B. Toilet Tissue (Roll) Dispenser: **As indicated on Drawings**

C. Towel Dispenser: **As indicated on Drawings**

D. Liquid-Soap Dispenser: **As indicated on Drawings**

E. Grab Bar:
1. Basis-of-Design Product: Bobrick B-5806.
2. Mounting: Flanges with concealed fasteners.
3. Material: Stainless steel, 0.05 inch thick.
4. Finish: Smooth, No. 4 finish (satin) on ends and slip-resistant texture in grip area.
5. Outside Diameter: 1-1/4 inches.
6. Configuration and Length: As indicated on Drawings.

2.3 CUSTODIAL ACCESSORIES

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Bradley Corporation.
2. A & J Washroom Accessories, Inc.
3. Bobrick Washroom Equipment, Inc.
4. GAMCO Specialty Accessories; a division of Bobrick Washroom Equipment, Inc.

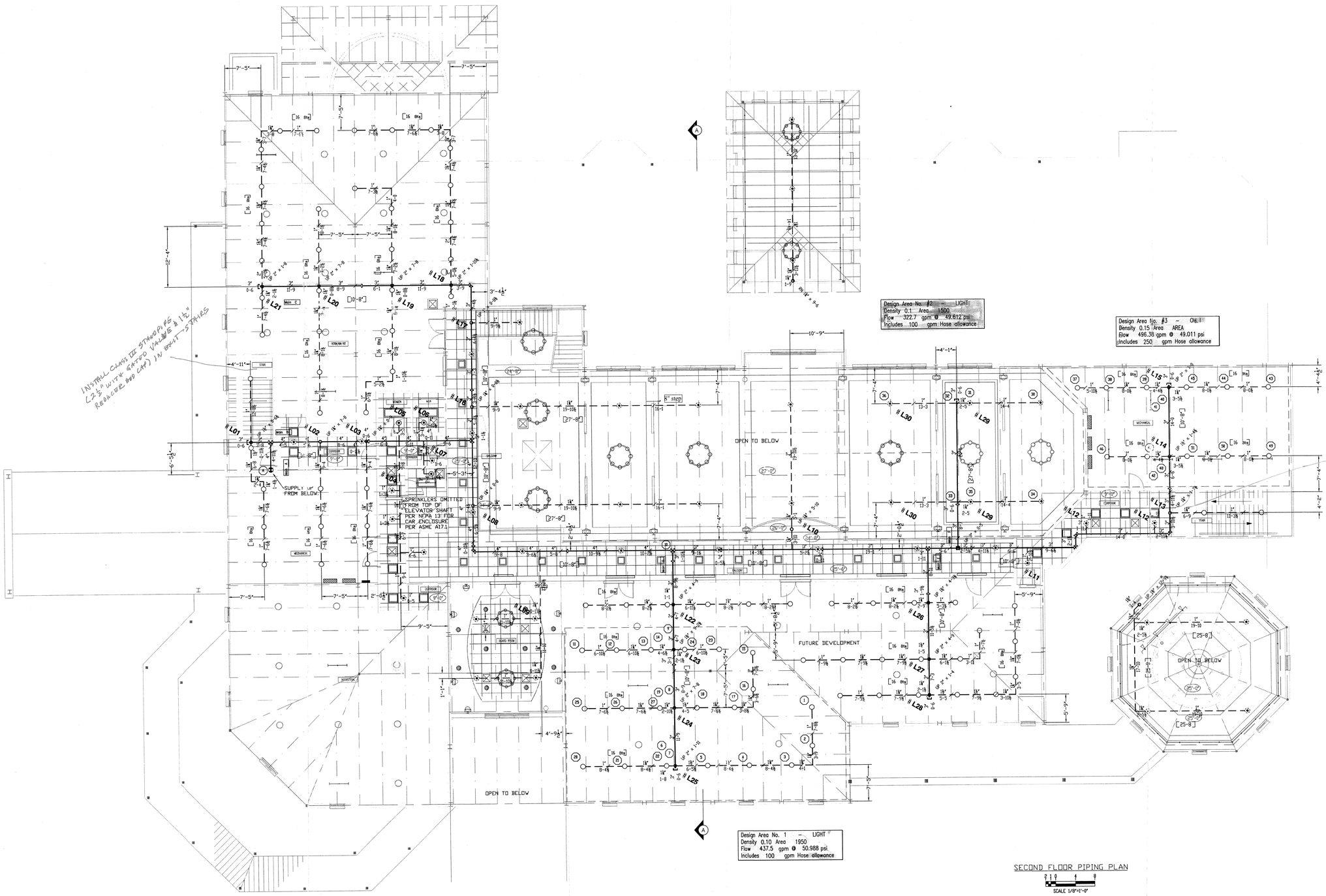
PART 3 - EXECUTION

3.1 INSTALLATION

A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

B. Install accessories in compliance with the 2010 ADA Standards for Accessible Design, and depicted in the drawings.

END OF SECTION 10 28 00



SECOND FLOOR PIPING PLAN

SCALE 1/8"=1'-0"

Fire Protection Specialists Inc.

FPS

1701 Industrial Park Drive
P.O. Box 9123
Mobile, Alabama 36691
Tel: (251)666-7188
Fax: (251)666-7189

N

General Notes

1. All Pipe Dimensions Shown are Pipe Cut Lengths.
2. All Dimensions Shown are Center to Center.
3. High Temperature Heads are to be Field Located Where Required.
4. All Pipes and Hangers are to be Installed per NFPA #13.
5. Hangers are to be U.L. Listed and F.M. Approved.

ABBREVIATIONS

ECLH=EXTENDED COVERAGE LIGH HAZARD		PEND=PENDENT
QR=QUICK RESPSONSE	WHT=WHITE	RES=RESIDENTIAL
REC=RECESSED	HSW=HORIZONTAL SIDEWALL	VKG=VIKING

Symbols

Symbol	Description
⬡	Hydraulic Reference Points
[16 Brs]	Elev. Below Top of Steel
[8-4]	Elev. Above Finished Floor
+ (TOS 20-0)	Elev. of Top of Steel
⟨25⟩	Ceiling Height
	Denotes Hanger Location
o	Rise up or down

Number of Sprinklers

Total This Sheet 138 | Total This Job 297

Symbol	Description
◉ 39	(1/2"K=5.6) VKG VK 302 155 QR CHR PEND
○ 97	(1/2"K=5.6) VKG VK300 155 QR BR UPR
◉ 159	(3/4"K=11.2) VKG VK608 155 QR CHR PEND
◎ 2	(1/2"K=5.6) VKG VK300 155 QR BR UPR

Drawing Title	SECOND FLOOR PIPING PLAN
Contract No.	T05033
Drawn By	SBE
Scale	1/8" = 1-0
Date	7/11/05
Approval By	

Revisions: | Date:

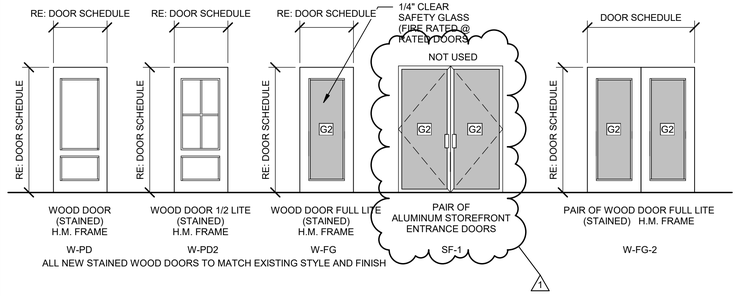
Job:
FAIRHOPE PUBLIC LIBRARY
BANCROFT ST. & FARIHOPE AVE.
FARIHOPE, ALABAMA

Contractor:
J F PATE & ASSOCIATES CONTRACTOR INC.
23 WEST MIDTOWN PARK # A
MOBILE, ALABAMA 36606

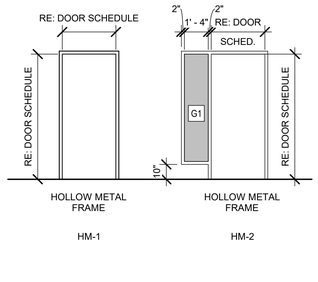
FP-3

DOOR SCHEDULE

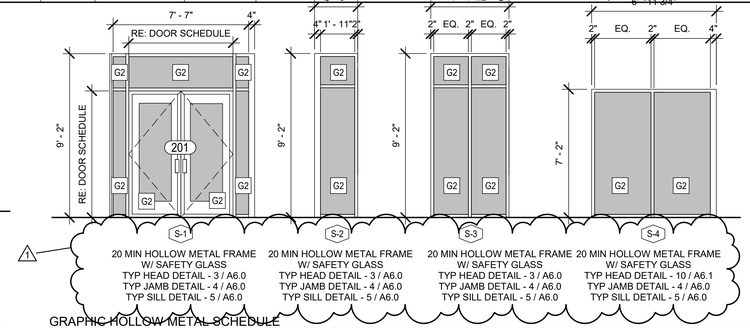
MARK	To Room: Name	DOORS: SIZE WIDTH	HEIGHT	THICKNESS	ELEV	MATERIAL	FINISH	UNDER CUT	GLAZING	FRAME: TYPE	MATERIAL	FINISH	DETAIL HEAD	JAMB	SILL	FIRE RATING	HARDWARE SET NO.	KEYSIDE SPACE	REMARKS
201	TEEN SERVICES	5' - 10"	6' - 10"	1 3/4"	W-GF-2	WOOD	STAINED	-	G2	HM-1	HM	BRONZE	5 / A6.1	6 / A6.1	7 / A6.1	20 MIN		200	reuse hardware from Existing Friends of Fairhope Library Space - See Sheet D1.0
202	ARCHIVES	6' - 0"	7' - 0"	1 3/4"	W-PD (X2)	WOOD	STAINED	-	-	HM-1	METAL	PAINTED	1 / A6.0	2 / A6.0	-	- 20 MIN		205 200	reuse hardware set from existing closet in unoccupied space - See Sheet D1.0
203	UNI SEX	3' - 0"	7' - 0"	1 3/4"	W-PD.	WOOD	STAINED	-	-	HM-1	METAL	PAINTED	1 / A6.0	2 / A6.0	9 / A6.1	-		201	new hardware - bathroom lock set
204	STOR.	3' - 0"	7' - 0"	1 3/4"	W-PD	WOOD	STAINED	-	-	HM-1	METAL	PAINTED	1 / A6.0	2 / A6.0	8 / A6.1	-			reuse hardware from existing storage in the unoccupied space - See Sheet D1,0
205	HALL	3' - 0"	7' - 0"	1 3/4"	W-PD	WOOD	STAINED	-	-	HM-1	METAL	PAINTED	1 / A6.0	2 / A6.0	-	-		201	reuse hardware from existing Friends back exit - include closure and kick plate-See Sheet D1.0
208A	MAKER SPACE	3' - 0"	7' - 0"	1 3/4"	W-PD	WOOD	STAINED	-	-	HM-1	METAL	PAINTED	1 / A6.0	2 / A6.0	-	-		211	existing hardware to remain
209	MAKER SPACE	6' - 0"	7' - 0"	1 3/4"	EXIST	EXIST	EXIST	-	-							-			existing cased opening
210	TESTING	3' - 0"	6' - 10"	1 3/4"	W-FG	WOOD	STAINED	-	G2	HM-2	METAL	PAINTED	1 / A6.0	2 / A6.0	-	Unclassified		211	reuse hardware from existing testing room - See Sheet D1.0
211	TECHNICAL SERVICES	3' - 0"	6' - 10"	1 3/4"	W-PD2	WOOD	STAINED	-	G2	HM-1	METAL	PAINTED	1 / A6.0	2 / A6.0	-	Unclassified		213	reuse hardware from existing closet in unoccupied space - See Sheet D1.0
211A	TECHNICAL SERVICES	3' - 0"	6' - 10"	1 3/4"	W-PD2	WOOD	STAINED	-	G2	HM-1	METAL	PAINTED	1 / A6.0	2 / A6.0	-	Unclassified		213	reuse hardware from existing closet in unoccupied space - See Sheet D1.0



GRAPHIC DOOR SCHEDULE
SCALE: 1/4" = 1'-0"



GRAPHIC FRAME SCHEDULE
SCALE: 1/4" = 1'-0"

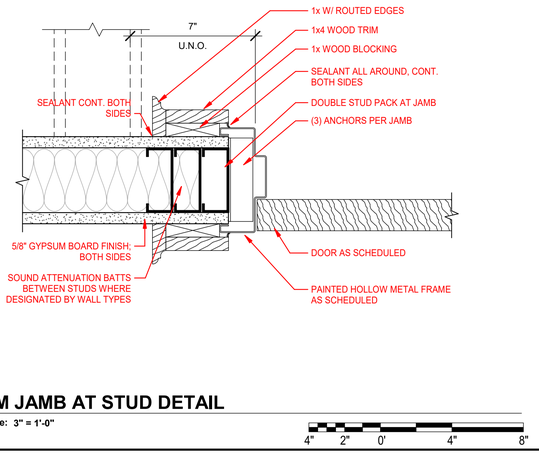


GRAPHIC HOLLOW METAL SCHEDULE
SCALE: 1/4" = 1'-0"

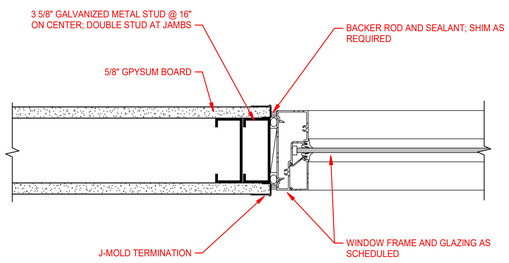
1 A6.0 HM HEAD AT STUD DETAIL
Scale: 3" = 1'-0"

3 A6.0 STOREFRONT HEAD AT STUD DETAIL
Scale: 3" = 1'-0"

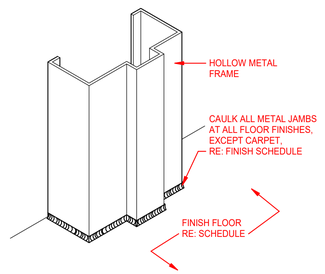
5 A6.0 STOREFRONT SILL DETAIL
Scale: 3" = 1'-0"



2 A6.0 HM JAMB AT STUD DETAIL
Scale: 3" = 1'-0"



4 A6.0 STOREFRONT JAMB AT STUD DETAIL
Scale: 3" = 1'-0"



8 A6.0 HM ISOMETRIC DOOR JAMB DETAIL
Scale: 3" = 1'-0"

GENERAL DOOR NOTES:

1. PROVIDE DOOR HARDWARE ALLOWANCE ($600 PER DOOR - NEW & EXISTING). REFER TO SPECIFICATION SECTION 01200.
2. CONTRACTOR IS REQUIRED TO COORDINATE FINAL HDW REQUIREMENTS WITH OWNER, ARCHITECT & G.C.'s SELECTED HARDWARE VENDOR/SUB.
3. GENERAL HARDWARE- BASIS OF DESIGN TO MATCH EXISTING
4. ALL FIRE-RATED DOORS MUST HAVE FIRE-RATED FRAMES, HARDWARE, CLOSURES AND OTHER RATED ACCESSORIES INCLUDING GLAZING.
5. ALL DOORS AND CASED OPENINGS SHALL PROVIDE A MINIMUM CLEAR OPENING OF 32".
6. DOOR VENDOR/MFR TO VERIFY ALL DOOR SIZES, ROUGH OPENING, ETC. PRIOR TO ORDERING. THE ARCHITECT IS TO BE NOTIFIED OF ANY DESIGN CONFLICTS.
7. REFER TO SPECIFICATIONS & FINISH SCHEDULE FOR DOOR AND FRAME FINISHES. ALL EXISTING DOORS AND FRAMES TO RECEIVE NEW STAINED FINISHES IF DAMAGED DURING CONSTRUCTION.

DOOR ABBREVIATIONS

AL	ALUMINUM	HM	HOLLOW METAL
AM	ANTI-MICROBIAL FINISH	HO	HOLD OPEN
AO	AUTOMATIC OPERATOR	IA	INFANT ABDUCTION
AP	ARMOR PLATE	JP	JAMB PROTECTORS
AT	ACOUSTICAL TREATMENT	KP	KICK PLATE
CH	CONTINUOUS HINGE	LL	LEAD LINED
CK	COAT HOOK	ML	MAGNETIC LOCK
CL	CLOSER	MP	MOP PLATE
CR	CARD READER	MTL	METAL
DA	DOUBLE ACTING	PP	PUSH PLATE
DE	DOUBLE EGRESS	PA	PANIC HARDWARE
DO	DOOR OPERATOR	SCW	SOLID CORE WOOD
EG	EDGE GUARD	SG	SAFETY GLASS
FRP	FIBERGLASS REINFORCED PANELS	SS	STAINLESS STEEL
GL	GLASS / GLAZING	VL	VISION LIGHT

GENERAL WINDOW NOTES:

1. OVERALL DIMENSIONS GIVEN ARE FOR ROUGH OPENINGS.
2. PRIOR TO FABRICATION, ALL DOORS AND WINDOW OPENINGD TO BE FIELD VERIFIED TO MEET MANUFACTURERS TOLERANCES FOR HEAD, JAMB AND SILL CONDITIONS.
3. ALL CURTAIN WALL FRAMING, STOREFRONT FRAMING, BRAKE METAL ENCLOSURES, GYPSUM BOARD RECEIVERS AND ALUMINUM EXTRUSIONS ARE TO HAVE MATCHING FINISH, UNLESS NOTED OTHERWISE.
4. UNLESS OTHERWISE NOTED, GLAZING ELEVATIONS SHOWN FROM EXTERIOR SIDE.

WINDOW SYMBOL LEGEND

- [#] GLASS TYPE, REF: "GLASS TYPES" & SPECS.
- (#) FRAME SYSTEM, RE: "FRAME TYPES" & SPECS.
- <W# #> WINDOW NUMBER RE: PLANS AND ELEVATIONS FOR LOCATION

GLASS TYPES

- G1 CLEAR TEMPERED GLASS, RE: SPECS.
- G2 CLEAR LAMINATED TEMPERED GLASS, RE: SPECS.
- G3 INSULATED LAMINATED GLASS UNITS (IMPACT RATED), RE: SPECS.
- G4 INSULATED LAMINATED GLASS SPANDREL UNITS (IMPACT RATED), RE: SPECS.

FRAME TYPES

- S-# ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS RE: SPECS.
- CW-# GLAZED ALUMINUM CURTAIN WALLS, RE: SPECS.
- HM-# HOLLOW METAL FRAMES, RE: SPECS.

HARDWARE SCHEDULE

HARDWARE SET 1 CONSULT WITH OWNER REGARDING LOCKING/KEYING/MASTER KEYING
LOCKSET: PASSAGE FUNCTION

HARDWARE SET 2
LOCKSET: STORAGE FUNCTION
CLOSURE: 1 EACH

HARDWARE SET 3
LOCKSET: STORAGE FUNCTION

MOTT MACDONALD ARCHITECTS, INC.
107 St. Francis Street
Suite 2-200
Mobile, AL 36602
Telephone (251) 343-4466
Fax (251) 343-8902
Architects
Engineers
Surveyors
MOTT MACDONALD

FAIRHOPE LIBRARY RENOVATIONS
2nd FLOOR RENOVATION
501 Fairhope Ave, Fairhope, Al. 36532

STATE OF ALABAMA ANDREW P MARASCA 6996 REGISTERED ARCHITECT 10/18/23

REVISIONS DESCRIPTION	REV	DATE
Addendum 1	1	01/18/2024

Date: 10/18/23
Designed By: ALB
Drawn By: ALB
Checked By: TJ
Profession: ARCHITECTURE
Printed Architect: Andrew Marasca NA
M.M.A. Project Number
502100188

SHEET TITLE
DOOR AND WINDOW SCHED

SHEET NUMBER
A6.0