



CONSTRUCTION

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PROJECT SPECIFICATIONS MANUAL

**“STURGEON BAY
APARTMENT COMPLEX”**

SITE ADDRESS:
SYCAMORE STREET & GRANT AVENUE
STURGEON BAY, WI 54235

Project Consists of:

(2) 12 UNIT BUILDINGS

(2) 16 UNIT BUILDINGS

June 14TH, 2017

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Provide "Energy Star" approved Products

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DIVISION 01 00 00 – GENERAL REQUIREMENTS

SECTION 00800 – SUPPLEMENTARY CONDITIONS

1.00 - EXECUTION, CORRELATION AND INTENT

- In case of disputes over words and observation which have well-known or trade meanings, Owners interpretation of terms shall be final.
- Ambiguity of conflict in description of quality or quantity shall be resolved in favor of the better quality or greater quantity.
- Subcontractor must provide all work and materials which any section or part of the plans, drawings, and specifications or conditions require him to provide regardless of whether such requirements is faithfully repeated in other parts of sections thereof to which the provisions might be appropriate.

1.01 - OCCUPANCY DURING CONSTRUCTION/PARTIAL OCCUPANCY – NOT APPLICABLE

1.02 - INSURANCE

During the term of the contract each subcontractor shall, at their expense, purchase and maintain the following insurance in companies properly licensed and satisfactory to Owner.

1. General	General Aggregate Products – Comp/OP AGG Personal & Adv Injury Each Occurrence Fire Damage (any one person) Medical Expense (any one person)	\$2,000,000 \$1,000,000 \$1,000,000 \$1,000,000 \$ 50,000
2. Worker's Compensation	As Required by The State	
3. Cancellation	30-day notification of cancellation is required	
4. S.C. SWIDERSKI CONSTRUCTION, LLC	must be listed as an additional insured.	
5. Subcontracting Work	Same insurance limits as required above. Certificate of Insurance must be provided - PRIOR TO START OF WORK.	

1.03 - PROPERTY INSURANCE

Owner Insurance

- Owner shall effect and maintain All Risk Multi-Peril Builders Risk Insurance with hydrostatic pressure protection, to the extent of 100% of value incorporated in the work as well as materials stored on site to be incorporated in the work.
- Owners insurance shall insure against losses due to glass and plastic glazing breakage caused by vandalism.
- Owners insurance will not cover equipment such as tools owned by mechanics or tools, sheds, hoists, canvasses, tarpaulins, mixers, scaffolding, staging, towers, owned or rented by subcontractor, or similar property not extended in the completion of, or to become a permanent part of the installation or structure. Subcontractor may carry such additional property insurance as he may deem necessary to protect his equipment and property.
- Insurance shall include the interests of the Owner, the subcontractor, the subcontractor, and subcontractors in the work and shall insure against the perils of fire, extended coverage, vandalism and malicious mischief.

1.04 - CORRECTION OF WORK

- Prior approval of material or work at any time during construction will not prevent its subsequent rejection for cause.
- Nothing herein intends or implies that warranties shall apply to work which has been abused or neglected by Owner or his successor in interest. Usual wear and tear and result of accident not chargeable to subcontractor or his agents are exempt from above requirements.

1.05 - WARRANTIES

- General Conditions as written shall carry a warranty for a period of one year from substantial completion of the project, except where specified for a longer period.
- Warranty period starts at the time of substantial completion/occupancy.

END OF SECTION

SECTION 01010 - SUMMARY OF WORK

- Specification: This is a general specification and is intended to show the general level of quality S.C. SWIDERSKI CONSTRUCTION, LLC expects on a project.
- Permits: The owner will obtain the Zoning, DNR, City or Town construction and building Permits. All subcontractors including but not limited to Plumbing, HVAC, Electrical, Fire Protection permits must be obtained (and paid for) by the respective subcontractors for their work. Submit ONE copy each of all permits to the owner.
- Codes: Comply with applicable codes and regulations of authorities having jurisdiction.
- Submit copies of inspection reports, notices and similar communications to Owner.
- Dimensions: Verify dimensions indicated on drawings with field dimensions before fabrication or ordering of materials. Do not scale drawings.
- Existing Conditions: Notify Owner of existing conditions differing from those indicated on the drawings. Do not remove or alter structural components without approval from Owner.
- Definitions for terms used in the specifications:
 - Provide: Furnish and install, complete with all necessary accessories ready for intended use. Subcontractor to pay all related costs.
 - Approved: Acceptance of item submitted for approval. Not a limitation or release for compliance with the Contract Documents or regulatory requirements. Refer to limitations of "Approved" in General and Supplementary Conditions.
 - Match Existing: Match existing as acceptable to the Owner.
 - Owner: The Term Owner Herein refers to:

S.C. SWIDERSKI CONSTRUCTION, LLC
401 Ranger Street
Mosinee, WI 54455
- The Owner will be supplying the following materials to be installed by the respective subcontractor.
 - List of owner supplied materials as follows:
 - Rough & finish carpentry materials
 - Asphalt shingles and related roofing materials
 - Vinyl siding – aluminum soffit and fascia
 - Exterior windows and doors
 - Toilet and bathroom accessories
 - Residential appliances
 - Manufactured casework
 - Electrical (lighting) fixtures as defined by owner
- The Owner shall pay for all temporary power costs and costs for final connection.
- The Owner shall pay for all waste disposal fees (except drywall scrap out). All subcontractors are responsible for daily clean-up of their construction debris. Subcontractors are responsible for proper separation of all waste materials.
- The Owner shall pay for all fuel costs associated with the heating of the unit interiors. Costs associated with thawing or protection of work completed is the responsibility of the subcontractor.
- The owner shall pay all costs associated with final cleaning. If a subcontractor enters a unit after it has been cleaned he is responsible for maintaining the cleanliness of the unit. All nail holes will be puttied by the cleaning company.
- Comply with all applicable building codes, Wisconsin Administrative Code, Department of Commerce Chapters COMM 20-25, Uniform Dwellings, and rules of other governing regulatory agencies. Submit copies each of permits, inspection reports, and certificates of compliance to the owner.
- Verify field dimensions before ordering fabrications or products to fit in place. Notify Owner of existing conditions and dimensions that differ from those shown in the drawings.
- Unless noted otherwise, the subject of all imperative sentences in the specifications is the subcontractor. For example, "Provide and install . . ." means "subcontractor shall provide and install."
- Intent: drawings and specifications are intended to provide the basis for proper completion of the work suitable for the intended use of the Owner. Anything not expressly set forth but which is reasonable implied or necessary for proper performance of the project shall be included.
- Writing style: Specifications are written in the imperative mode. Except where specifically intended otherwise the subject of all imperative statements is the subcontractor. For example, "Provide tile" means "subcontractor shall provide tile".

1.00 - QUALITY ASSURANCE

- Subcontractor shall inspect the job site and shall be aware of all job site conditions prior to providing proposals for

work and prior to the start or completion of his scope of work.

- Subcontractors shall coordinate with all other trades prior to installation to determine location and methods for installation of equipment and materials.
- Minor changes to locations, equipment and material shall be provided at no additional cost.
- Provide all equipment, labor and material for a complete system.
- Everything essential to completion of the work implied to be covered by these specifications and related drawings to make the system ready for normal and proper operation must be furnished and installed.
- Any omission of minor detail necessary for proper installation and operation of the system shall not relieve subcontractor from furnishing such detail in a full and proper manner.
- Take field measurements if necessary before any fabrication. Subcontractor is responsible for accuracy of dimension and layout.
- Prior to commencing work, it is the subcontractor's responsibility to verify with Owner that he has the latest project plans when arriving on site and prior to starting any work.
- Prior to commencing work, subcontractor will inspect all surfaces and adjacent surfaces that are to receive related materials. Any deficiencies shall be reported immediately to the Owner for correction. Failure to report deficiency shall signify acceptance of all surfaces.
- As a subcontractor to the Owner you are directly responsible for locating and protecting all utilities above and below ground as well as any surveying landmarks. You shall have and indemnify Owner against liability to utilities and adjoining structures which are not relocated or adequately protected.

1.01 - CLEANING

- At the end of each work day, subcontractor shall stop production work and dedicate their efforts to picking up all trash resulting from their work, and leave materials and equipment stored in an orderly fashion.
- Remove all excess materials, including paint, plastic, mortar, tools and structures.
- Mechanical subcontractors to pay particular attention to debris on the roof and above suspended ceilings. Cleanup is extremely important.
- If after forty-eight (48) hour verbal written notice from the Owner, subcontractor has not diligently proceeded with the cleanup as outlined above. The Owner has the right to proceed with the cleanup and back-charge the subcontractor. Notice will only be given one time per a jobsite location and that notice will be valid for the remainder of the subcontractor contract.

1.02 - SAFETY

- General: All subcontractors are responsible to adhere to applicable OSHA Standards, CFR-1910, and CFR 1926. All tools, equipment, machines, and materials must meet OSHA and recognized consensus safety standards (such as ANSI and NPFA). Every attempt shall be made to control and minimize excessive noise levels. All trades must be responsive to and assist in the investigation of all accidents. Owner must be notified, in writing, immediately of any and all accidents.
- All subcontractors are responsible to advise Owner in advance prior to the shutdown of any electrical plumbing, or mechanical supply/distribution system.
- Appropriate Material Safety Data Sheets (MSDS) shall be the responsibility of the concerned subcontractor to maintain on site for any hazardous chemicals (liquid, solid, gas) that may be brought into the building or used in proximity to the building. All such chemicals shall be stored and dispensed in Underwriters Laboratories (UL) approved safety cans, and shall not exceed the amounts necessary for the day's work. Institute feasible engineering controls for the isolation, collection or dispersion, and use of any toxic or obnoxious airborne contaminants or physical agents (e.g. vapors, mists) that may be generated by the use of construction materials.
- Protective Barriers and Hazard Signs: subcontractors must isolate all work zones, as necessary, by plastic, canvas, or plywood barricades to minimize personal injury, protect product and to prevent outside elements from entering the building. Overhead protection must be provided for all entrances and exits where roof and facade work may present hazards from falling debris, equipment, and tools. Safety awareness/hazard signs, (e.g., "Caution", "Slippery Floors", etc.) must be posted at work zones.
- Equipment: The indoor/outdoor use and storage of equipment, tools, and materials shall not create hazards or unsafe pedestrian or vehicular traffic patterns. Extraneous equipment and material no longer needed for the job shall be removed from the job site at regular intervals.
- Lighting/Electrical: subcontractor to provide temporary lighting for their own work at levels acceptable by OSHA standards. Utilize Ground Fault Circuit Interrupters (GFCI) on all temporary electric wiring. All extension cords must have grounded, three prong, UL approved plugs and connectors (No flat chords are permitted.)
- All cords must be color coded indicating current inspection.
- Fire Prevention: Each subcontractor is responsible to insure that fire exits remain fully accessible during construction. Proper fire extinguishers or suppression systems shall be supplied during construction and

recharged or repaired as necessary.

- The subcontractor shall take all necessary and sufficient precaution against the occurrence of any accidents causing injuries or damages to any person or property during the progress of the work. He shall be responsible for the payments of money for damage resulting in the case of such accidents.
- There shall be no smoking in the buildings after the building is enclosed.

1.03 - OWNERSHIP AND USE OF ARCHITECT'S DRAWINGS, SPECIFICATIONS

- The drawings, specifications and other documents, including those in electronic form, prepared by or for S.C. SWIDERSKI CONSTRUCTION, LLC are Instruments of Service through which the work to be executed by the subcontractor is described. They are not to be used by the subcontractor or any material or equipment supplier on other projects.

1.04 - SUPERVISION AND CONSTRUCTION PROCEDURES

- The subcontractor shall supervise and direct the work, using the subcontractor's best skill and attention. The subcontractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures, and for coordinating all portions of the work under the Contract, unless the Contract Documents give other specific instructions concerning these matters.

END OF SECTION

SECTION 01 74 23 – CLEANING

1.00 - GENERAL

- All cleaning supplies are to provide by the Subcontractor
- Provide blue painter's tape which will be utilized to mark any damaged areas of concerns
Example: Drywall flaws, cut in vinyl flooring, knicks in cabinets, etc.
- Construction Cleaning and Inspection forms will be provided for each unit by Site Super. Fill out form and leave by sink, including any notes regarding apartment unit

1.01 - WORK – Job duties include but are not limited to the following:

- **PHASE I CLEAN:** Rough Clean to be completed directly after carpet installation
 - Wipe down window edges with damp cloth
 - Wipe down tub edges with damp cloth
 - Clean area where appliances are to be installed
 - Vacuum loose carpet debris
 - Putty trim nail holes (base trim, door casing, cabinet toe kick holes)
- **PHASE II CLEAN:** Clean to be completed 10 days prior to opening date. Confirm with Site Superintendent.
 - Wipe down window casing with damp cloth
 - Dust all walls (wipe down if needed)
 - Clean ceiling fan
 - Clean patio door and track. Remove stickers as needed
 - Remove stickers as needed
 - Wipe down all heat registers with damp cloth
 - Clean on and around A/C Unit (drywall mud and A/C sleeves)
 - Wipe down and clean all windows – interior and exterior side. Remove stickers as needed
 - Wipe down entry doors – interior and exterior side
 - Wipe down all wood work
 - Wipe down interior wood doors
 - Wipe all light switches and outlets
 - Vacuum carpets
 - Sweep and wash all vinyl floors
 - Vacuum and clean cabinets
 - Remove all appliance stickers. Place appliance papers in cabinet drawer
 - Wipe countertops (bathroom and kitchen)
 - Clean all sinks (bathroom and kitchen)
 - Clean toilet, shower and tub. Remove drywall in tub/shower if needed
 - Clean Mirrors
 - Run dishwasher and washer (check for leaks). This can be done while the unit is being cleaned
- **PHASE III CLEAN:** Clean to be completed after final inspection
 - Clean Mirrors
 - Polish Stainless stinks with proper products
 - Wipe countertops (bathroom and kitchen)
 - Sweep and wash all vinyl floors
 - Wipe down entry doors – interior and exterior side
 - Wipe down and clean all windows – interior and exterior side. Remove stickers as needed
 - Sweep patio/deck

END OF SECTION

DIVISION 02 00 00 – EXISTING CONDITIONS
SECTION 02 40 00 – DEMOLITION AND STRUCTURE MOVING

1.00 - WORK

- Site work subcontractor is responsible for the removal of any rocks, boulders, and extra topsoil and fill materials.
- Notify the Owner immediately upon discovery of any contaminated or unsuitable soils.
- Provide all necessary clean fill and topsoil for a complete and functional, well drained site.
- Provide all materials, equipment, and labor required to complete the work as drawn and or as needed for a complete and usable dwelling.
- Related work includes excavation, grading and compaction as required.
- Provide erosion control, which conforms, to "Wisconsin Best Management for Erosion Control" as prepared by the Wisconsin Department of Natural Resources or governing agency.
- Any and all utility construction within the boundaries of this Multi Family development shall conform to all Municipal Utility Department Standards.

1.01 - QUALITY STANDARDS

- Provide experienced, well-trained workers competent to complete the work as specified.
Unless approved by the Owner, provide all related products and accessories. Use materials from manufacturers and suppliers specified or approved by the Owner.
- All work shall comply with governing building and safety codes.

1.02 - MATERIALS

- Provide all materials required to complete the work as shown on the drawings and specified herein. Transport, deliver and store materials to avoid damage to the materials or to any other work.

1.03 - PRECONSTRUCTION AND PREPARATION

- Examine and verify that job conditions are satisfactory for speedy and acceptable work. Notify the Owners representative when work is scheduled to be started and completed. Comply with Owner task and phasing schedule for agreed installation & field observations.

END OF SECTION

DIVISION 03 00 00 - CONCRETE

SECTION 03 30 00 – CAST-IN-PLACE CONCRETE – FLAT WORK/FOUNDATIONS

1.00 - WORK

- Provide and install all required formwork, reinforcing, formwork accessories and cast-in-place concrete for building slabs, walls, sidewalks, 4" dumpster pads with 8" x 12" thickened edge per plans and specifications including site plans. Provide any curbing or required concrete shown on site plans. Dumpster pads will need to be formed up and then Fencing Company will install posts prior to pouring these slabs.
- Confirm and install any Brick ledges for garages- Confirm location with Project Manager.
- Provide and install all reinforcing steel as detailed on the drawings and in these specifications.
- **Rebar for grounding must be out of footing on building where electric service will be placed – location to be determined by SC SWIDERSKI CONSTRUCTION, LLC**
- Include all labor and equipment to provide all necessary saw cuts.
- Provide and install all 6 mil plastic in building – not required at detached garage slabs.
- Provide and install perimeter insulation (Below Grade): Closed cell extruded polystyrene from top of wall to top of footings. Provide minimum 1" or greater where indicated on drawings, include all perimeter wall of dwelling and garage units. Install on interior of vertical foundation wall surface and on interior horizontal surfaces from inside of foundation wall to a point 4' inside the foundation walls.
- Provide and install anchor bolts for garage walls only per code requirements. All other walls will be drilled and bolted to the foundation by the rough carpentry subcontractor.
- Provide and install ASI sealer on garage slabs and patio slabs.
- Stoops – light broom finish matching sidewalks.
- Ramp sidewalks at ADA units per ADA requirements
- Include pricing for winter charges as an option. Change order required for any winter charges.
- Final grade and compaction by concrete subcontractor.
- Garage doors to be blocked out at 9'.
- Include any required permits are required to be pulled by the subcontractor and the fees will be paid for by S.C. SWIDERSKI CONSTRUCTION, LLC.

1.01 - QUALITY CONTROL, STANDARDS AND TOLERANCES

- Place concrete according to ACI 301. Reinforcing to comply with ACI 301 and related ACI, CRSI, and ASTM standards. Formwork to comply with ACI 301, 318, and ACI 347. Tolerance standards for level, plumb, and aligned construction shall be as per ACI 117.

2.00 - FORMWORK AND CONCRETE MATERIALS

- General: Provide form materials with sufficient stability to withstand pressure of placed concrete without bow or deflection and in new condition for work to remain exposed.
- Form Material for Unexposed Finished Concrete: Plywood, metal or other acceptable material.
- Provide formwork framing, ties, anchors, braces, spacers, etc. as required to prevent any dislocation in formwork. Shoring and braces as required to prevent any dislocation of formwork. Form spacers and ties shall be removable so as to leave metal no closer than 1-1/2" (38mm) to the finish surface.
- Form Release Material: commercial form coating neither compounds, maximum VOC of 350 mg/l, non-bonding, non-staining, or have adverse effect on concrete surfaces nor impair subsequent treatments of concrete surfaces.
- Form Release Agent: Chemical form oil/release agent.
- Vapor Retarder for Concrete Slab on or Below Grade: 6 mil clear polyethylene.

2.01 - REINFORCING MATERIALS

- Reinforcing Bars: Deformed steel bars, Grade 60, Type S, to comply with ASTM A615.
- Welded Wire Reinforcing: Deformed to comply with ASTM A497. Plain to comply with ASTM A185.

2.02 - CONCRETE MATERIALS

- Concrete Ingredients: Portland cement ASTM C 150 Normal-Type I. Aggregate, fine and course as per ASTM C33. Water as per ASTM C94, clean, free of salt or any chemicals or contaminants that might damage the concrete.
- Admixtures and Miscellaneous Materials:
 - Air entraining admixture as per ASTM C 260 and manufacturer's instructions.
 - Water reducing, retarding, accelerating admixtures as per: ASTM C 494 and manufacturer's instructions.
 - Bonding Agent: Polymer resin.
 - Non-Shrink Grout: Non-metallic mineral aggregate, cement, water reducing materials as per ASTM C 494

and as per manufacturer's instructions.

2.03 - CONCRETE MIXTURE

- All mixing and tests to assure compliance with standards as per ACI 301.
- Provide concrete ready-mixed in compliance with ASTM C 94. Concrete strength will conform to ACI 301, 318, and applicable building code requirements.
 - Footings: Compressive strength of 3500 psi in 28 day test.
 - Wall: Compressive strength of 3500 psi in 28-day test.
 - Slab: Compressive strength of 3500 psi in 28-day test.
 - Footings: Slump 4".
 - Wall: Slump 5".
 - Slab: Slump 3".
 - Add air-entraining admixture as required to protect concrete exposed to exterior weather.

3.00 - FORMWORK CONSTRUCTION

- Install formwork at allowable distances from property lines and nearby construction. Vertically plumb as per ASTM 301 (4.3: Tolerances for Formed Surfaces).
- Erect shoring and bracing in excess of what is required to firmly and fully support all loads. Comply with ASTM 301 (4.3: Tolerances for Formed Surfaces). Allow space and openings for flow and placement of concrete.
- Concrete walls, pilasters, column caps, etc. to have full bearing to support beams, joists, and slabs.
- Joints: Install movement joints with secure fillers and installed so that free movement will not be impaired.
- Install construction joint keys as detailed with uninterrupted waterproofing. Construct form joints that are plumb and tight enough to prevent seepage.
- Apply form-release materials according to manufacturer's requirements. Apply before adding reinforcing and fittings. Do not apply where such materials might damage applied finish materials.

3.01 - INSERTS, SLEEVES, OPENINGS

- Provide openings, chaises, sleeves, vents, access panels, bolts, and inserts for other trades such as required for piping, conduit, ductwork and foundation vents. Construct formwork that provides for all required slab areas, cutouts, curbs, and inserts.
- Set floor components in coordination with finish floor elevations, including drains, equipment anchors, boxes, cleanouts, flanges, and pipe sleeves.
- Install fittings, anchors, and other accessories, straight and plumb. Install water stops so that they are continuous and sealed, without breaks.
- Separate slabs from walls and columns with 1/2-inch joint filler or bond breaker. Install joint filler at joint lines. Extend joint filler from bottom of slab to 1/2" of top of finished slab surface. Joint filler as per ASTM D 1751.
- Provide cleanouts at ends and low points of forms. Vent potential pockets to prevent air entrapment. Provide ports in high forms.

3.02 - REINFORCING -- INSTALLATION

- Install reinforcing bars and secure them so they will provide support in excess of that needed to resist displacement during placement of concrete. Install all reinforcing so it is never closer than 1-1/2" to sides or bottom of formwork. Provide rebar spacing adequate to allow concrete flow and complete penetration and coverage. Do not allow reinforcing to be in contact with dissimilar metals.
- Install related materials such as stirrups at least 2" from side forms to prevent steel exposure at surface. Where final surfaces will be exposed, use chairs and other formwork materials that will not rust.

3.03 - CONCRETE -- PRE-PLACEMENT COORDINATION

- Coordinate foundation layout, trenching, and formwork with locations of roof drainage, utility trenching and piping, and foundation drainage.
- Obtain all required agency approvals.

3.04 - PREPARATION FOR PLACEMENT OF CAST-IN-PLACE CONCRETE

- Clean trenches clear of debris, loose dirt, and any other extraneous materials.
- Install vapor retarder under slabs on grade with joints lapped a minimum of 8 to 12". Seal entire vapor retarder watertight.
- Coordinate installation of related work before concrete pour and protect from damage of all work such as base plates, utility boxes, drains, conduit, pipes and plumbing. Put required attachments, accessories, and inserts in place before pouring.
- Prepare previous concrete work for connection with new work by cleaning with wire brush and adding bonding agent as per manufacturer's instructions.

- Complete and inspect all subgrade preparations prior to pour. Verify that footing layout conforms to drawings in all respects such as dimensions, alignment, slopes and distances from property lines.
- Make all necessary arrangements for continuous inspection of concrete during all phases of batching, mixing, placing, finishing, and curing.
- Install joint filler at joint lines. Separate slabs from vertical surfaces with 1/2" joint filler or bond breaker.
- Install concrete without interruption between construction or expansion joints.
- Install loose anchor bolts and other insert items as detailed and as required for subsequent construction.

3.05 - MONITORING AND TESTING OF CAST-IN-PLACE CONCRETE - (by owner – as needed)

3.06 - INSTALLATION

- Keep an adequate workforce on hand as required to handle the workload. Do not do work when rain or low temperatures might interfere with or harm the work.
- Ready-mix concrete to conform to ACI 301 and 304. Allow no unauthorized watering or overwatering. Do not allow extended time to pass between addition of water and placement (as per in ACI 304). Concrete mix must be rejected if there are signs of mix segregation.
- Job-mixed concrete to conform to ACI and ASTM. Keep cement in dry storage. Protect all materials from Contamination. Keep mix water clean and free of salts or other harmful chemicals.
- Follow a continuous concrete delivery schedule to allow uninterrupted placement. Avoid any unplanned cold joints. Do not allow mix trucks to stay beyond allowable waiting period before pouring concrete.

3.07 - PLACEMENT DURING POUR

- Avoid segregation of mix during pour. Provide grout at points of rebar interference.
- Compaction or vibration is not to disturb formwork or striking reinforcing bars or other components.
- Only trained and qualified vibrator handlers shall do work.
- Install movement and relief joints as required by drawings and as instructed by Owner such as at contact with other work. At breaks in the construction sequence. Prevent any damage to construction joints.
- Keep formwork in place after pouring until concrete reaches required strength. Adjust and retighten forms as necessary to fasten securely against concrete surfaces. Keep all formwork bracing, shores, and supports in place after pouring until ample time has passed for concrete to reach required strength.

3.08 - REMOVING FORMWORK

- Remove formwork as per ACI 301 and 318. Remove wood formwork below grade, as well as above grade. Concrete must reach sufficient strength to carry its own load, and imposed live and dead loads. Do not remove bracing, shoring, or formwork until concrete has reached ample strength.
- Protect newly poured concrete surfaces from damage during and after stripping of forms. Promptly remove form tie clamps before corrosion can begin. Remove loose nails and other metals that might leave rust.
- Grout any depressions in concrete smooth and level.
- After form removal, promptly repair honeycombs and all other surface defects on concrete surfaces that will remain visible.
- Clean work surfaces, remove formwork, completely remove debris from the job site.

END OF SECTION

SECTION 03 54 00 – CAST UNDERLAYMENT – GYPCRETE/GYPSUM UNDERLAYMENT

1.00 - SUMMARY

- Section Includes:
 - Gypsum cement underlayment
 - Primer
 - Over-spray
 - Sound deadening

1.01 - SUBMITTALS

- Product Data:
 - Submit manufacturer's literature describing products to be provided.
 - Submit mix design.
 - Provide current certification of acceptance from materials manufacturer for applicator of gypsum cement underlayment.

1.02 - QUALITY ASSURANCE

- Installer's Qualifications:
 - Installation of gypsum cement underlayment shall be by an applicator authorized by manufacturer using mixing and pumping equipment approved by manufacturer of gypsum cement underlayment.
 - Applicator shall be trained in techniques and procedures of gypsum cement underlayment application and shall demonstrate not less than 3 years successful experience in such installation.
 - Provide primers and other undercoat materials that are produced or are specifically recommended by manufacturer of gypsum cement underlayment to ensure compatibility.

1.03 - DELIVERY, STORAGE, AND HANDLING

- Storage and Protection:
 - Materials shall be protected from exposure to elements. Damaged or deteriorated materials shall be removed from site.

1.04 - PROJECT CONDITIONS

- Environmental Conditions:
 - Before, during, and after installation, building shall be enclosed and maintained at a temperature of not less than 50° F.
 - Provide continuous ventilation and adequate heat until underlayment is dry.

2.00 - MANUFACTURERS

- Materials specified herein are cited as minimum standard of quality that will be acceptable and shall not preclude consideration of equivalent or superior materials.

2.01 - GYPSUM CEMENT UNDERLAYMENT

- Gypsum Cement:
 - Minimum thickness required = ¾" (.75")
 - Compressive Strength: 2000 to 3200 psi
 - Dry Density: 100 pcf / 115 pcf
 - Point Loading: Up to 2500 lbs. on a 1" diameter disk
 - Weight: 7.2 psf @ ¾" thickness
 - Product: Maxxon - Gyp-Crete 2000/3.2K or equal.
 - Sand: Washed masonry or plaster sand
 - Size: 1/8" or less
 - Water: Clean, clear, non-alkaline, potable

2.02 - ACCESSORIES

- Floor Primer and Over-Spray: As recommended by gypsum cement manufacturer
- Mesh Reinforcement: Diamond metal lath
 - Metal: Hot-dipped galvanized cold rolled steel

- Weight: 3.4 lbs. per square yard

2.03 - MIXES

- Accurately proportion materials for each batch with measuring devices of known volume.
- Do not use frozen, caked, or lumping materials. Remove materials with such characteristics from Site immediately.

3.00 - PREPARATION

- Surface Preparation:
 - Clean sub-floor to remove mud, oil, grease, and other contaminating factors.
 - Replace materials weakened or delaminated during construction.
 - Fill cracks and voids with a quick setting patching or sealant material where leakage of gypsum cement underlayment could occur.
 - Prime substrate surfaces, if needed, in compliance with gypsum cement underlayment manufacturer's recommendations. Priming instructions may vary according to porosity of substrate, multiple coats may be necessary.
- Sound Deadening Pad: (IF APPLICABLE)
 - Install sound deadening pad in compliance with manufacturer's recommendations and specifications.
 - If sound deadening pad is installed before drywall, then mesh reinforcement shall be loose laid over entire sound deadening pad surface.
- Schedule sound control system as late as possible in construction cycle.

3.01 - APPLICATION

- Gypsum Cement Underlayment:
 - Place gypsum cements underlayment in compliance with manufacturer's instructions.
 - Application of gypsum cement underlayment shall not begin until building is enclosed, including roof, windows, and doors and other fenestration.
 - Fill areas to receive topping to a uniform thickness as indicated on drawings.
 - Underlayment thickness shall be not less than following over sound deadening pad:
 - Over Wood Frame: 3/4" thick Underlayment Minimum.
 - Spread and screed gypsum cement underlayment to a smooth surface. Except at expansion joints, place gypsum cement underlayment as continuously as possible until application is complete so that no cement slurry is placed against cement that has obtained its initial set.
 - Provide continuous ventilation and adequate heat to rapidly remove moisture from area until gypsum cement underlayment is dry. Provide mechanical ventilation when necessary.
 - For 3/4" thick gypsum cement underlayment, allow 5 to 7 days for drying time.
 - Coordinate with other trades to assure proper and adequate provisions have been made for work that interfaces with work of this section.
- Preparation for Glue-Down Finish Flooring Materials:
 - Flooring installer responsible for sealing areas that are scheduled to receive glue-down finish flooring materials in compliance with gypsum cement underlayment manufacturer's specifications prior to installation of glue down flooring materials.
 - Floor areas where surface has been damaged or dusting shall be cleaned and primed regardless of floor covering to be used where finish flooring manufacturers require special treatments, their requirements shall supersede these requirements.

END OF SECTION

DIVISION 04 71 00 – MASONRY

SECTION 04 71 00 – MANUFACTURED BRICK MASONRY/STONE VENEER MATERIAL

1.00 - SUMMARY

- Unit masonry required for the described work shall include but is not limited to grout and brick masonry work, simulated stone masonry work (if applicable this project), furnishing and installing reinforcement and anchorage.
- **Brick and Precast concrete sill will be supplied by the Owner.**
Hebron Brick Company – Super Scotty – Brandywine
- When bidding keep all building types separate and include a lump sum price for all labor and materials not specified to be supplied by owner.
- See attached plans for locations and quantities of brick. Confirm Brick location for garages if any with Project Manager
- Your bid must include all materials (other than Brick or Simulated Stone and Cast sill materials) and labor to complete this work per the construction documents and as specified herein.
 - **Masonry Flashing:**
 - Dow Weathermate Construction Tape- Blue- 2 7/8" wide
 - HB Tetro Flashing or equal 18" x 75' rolls
 - Install product for brick ledge flashing with top under house wrap with house wrap taped to Tetro flashing using Weathermate tape.

1.01 - SUBMITTALS (if requested by owner)

- Submit for approval samples, product data, mock-ups, test reports.

1.02 - QUALITY ASSURANCE

- Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years.
- Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

2.00 - MATERIALS

- Masonry to concrete ties: 24 gage steel dovetail slots, fillers, and 1" wide, 16 gage corrugated steel anchors, length as required. Provide wire lath as required by for proper install of stone.
- Water shall be clean and free from harmful material, suitable for drinking and range from 50 to 70° F.
- Portland cement to comply with Standard Specifications of the American Society for Testing Materials.
- Lime: Hydrated lime shall conform to standard specifications of the ASTM C207, Type S.
- Sand for mortar shall conform to the ASTM designation C144 and shall be small, sharp grains.
- Calcium Chloride: Calcium chloride or admixtures containing chloride salts are not permitted.
- Provide control joints in interior masonry walls at no more than 24' on center unless indicated otherwise on the drawings. Verify locations with S.C. SWIDERSKI CONSTRUCTION, LLC site supervisor.

3.00 - INSTALLATION

- All work shall be laid true to dimension, plumb square and in bond accurately to dimension shown.
- All courses shall be level with joints of uniform width, except where otherwise specified.
- Brick and Stone: Except in freezing weather, all brick and stone having absorption of five (5) % or over shall be thoroughly and uniformly wetted down a few hours before installation.
- All brick shall be laid in common running bond, bonded with masonry reinforcing placed every 16" vertically, unless otherwise noted. Lay stone veneer in pattern directed by manufacturer.
- Exposed joints shall be struck and tooled as directed.

3.01 - TOLERANCES FOR CONSTRUCTION

- Variations from the plumb in the lines and surfaces of columns, walls and arises shall not exceed 1/4" in ten (10) feet, 3/8" in a story height or 20 feet, maximum, or 1/2" in 40 feet or more. Variation from plumb for external corners, expansion joints and other conspicuous lines shall not exceed 1/4" in any story or 20 feet, maximum, or 1/2" in 40 feet or more.
- When rainy, cold or freezing weather sets in, cover all brick, stone, blocks, etc. as soon as delivered to job with tarp

covers, as appropriate for each project.

- Subcontractor assumes responsibility for providing adequate bracing of walls during erection to prevent damage due to high winds or other lateral loads until permanent

3.03 - CLEANING AND POINTING

- Remove excess material and mortar dropping daily. Subcontractor shall keep masonry units, walls and surrounding work clean during construction. Mortar soiling (droppings, splatters, smears, etc.) shall be removed at the end of each day. Remove mortar soiling from connecting or adjoin work before its final set
- Clean stains, remove efflorescence from finished work. Finished product must be properly washed once the area has cured.

3.04 - COLD WEATHER CONSTRUCTION

- Construction material should be stored and protected in ways that prevent water from entering the materials.
- Frozen sand and wet masonry walls must be thawed. Masonry units must be heated above 20° F without overheating.

END OF SECTION

DIVISION 05 00 00 - METALS

SECTION 05 52 00 – METAL RAILINGS MATERIAL

1.00 - SECTION INCLUDES

- The work specified in this Section includes, but shall not be limited to, the Aluminum Railings. Provide and install aluminum handrails at all upper level decks to a height of 42” as outlined on the drawings and described herein.

1.01 - PERFORMANCE REQUIREMENTS

- General: Handrails and railings shall with-stand structural loading as determined by allowable design working stresses of materials based on the following standards. Aluminum: AA SAS-30.
- Structural Performance: Provide handrails and railings capable of withstanding the following structural loads without exceeding allowable design working stress of materials for handrails, railings, anchors, and connections:

Rails and Spindles: Shall withstand the following loads:

- Concentrated load of 200 lbf applied at any point and in any direction.
- Uniform load of 50 lbf-ft. applied horizontally and concurrently with uniform load of 100 lbf-ft. applied vertically.
- Concentrated and uniform loads above need not be assumed to act concurrently.
- Corrosion Resistance: Separate incompatible materials to prevent galvanic corrosion.

1.02 - SUBMITTALS

- General: Submit Product Data for approval.
- Product Data: Submit manufacturer’s data sheets on each product to be used, including, but not limited to, the following:
 - Preparation instructions and recommendations.
 - Storage and handling requirements and recommendations.
 - Installation methods.
 - Shop Drawings: Submit shop drawings showing fabrication and installation of handrails and railings. Include plans, elevations, sections, details, and attachments to other work.
- Samples:
 - Color Selection: Submit manufacturer's color charts showing the full range of colors available for products with factory-applied color finishes.
 - Finish Selection: Provide sections of railing or flat sheet metal which depict available mechanical surface finishes.

1.03 - QUALITY ASSURANCE

- Qualifications:
 - Manufacturer Qualifications: Manufacturer shall be a firm engaged in the manufacture of aluminum handrails and railings of types and sizes required, and whose products have been in satisfactory use in similar service for a minimum of 10 years.
 - Regulatory Requirements: Comply with applicable requirements of the laws, codes, ordinances, and regulations of Federal, State, and local authorities having jurisdiction. Obtain necessary approvals from such authorities.

1.04 - DELIVERY, STORAGE, AND HANDLING

- Store products in manufacturer's unopened packaging until ready for installation.
- Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

2.00 - MANUFACTURERS

- Basis of Design: Items specified are to establish a standard of quality for design, function, materials, and appearance. Provide products made by Westbury or Star or equal.

2.01 - MATERIALS

- Provide manufacturer’s standard extruded aluminum components.

2.02 - FINISHES

- Appearance of Finished Work:
 - Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
 - Powder Coat Finish: AA-C12-C42-R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid chromate-fluoride-phosphate conversion coating; Organic Coating: as specified below). Prepare, pretreat, and apply manufacturer's standard baked powder coat finish. Comply with coating manufacturer's written instructions for cleaning, surface preparation, pretreatment, and application.

3.00 - INSTALLATION

- General:
 - Fit exposed connections together to form tight, hairline joints.
 - Set handrails and railings accurately in location, alignment, and elevation measured from established lines and levels and free from rack.
 - Align rails so variations from level or parallel alignment do not exceed 1/4" in 12 feet.

3.01 - ADJUSTING AND CLEANING

- Touch-Up Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and appoint exposed areas with same material.
- Cleaning: Restore finishes damaged during installation and construction period so no evidence remains of correction work. Return items that cannot be refinished in field to shop; make required alterations and refinish entire unit, or provide new units.

3.02 - PROTECTION

- Protect finishes of handrails and railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at the time of Substantial Completion.

END OF SECTION

DIVISION 06 00 00 – WOODS, PLASTICS AND COMPOSITES

SECTION 06 11 00 – ROUGH FRAMING LABOR – MATERIAL BY OWNER

1.00 - WORK

- Framing is to supply labor and fasteners (only) to construct the buildings, according to the plans and specifications.
- Specifications to include:
 - Install all framing work complete for drywall, soffit, siding and roofing.
 - All fasteners are provided by the subcontractor. This includes fasteners of any kind, adhesives other than sub floor adhesive and silicon caulk for window and door installation.
 - Install ¼"x3" pins on both sides of all interior plates on concrete.
 - Install two (2) rows of ice and snow on the bottom @ roof edge and in the valleys, install 1 row of valley tin and 1 row of ice and water in all valleys.
 - Install synthetic felt paper.
 - Install House Wrap.
 - Tape windows and doors as follows:
 - #1-Dow Weathermate Construction Tape- Blue- 2-7/8" wide
 - #2- Tyvek Window/Door flashing 4x100' rollUpper patio doors use #2 for bottom of door before door is set.
All upper windows and doors - use #1 on sides and tops.
Lower windows and doors use # 1 on all sides then use #2 on top of window cut to fit behind house wrap.
Now tape with #1 top of windows and doors house wrap to # 2 tape.
 - Install windows, doors and patio doors, including flashing tape listed above.
 - Install drywall between firewalls and behind tubs on 1 side where tubs back up to one another.
 - Install fiber board between double partition walls at all unit demising walls.
 - Fur down any closet under a stairs to separate from stairs to prevent noise transfer
 - Fur down underside of stairs with a 2x material for added insulation
 - Install 1x4 wood fire stop between demising walls as shown on architectural drawings.
 - Apply all floor sheathing to wood trusses and or I-joist using sub-floor adhesive and screws or nailed with Scrail brand nails.
 - Install all drywall on 2 hour fire rated separation walls.
 - Remove attic access in each unit and only have one access point in one of the middle units with a door through the smoke wall into the trusses. Actual location to be determined by Site Superintendent.
 - Install all wood blocking and backing for installation of all finish products such as but not limited to grab bars, bathroom accessories, cabinets if necessary, drapes/blinds as needed, handrail etc....
 - All lower unit bathrooms require ADA Backing
 - Wood decks and railings by others. Install any cantilevered joist and safely temporarily support roofs at deck areas as required.
 - The Owner will provide a Tele-Handler for use by the rough carpentry subcontractor. Tele-handler is provided for the site and will need to be shared with additional subcontractors. Crane by subcontractor.

1.01 - QUALITY STANDARDS AND TOLERANCES

- Provide a work force that is sufficient in number for the quantity of work and time schedule. Workers shall be skilled, trained, experienced, and competent to do the work as specified.
- All work shall be as per building code and the Manual for Wood Frame Construction.
- Tolerances: Vertical framing shall be plumb within 1/4" per 10 linear feet and horizontal framing shall be level within 1/4" per 10 linear feet.
- Moisture content of framing lumber shall be 19% or less by weight. Subcontractor to properly protect all Owner supplied materials from the elements. Cover materials upon arrival and maintain proper coverage of materials during the construction process.
- Follow applicable lumber grading agency standards in accepting or rejecting delivered lumber.
- Reject special required lumber that is not marked and certified as preservative-treated or kiln-dried.
- Material lists are proven to be accurate. Avoid excessive waste of owner supplied materials.

1.02 - MATERIALS HANDLING AND STORAGE

- Reject any delivered framing lumber that is not grade-stamped and certified.
- Unloading and movement of all required materials to be provided by sub-contractor

- Do not accept or use lumber that deviates from grade standards or has excessive moisture content.
- Handle lumber to avoid damage during transport, unloading, and moving on the job site. Handle chemically treated lumber and panels strictly according to manufacturer's instructions.
- Store framing lumber and wood panels to prevent damage and moisture absorption. Store metal connectors that are subject to damage in weather tight wrapping. Store chemically treated lumber and wood panels outdoors until installation.

2.00 - FASTENERS, CONNECTORS, AND SUPPORTS

- **Owner does not provide/supply fasteners of any kind, adhesives, equipment or blades. These items are to be provided by the subcontractor.**
- Nails shall be cold headed or plain steel wire. Follow all nail size requirements and nail spacing required by the governing building code.
- Use hot-dip galvanized steel nails for exterior, high humidity, and treated wood locations.
- Power-driven nailing: Comply with standards of the International Staple, Nail and Tool Association.
- Hangers, connectors and bridging shall be as manufactured by Cleveland, Simpson Teco or equal.
- Framers to provide and install building approved concrete anchor bolts on the exterior walls (ex: wedge bolts, Simpson Titen HD anchors, etc .) Confirm with State approved plans and Site Superintendent

2.01 - MATERIALS (Provided by Owner)

- **Owner does not provide/supply fasteners of any kind, adhesives (except sub floor adhesive and silicon caulk), equipment or blades. These items are to be provided by the subcontractor.**
- Unloading and movement of all required materials to be provided by sub-contractor.
- Size header for opening width as designated on construction drawings.
- Sill plates: Pressure treated materials for use in contact with concrete or masonry.
- Lumber for miscellaneous applications shall be standard grade unless noted otherwise.
- Plywood, General: Follow APA recommendations for usage intended.
- Floor Sheathing: 3/4" OSB sub-flooring.
- Roof Sheathing: 1/2" OSB.
- Exposure 1, thickness as indicated.
- Exterior Wall Sheathing: Exterior type, waterproof bond, plywood or proprietary oriented strand board (OSB), APA Rated Sheathing, 7/16" minimum thickness or greater.
- Wood Decking: Preservative treated wood in species selected by subcontractor complying with requirements of AWPA Standards. Wood decking must be free of open or loose knots, splits or checks wider than 1/4" wide.
- Sill Sealer: 1/4" thick, flexible, corrugated foam plastic as manufactured by Amofoam or equal.
- Air Infiltration Barrier: Proprietary processed spun polyolefin fiber film; flame spread: Class A; fuel contributed: 25 or less. Acceptable products: DuPont "Tyvek"; Simplex Products "Barricade"; Reemay "Typar" or Equal.
- Vapor Barrier: 6-mil polyethylene film, widest practical widths to minimize joints.
- Subfloor glue: APA AFG-01, solvent base, waterproof.

3.00 - WOOD FRAMING: PREPARATION AND PRECONSTRUCTION

- Examine and verify that job conditions are satisfactory for speedy and acceptable work.
- Maintain and refer to the latest trade standards. Cross-coordinate plumbing, electrical, fire protection and HVAC requirements with framing plan prior the start of framing.
- Identify actual dimensions of all required rough openings in framing.
- Verify that materials are stored so as to not overload or interfere with construction.

3.01 - ROUGH CARPENTRY, WOOD FRAMING -- AT GRADE AND FOUNDATIONS

- Use preservative-treated lumber near soil or where otherwise potentially exposed to moisture.
- Completed mudsills shall be straight with a side variation tolerance of 1/4" per 10 linear feet and level within 1/4" per 10 linear feet.

3.02 - ROUGH CARPENTRY, FRAMING MEMBERS

- Install all framing members as per plan, details, and building code requirements.
- Install joist hangers as per drawings, manufacturer's instructions, and building code requirements.

3.03 - SUBFLOOR SHEATHING

- Glue and screw subflooring to floor joists with deck screws or scrail nails(no nails). Subfloor-to-joist connections must be sufficient to totally prevent any squeaking of flooring.
- Floor squeaking will be remedied as directed by the Owner at the subcontractor's expense.
- Completed subflooring shall be level within 1/4" per 10 linear feet.

3.04 - SHEATHING, SIDING, AND FINISH-UP WORK

- Install plywood shear wall sheathing and roof sheathing as per the drawings and or as required by building code.
- Install wall sheathing panels so that edges have full bearing on framing. Include 1/8" expansion joints between sheathing panels.

3.05 - AIR INFILTRATION BARRIER

- General: Coordinate installation with framing and sheathing procedures; schedule installation to minimize exposure to ultraviolet radiation to thirty days or less. Install over entire sheathed surfaces, lapping and sealing ends and corners in accordance with manufacturer's recommendations. Use manufacturer's recommended fasteners and tape products to attach and seal to substrates.
- Tape all joints per manufactures instructions.

3.06 - WOOD FRAMING: COORDINATION

- Coordinate electrical stub-ups with the framing plan. Coordinate girders, floor joists, and stud walls with plumbing, fire protection, HVAC ducts and vents.
- Supply and coordinate in-wall fixture and equipment supports such as in-wall blocking, anchors, brackets, grounds, curbs, and other supports and backing.
- Provide clearances between framing and other construction that may be subject to differential movement.
- Set and prepare framing as required for tile or other waterproof wall finishes.
- Combine thermal insulation with framing as shown on drawings.
- Combine soundproofing with framing as shown on drawings. Install sound barrier materials, gaskets, and clips as per manufacturers' instructions. Do not allow any sound transfer connections within soundproof party wall construction.
- Provide openings for inspection of concealed work before closing in.

3.07 - WOOD FRAMING: BETWEEN PHASES AND AT CONCLUSION OF FRAMING

- Check and verify correctness of each stage of framing before installing subsequent framing. Remove all unusable wood scraps from site weekly at minimum and between each phase of framing.

3.08 - FASTENERS, CONNECTORS, AND SUPPORTS: INSTALLATION

- Where not shown on nailing schedule, nails shall penetrate not less than 1/2 the length of nail. Exception: 16d nails may connect two pieces of 2" thickness.
- Remove and replace split framing members.
- Use of pneumatic nail guns according to manufacturer's requirements is permitted.
- Check and tighten all bolt connections after they are installed. Recheck and retighten all bolt connections before final construction is completed.
- Install joist hangers, lateral bracing and bridging as per drawings, manufacturer's instructions, and governing building code.

3.09 - AC SLEEVE: INSTALLATION – INSTALLATION BY S.C. SWIDERSKI CONSTRUCTION, LLC

- Install sleeve with top of unit 1" past framing on interior and bottom at 1 1/4"
- Install sleeve resting on or close to bottom framing. Unit must be square and level
- Attach sleeve using 2 screws in each side of unit. Add 1 additional screw top and bottom of sleeve in center.
- Exterior of unit to be clear silicon caulked on top, bottom and sides. Spray foam top of unit from exterior and interior only as required depending if gap cannot be caulked
- After caulking/foaming is complete, Tyvek Window and Door Flashing (4x100' roll) is to be used to flash portion installed over house wrap. Prior to, ensure house wrap is wrapping the bottom and sides for water protection. The bottom of the tape shall be 3/4" overlapped on ac sleeve metal. Verify tape will not be exposed when siding j channel is installed.
- If any questions arise, confirm install details with SC Swiderski site superintendent.

END OF SECTION

SECTION 06 11 10.28 – WOOD DECK FRAMING LABOR – MATERIAL BY OWNER

1.00 - WORK

- Subcontractor is to supply labor and fasteners (only) to complete all wood decks as shown on drawings.
- Specifications to include:
 - Install all wood joist, posts, Trex decking, Trex skirt board, Beam wraps, Post shoes and hangers.
 - All fasteners are provided by the subcontractor except trex hidden fasteners and trex colored screws. This includes fasteners of any kind.
 - **Aluminum Railings will be by others.**

1.01 - QUALITY STANDARDS AND TOLERANCES

- Workers shall be skilled, trained, experienced, and competent to do the work as specified.
- All work shall be as per building code and the Manual for Wood Frame Construction.
- Tolerances: Vertical framing shall be plumb within 1/4" per 10 linear feet and horizontal framing shall be level within 1/4" per 10 linear feet.
- Material lists are proven to be accurate. Avoid excessive waste of owner supplied materials.

1.02 - MATERIALS HANDLING AND STORAGE AND STORAGE

- Reject any delivered lumber that is not grade-stamped and certified.
- Unloading and movement of all required materials to be by sub-contractor.
- Do not accept or use lumber that deviates from grade standards or has excessive moisture content.
- Receive and handle lumber to avoid damage during transport, unloading, and moving on the job site. Handle chemically treated lumber and panels strictly according to manufacturer's instructions.
- Store chemically treated lumber and wood panels outdoors until installation.

MATERIALS

2.00 - FASTENERS, CONNECTORS, AND SUPPORTS

- **Owner does not provide/supply fasteners of any kind, adhesives, equipment or blades. These items are to be provided by the subcontractor.**

INSTALLATION

3.00 - WOOD FRAMING: PREPARATION AND PRECONSTRUCTION

- Examine and verify that job conditions are satisfactory for speedy and acceptable work.

3.01 - FASTENERS, CONNECTORS, AND SUPPORTS: INSTALLATION

- Where not shown on nailing schedule, nails shall penetrate not less than 1/2 the length of nail. Exception: 16d nails may connect two pieces of 2" thickness.
- Remove and replace split framing members.
- Use of pneumatic nail guns according to manufacturer's requirements is permitted.
- Check and tighten all bolt connections after they are installed. Recheck and retighten all bolt connections before final construction is completed.
- Install joist hangers per manufacturer's instructions, and governing building code.

END OF SECTION

SECTION 06 20 00 - FINISH CARPENTRY LABOR

1.00 - FINISH CARPENTRY LABOR

- Install Cabinets and Countertops- **Separate** price for these. Trim may be awarded separate from Cabinets
- Install 3/4" plywood under island peninsula Countertops only and toe kick nailed and glued
- Caulking of countertops and Cabinets hardware installation included in bid for Cabinets and Countertop installation
- Install Interior doors and all Interior and Exterior door hardware
- Install Casing at all locations
- Install Closet shelving - wire shelving system & wood shelving per shelving layout
- Install Baseboard- inside corners to be coped
- Install Stairway handrails- sand sharp edges and stain and finish at all joints
- Install AC units - slide into sleeve and adjust cord
- Install trim around AC units with wood base
- Install AC covers and 2" insulation (CUT BY OWNER) as directed in sleeves without units.
- Install pvc window extension jambs with casing
- Install Window & patio door blinds and screens (THIS WILL BE COMPLETED BY SC SWIDERSKI)
- Install door hardware, door stops and other misc. hardware-
- Install Bathroom accessories
- Install Exterior door to replace cull door and adjust to work properly.
- **Chop saws must have dust booth or collection system when cutting in units**
- Final Caulk for windows, sills, patio door and touch up painting and clean-up of your own messes

END OF SECTION

SECTION 06 22 00 – MILLWORK (CASING, BASE, CLOSET SHELVING)

1.00 - WOOD AND ACCESSORIES

- Install all owner supplied wood casing at windows and doors, base trim at walls and miscellaneous wood trims at all other locations as required, applicable trade standards, or approved samples. Install wood free of significant defects or deviations from grade standards. Unloading and movement into building of all required materials to be completed by sub-contractor.
- Exterior windows will have a drywall return (no casing).
- Install Window Sill Materials.
Sill Material will be: **PVC SILL, and Chesapeake Oak Colonial casing.**
- All areas have base board. **All base board is wood as per spec.**
- Install miscellaneous wood finishes such as wood knee wall caps/trims.
- All bi-fold and bypass doors must have a full length track at top. Two piece tracks are not acceptable.
- **Owner does not provide/supply fasteners of any kind, adhesives, tapes, equipment or blades, shims. These items are to be provided by the subcontractor.**
 - Wood Casing will be: **Chesapeake Oak 2 ¼” Colonial Casing or equal.**
(At all interior doors and exterior man doors)
 - Wood Base Board will be: **Chesapeake Oak 2 ¾” Colonial Base or equal**
 - Wood Interior: **Chesapeake Oak, Pre-hung, Pre-finished Hollow Core doors or equal.**
(Pocket, Bi pass and Bi fold doors will not be pre hung)
 - Closet Shelving will be: **Pre-finished Wire Shelving system in all closets (White).**

2.00 - CLOSET SHELVING- as per plans

3.00 - PREPARATION

- Reject any wood that is not certified as to grade. Test and certify moisture content. Provide all tests, certificates, and affidavits as required to verify quality of materials.
- Do not have finish materials delivered until after the building is closed in and dry.
- Do not install finish panels with defects or deviations from grade standards.
- Handle and store wood with care to avoid damage.
- Store trim materials as required to prevent damage and moisture absorption.
- Properly ventilate wood treated with preservatives; store away from work areas.
- Store kiln-dry materials to assure compliance with temperature and humidity restrictions.
- Remove all wood scraps, sawdust, and related debris from the site daily.

3.01 - CONSTRUCTION: INTERIOR FINISH WORK

- Coordinate with finish carpentry, furnishings, fixtures, and equipment to be installed by others. Protect finish work from damage by other trades. Prepare sub-surfaces to receive finish materials.
- Keep working environment clean, free of airborne construction dust, dry.
- Glue and fit all casing miter joints so as to minimize or conceal shrinkage.
- Perform all work per details and applicable trade standards; saw cuts straight and clean, tight fits without gaps, splices tight and staggered (never side by side).
- Align and exactly match miter joints at edges and corners. Install running trim in maximum lengths; do not use short pieces or splicing of scraps. All baseboard trim inside corners to be coped.
- Keep number of joints to a minimum by consistently using maximum size material. Install tight joints without gaps. Fasten all pieces straight, true, and secure. Coordinate backing and blocking with other trades with interfacing work.
- Where sanding is required, sand with grain to totally smooth, unblemished surface.
- Set finish nails before painting or staining.
- Completely sweep work area upon completion of final work.

END OF SECTION

DIVISION 07 00 00 – THERMAL AND MOISTURE PROTECTION; ROOFING

SECTION 07 21 00 – THERMAL INSULATION-BUILDING INSULATION

1.00 - THERMAL INSTALLATION

- Insulation R Values will be as follows:
 - Exterior Walls: R-21
 - Second Floor Ceilings: R-50

1.01 - SOUND INSULATION

- Thickness as follows:
 - Demising Walls: R-11 Fiberglass Insulation to each side of walls.
 - Stair walls: R-11 Fiberglass Insulation @ 4" walls and R-19 @ 6" walls. Walls at stairs are double walls and will require insulation in both walls for sound.
 - First Floor Ceilings: – Blow Truss cavities PACKED full, Confirm and check so no areas are missed. R-11 batts must be installed on all interior truss areas above demising walls and around trusses at stairs. R-19 batts must be installed in all exterior sills
 - Install blown insulation packed full to underside of stair system that will be furred down an additional 1 ½" to deaden sound. Insure proper support.
- Thermal Blanket/Batt Insulation: Flexible, mineral wool or glass fiber products, factory-cut edges and ends, faced or un-faced, widths to fit wall framing. NOT APPLICABLE
- Provide thickness to attain R-values indicated on drawings - R-21 minimum on exterior wall, R-50 roof minimum. Acceptable Manufacturers: Certain-Teed; Manville; Owens-Corning; US Gypsum.
- Adhesive: ASTM C 557, water-resistant type as recommended by manufacturer.
- Sound Insulation: Nominal 3-1/2" thick or thickness indicated on drawings, widths as required to provide friction fit in nominal 16 or 24" stud spacing or Sound Attenuation Blankets. NOT APPLICABLE
- Mechanical Fasteners: Type recommended by manufacturer and approved, with minimum length 1/2" (13mm) longer than insulation thickness.
- Vapor Barrier: 6 mil polyethylene film with laboratory tested vapor transmission rating of 0.2 perms, natural color. Furnish in maximum practical dimensions to minimize field splices.

2.00 - PREPARATION AND MATERIALS HANDLING AND STORAGE

- Keep insulation materials totally dry at all times in storage and during installation.

3.00 - APPLICATION

- Keep areas to be insulated clean and dry. Do not install insulation where it might be exposed to water.
- Install as per manufacturer's instructions and building code requirements. Keep ventilation space unobstructed.
- Provide Fiberglass Insulation in the following walls: Stairway, Demising, and the wood floor system between units as identified above in subsection 1.2
- Upon completion, clean the work area and remove all scrap and excess materials from the site.

END OF SECTION

SECTION 07 30 00 - ASPHALT SHINGLES LABOR

LABOR ONLY BID SHOULD BE AS FOLLOWS:

- Labor only per building price. Include all fasteners and sealants for each building type.
- **Provide labor pricing per building.**
- All material (excluding fasteners, adhesives including tar) is supplied by the Owner.
- Felt paper, ice and snow and valley tin installed by Section 6100
- Ridge venting installed by roofer, cut out by Section 6100 subcontractor.
- Price per building type should include installation of all bundles of starter, hip and ridge shingles, ridge venting, or other roof venting and shingles for a weather and water proof system.
- We do provide a Tele-handler on site in order to lift the shingle bundles to the roof.
- Unloading and movement of required materials to be provided by sub-contractor

END OF SECTION

SECTION 07 31 13 - ASPHALT SHINGLES MATERIAL

MATERIAL (by Owner)

- Shingles: Fiberglass based asphalt, 230-245 pounds per square self-sealing, UL Class "A" fire rating and Wind Resistant label. **Shingles will be: IKO, Cambridge 30, Color = Charcoal**
- Hip and Ridge Shingles: Same construction and color as roof shingles. Underlayment: ASTM D 224, 15 lb. asphalt saturated fiberglass felt, unperforated.
- Water and Ice Barrier: GAF Ice and Water Shield or equal
- Plastic Cement: ASM D2822, Group One. Asphalt composition reinforced with non-asbestos fibers.
- Sub-contractor supplied Fasteners: Galvanized diamond-point or needle point roofing nails, 12 gauge minimum with 3/8" heads and of sufficient length to provide a 1/2" (13mm) minimum penetration of plywood sheathing.
- Equipment: Air- or electric- powered nailing equipment may be used if nail heads are of same size and type as manual nailing application. Staple fasteners may be approved if applicator can control air pressure and ensure that "punch-thru" will not occur.
- Sheet Metal Flashings: Minimum .026" aluminum or 24 gauge galvanized steel.
- D Edge: Minimum .026" aluminum or 24 gauge galvanized steel formed in minimum 8 foot sections with 3" roof flange, 1-1/2" fascia height, and integral drip edge formed to protect not less than 1/2" beyond the vertical fascia.
- Ridge Vents: Shingle Vent II or Celotex "Roll Vent" or equal

1.00 - PREPERATION

- Inspect areas to receive shingle application. Surfaces should be smooth, dry, sound and free of irregularities. Coordinate corrective measures required.
- Verify completion of work of other trades, which penetrates surfaces to receive shingles. Commencement of shingle application constitutes acceptance of surface conditions.
- Schedule and apply materials when air and surface temperatures are above 40 degrees F and expected to remain so during entire application.

2.00 - INSTALLATION- Installer will be notified 2 weeks in advance of start date. Installer must be complete one week after start date.

- Drip Edges: Apply at eave lines; notch and lap ends 3".
- Ice and Water Shield: Apply over drip edge at eaves -2 rolls. Apply (1) row at all valleys. ICE AND WATER APPLIED BY CARPENTRY SUB
- Underlayment: Apply 36" wide felt underlayment. Apply over sheathing, overlapping preceding layer 2"; lap end joints 8". FELT APPLIED BY CARPENTRY SUB
- Over underlayment at valleys, provide 24" wide rolled roofing aluminum valley tin centered on valley, installed in longest length possible. Overlap as needed with minimum 12" lap in direction of flow.
- Metal Flashings: Install at vertical surfaces over the underlayment with vertical leg to be turned up a minimum of 4" and 3" beneath shingles.
- Shingle Application: Inspect underlayment installation to verify integrity and completeness.
- Install shingles over underlayment according to manufacturer's instructions.
- Ridge Vents: Install at all horizontal peak locations. Fasten at recommended spacing.
- Hip/ridge Shingles: Install with recommended exposure over ridges.
- Set last ridge shingle in plastic cement; leave to exposed nails.
- Valley Shingles: Install to provide cut Valley system. Run base shingle past Valley by at least 24". Cut top layer straight and use caution so as to not cut the lower layer. No nails shall be placed closer than 10" to the valley centerline.
- Field Quality Control: Inspect fastener application as work progresses. Remove overdriven fasteners, which have deeply dimpled or punched through shingle surfaces and reattach with proper head seating. Set nails that did not properly set.
- Remove shingles damaged by construction or improper fastening and replace with new pieces.

3.00 - CLEANING AND PROTECTION:

- Remove debris, scraps and packaging from project site.

END OF SECTION

SECTION 07 40 00 – SIDING MATERIAL

MATERIALS (by owner)

- Aluminum Solid center vent soffit. = **Almond**
- Aluminum Wood Grain 6" fascia. = **Almond**
- Aluminum Vented Soffits = **Almond**

- Siding System:
 - Horizontal Siding Color #1: **Georgia Pacific D-4 Compass Siding, Color = Briarwood**
 - Horizontal Siding Color #2: **Georgia Pacific D-4 Compass Siding, Color = Bayou**
 - Horizontal Shake Siding: **Foundry Shingle, Color = Shadow**
 - Vertical Corner Post 4" width: **Color = Almond**
 - All Siding Opening Trims to match Siding Colors.
 - Garage Horizontal Siding Color #1, **Georgia Pacific D-4 Compass Siding, Color = Briarwood**
 - Garage Horizontal Shake Siding: **Foundry Shingle, Color = Shadow**
 - Garage Siding Opening Trims to match Siding Colors.

- Brick Sill Flashing Trim Coil, **Color = Briarwood**
- Accessories: Install all Vertical corner posts, manufacture's standard j-moldings, starter trim, receiver strips and other shapes required to attain a complete finished and water tight installation. Colors to match horizontal siding colors abutting.

- Siding Joints and Fastening: Manufacture's standard interlocking and/or overlap shapes
- Siding Lengths: Site fabricated to suit project requirements. Maximum length to be used at all times.
- Thermal Movement: Allow for expansion and contraction at transitions, penetrations, and terminations.
- Fasteners: Install related materials and accessories as per siding manufacturer's instructions.
- The Owner does not provide flashing material. Subcontractor is to provide and install all flashing materials
- Unloading and movement of required materials to be provided by sub-contractor

CONSTRUCTION AND INSTALLATION

1.00 - EXAMINATION

- Verify that substrate to receive work is complete, at proper lines and elevations, and properly sized. Do not proceed with installation until conditions detrimental to proper completion of the work have been corrected.
- Coordinate work with installation of other adjacent elements of building envelope to ensure watertight construction.

1.01 - INSTALLATION:

- Follow siding manufacturer's instructions and recommendations for installation as applicable to project conditions and substrates types
 - Siding must be nailed with Roofing nails. Staples are not allowed.
 - Coordinate siding work with installation of doors, windows, and other elements of the wall to ensure a continuous, weather tight enclosure.
 - Anchor siding securely in place with adequate provisions for thermal movement.
 - Through soffit venting shall be blocked and installed through the center of a solid aluminum soffit panel and also shall have a solid panel on each side of the vent
 - Install sealants, closures, and trim as work progresses to ensure airtight and watertight performance of the completed installation. Exposed fasteners not permitted.
 - Installation Tolerances: Conform to lines of slope, plumb, level, and indicated location.
 - Siding Offset/Profile Alignment: Maximum 1/8" offset.
 - Clean the work area and remove all scrap and excess materials from the site.
 - Repair or replace defective work as directed by the Owner.
-

SECTION 07 46 00 – SIDING LABOR

SYSTEM DESCRIPTION

- Environmental Requirements: Provide for expansion and contraction of system components due to ambient temperature and solar heat gain. Accommodate movement due to temperature change without buckling, undue stress on structural elements, reduction of performance or other detrimental effects.

LABOR BID SHOULD BE AS FOLLOWS:

- **Please bid each building type separately (12 Unit, 16 Unit) as a lump sum.**
- Include all labor to complete the siding, soffit and fascia with all accessories and all fasteners and sealants required for a weather tight water proof exterior finish system.

END OF SECTION

SECTION 07 71 23 – MANUFACTURED GUTTERS AND DOWNSPOUT

Comply with Sheet Metal and Air Conditioning Subcontractors National Association (SMACNA) recommendations for flashing and counter flashing installation for sizes, minimum metal gauges and minimum lapping coverage.

MATERIALS

- Flashing: Provide and install all flashing of types, sizes and gauges shown in the drawings and specified herein:
- Galvanized Flashing: Zinc-coated carbon steel, Federal Specification QQ-S-775d, Type I, Class D. Screws, Nails, Fastening Devices: Suitable for the intended uses sufficient length to penetrate substrate material at least 7/8". For fasteners exposed to weather, provide a neoprene washer under the metal washer.
- Use only stainless steel fasteners or fasteners of the same metal material being fastened. Cadmium plated or aluminum coated steel fasteners are not acceptable.
- Use galvanized metals flashing for concealed locations; mill finish aluminum for semi-exposed locations.
- Fabrication: Provide materials in gauges indicated on drawings. Where gauges are not indicated, follow SMACNA recommendations.
- Shop form, bend and break flashing(s) and other items of prefinished aluminum, and/or galvanized sheet metal to configuration(s) as detailed on the drawings. Turn exposed edges back 1/2".
- Form sheet metal accurately to dimensions and shapes required, finishing molded and broken surfaces with true, sharp and straight lines and angles.
- Where intercepting other members, cope to an accurate fit and attached securely.
- Price Gutters and Downspouts as follows:
 - 26 gauge 4" style aluminum gutters and 26 gauge 3" corrugated downspouts all with baked enamel factory finish, color to be **Standard Almond**. Review construction drawings for building sizes and locations. Provide gutters with standard ends and outlets, and the downspouts with standard anchor straps and elbow outlets. Include all required accessories.
- Review Construction drawings – Provide gutters and Downspouts collect water at all eaves of apartment buildings. On detached garage units install gutters on front only.
- See Masonry Section for Masonry Flashing Requirements. See Carpentry Section for flashing requirements.

1.00 - APPLICATION

- Provide flashing connections and fabrications as detailed. Use non-corrosive fastenings. Lap and lock seams; solder seam joints where necessary to guarantee water tightness.
- Overlap seams in the direction of water flow.
- Conceal fastenings where possible. Where exposed fastenings are permitted, make neat, symmetrically spaced fastenings.
- Join materials using approved fastening procedures.
- Attach gutter to fascia with aluminum ferrules and spikes located at each rafter tail. Attach downspouts to wall with aluminum straps 5'-0" O.C.

END OF SECTION

SECTION 07900 - SEALANTS

1.00 - MATERIAL

General: Provide chemically-curing elastomeric sealants of base polymer indicated, complying with type, grade, class and use requirements of ASTM C 920.

- Sub-sealant Joint Fillers.
- Non-traffic joints: Pre-molded or preformed resilient, non-absorbent closed cell polyethylene foam.
- Round cross-section with minimum diameter of 25 percent greater than joint width.
- Caulk along Window and Patio doors at brick: OSI Quad Max: Window, Door & Siding Sealant Color: **MATCHING**

1.01 - EXECUTION

- Clean joints to be sealed and ensure they are dry and free from dust, wax, grease, oil or other foreign matter.
- Temperatures: Apply only when within ranges recommended by manufacturer or material used.
- Apply sealants to full width of joint, completely filling joint and firmly tooled against backing. Fill surfaces flush or with slightly convex bead slightly above joint surfaces.
- Gun into joints. Remove excess material from adjoining surfaces with manufacturer's recommended solvent. Tool non-traffic joints where sealants will remain exposed to attain smooth, even finish. Do not disturb sealant joints until fully cured. (4 days at 75 degrees F.)
- Remove excess material after curing and leave surfaces neat, smooth and clean.

END OF SECTION

DIVISION 08 00 00 - OPENINGS

SECTION 08 11 00 – METAL DOORS AND FRAMES

1.00 - WORK

- Provide metal doors and wood frames where shown on the drawings and as specified herein.
- Installation completed by Framer
- Door and frame types and sizes shall be as per the drawings.

1.01 - SUBMITTALS (As requested by Owner)

1.02 - MATERIALS HANDLING AND STORAGE

- Install all materials required to complete the work as shown on drawings and specified herein.
- Receive, inspect and off load all materials to avoid damage to the product or to any other work.
- Store materials safely to avoid damage and locate to expedite the work.
- Exterior doors will be: **Manufactured by Waudena Millwork or equal
6 9/16", 2 3/4" Backset w/deadbolt, Tan #19 Aluminum Clad Frame w/primed interior, crown line exterior trim, adjustable hinges and threshold, Standard Antique Brass Hinges. Door slabs are primed only.**

MATERIALS AND PRODUCTS (BY OWNER)

2.00 - METAL DOORS

- Owner will provide doors of sizes, thickness, and types shown on drawings.

2.01 - FINISH HARDWARE

- Manufacturer will prepare frames for finish hardware using hardware supplier's templates. Use hardware supplier's templates to install or prepare for all finish hardware.

3.00 - PRECONSTRUCTION AND PREPARATION

- Examine and verify that job conditions are satisfactory for speedy and acceptable work.
- Do not allow door swings to conflict with electrical switches or outlets, wall guards or rails.

3.01 - INSTALLATION

- Hang doors straight, plumb, and smooth in opening.
- Provide clearances below doors as necessary to allow for thresholds, weather-stripping, etc.

3.02 - INSPECTION, REPAIR, AND TOUCH-UP

- After installation, inspect all doors and frames to find and repair damaged surfaces.
- Final door mounts shall be square, smooth operating, and plumb when doors are closed, partially open, and fully open, with 1/8 to 1/4" margins.

END OF SECTION

SECTION 08 14 00 - WOOD DOORS

1.00 - WORK

- Provide wood doors (Installation by section 6200), complete with hardware where shown on the drawings and as specified herein.

1.01 - QUALITY STANDARDS

- Provide experienced, well-trained workers competent to complete the work as specified.

1.02 - SUBMITTALS (as requested by owner)

1.03 - MATERIALS HANDLING AND STORAGE AND STORAGE

- Install all materials required to complete the work as shown on drawings and specified herein.
- Receive, inspect offload and store materials to avoid damage to the product or to any other work.
- Return any products or materials delivered in a damaged or unsatisfactory condition.
- Insure that the building has reached average long-term interior humidity.
- Packaging must be sealed with clear manufacturer and identification markings.
- Store materials safely to avoid damage and locate to expedite the work.
- Comply with recommendations and standards of the Architectural Woodwork Institute.

MATERIALS AND PRODUCTS (SUPPLIED BY OWNER)

- Interior Wood doors provided by owner will be:
Pre-hung (except for pocket, bypass or bi-fold), Pre-finished – Chesapeake Hollow Core doors or equal. Standard Antique Brass Hinges
- Install wood doors as per drawings. Verify size and swing of door prior to installation.
- Install doors that are straight, free of defects, and that have correct finish material thickness.
- Verify that factory preparation and pre-fitting follow required hardware templates.
- Properly shim and anchor all jambs to maintain permanent proper alignment.

1.00 - PREPARATION

- Examine and verify that job conditions are satisfactory for speedy and acceptable work.
- Do not allow door swings to conflict with electrical switches or outlets, wall guards or rails.

1.01 - INSTALLATION

- Mount frames and doors plumb, straight, and securely braced.
- Mounting tolerances: Lock and hinge edge, bevel at 1/8" in 2" maximum.
- Hang doors straight, plumb, and smooth in opening and closing.
- Provide clearances below doors as necessary to allow for thresholds, weather-stripping, etc.
- Do not cut fire-rated doors so as to negate fire rating.
- Seal or re-seal doors whenever they are cut.
- Seal, stain, or paint exterior doors before or immediately after installing them.
- Install fastenings and hardware as per hardware schedule and instructions of manufacturer.

1.02 - INSPECTION, REPAIR, AND TOUCH-UP

- After installation, inspect all doors and frames to find and repair damaged surfaces. Repair or replace any damaged materials or improperly hung doors as directed by the Owner. Repair or replace any other materials damaged during installation. Any costs for replacing doors for non-compliance will be paid by the subcontractor.
- Final door mounts shall be square, smooth operating, and plumb when doors are closed, partially and fully open.

END OF SECTION

SECTION 08 36 13 - OVERHEAD DOORS AND OPENERS

1.00 - GENERAL

- Provide sectional overhead doors and operators as outlined herein.

1.01 - SUBMITTALS

- Submit for approval shop drawings, product data.

1.02 - QUALITY ASSURANCE

- Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle and store materials in accordance with manufacturer's instructions.

MATERIALS

- Doors shall be steel sectional overhead type:
CHI – MODEL 2200, NON-INSULATED, TAN #19 COLOR or equal with written approval by owner
- Sizes and locations as indicated on plans. Include reinforcement strut and exterior weather seals.
- Include (1) ½ HP Lift master operator – **MODEL 3265-7** or equal that is approved by owner.
- Include (1) single button remote, Vault release (keyed alike for all doors) and (1) keyless entry @ each door.
- Horizontal track to be adequately reinforced with continuous angle.
- Hardware – All hinges and brackets made from galvanized steel 2" or 3" diameter track rollers shall have steel ball bearings
- Remove existing manufacture batteries in keyless entry pads. Provide and install Duracell Procell Alkaline 9 volt professional battery.
- All materials are to be as per specification. If equal product is provided a written approval by Project Manager must be signed by both parties.

2.00 - INSTALLATION

- Install materials and systems in accordance with manufacturer's instructions and approved submittals.
- Install materials and systems in proper relation with adjacent construction and with uniform appearance. Coordinate with work of other sections.
- Install assemblies complete with all hardware, anchors, inserts, supports and accessories.
- Subcontractor to remove factory provided batteries from keyless entry pad and replace with owner provided batteries.
- Clean and protect work from damage.

END OF SECTION

SECTION 08 50 00 – WINDOWS

1.00 - WORK

- Carpentry subcontractor to install windows, sliding doors and/or swing patio doors where shown on the drawings and as specified herein. Window types and sizes shall be as indicated on the drawings.
- **Provide and install (1) mirror in each bathroom. Include all mounting accessories for proper installation. All mirrors are installed by the glazing subcontractor.**

At all bathroom vanities provide (1) mirror as follows:

- **At 30" wide vanities install – 24" x 36" mirror**
- **At 36" wide vanities install – 30" x 36" mirror**
- **At all vanities wider than 36" install – 42" x 36" mirror**
- **Mirrors to be installed center between top of Counter Top and bottom of Light fixture**

1.01 - QUALITY STANDARDS

- Provide experienced, well-trained workers competent to complete the work as specified.

1.02 - SUBMITTALS (As requested by Owner)

1.03 - MATERIALS HANDLING AND STORAGE

- Receive, inspect, and off-load all materials required to complete the work as shown on drawings and specified herein. Deliver and transport materials to avoid damage to the product or to any other work.
- Store materials safely to avoid damage and locate to expedite the work. Store delivered doors and frames consistently vertical or flat. Lift and carry windows and frames with care to avoid damage.

MATERIALS AND PRODUCTS (MATERIALS BY OWNER)

1.00 - WINDOWS

- Provide windows, sliding patio doors and/or swing patio doors, complete with glazing as per drawings.
- Windows are manufactured by:
- Installation of windows and doors by Section 6100.

**JELD WEN windows and doors BBMVSL or approved equal.
Brickmould Vinyl Sliding Window – Desert Sand
Low E Clear, Argon Filled, 5/8" Flat, Desert Sand Hardware,
All Lites – Desert Sand Colonial (even Lites)**

2.00 - PRECONSTRUCTION

- Examine and verify that job conditions are satisfactory for speedy and acceptable work.

2.01 - INSTALLATION

- Windows and Patio doors shall be installed by the section the Rough Carpentry (6100) subcontractor.
- Window dimensions and alignments shall be as per drawings.
- Section 6100 to install windows according to manufacturer's instructions.
- Provide windows that are weather tight and allow no air infiltration.
- Provide operable windows that open and close smoothly, without rattling or sticking.

2.02 - INSPECTION/REPAIR/TOUCH-UP

- After installation, inspect all windows and frames to find and repair damage.
- Final windows will be mounted square and operate smoothly.
- After installation, protect all materials from physical and chemical damage.

END OF SECTION

SECTIONS 08 83 00 – MIRRORS

- See section 08-50-00 for mirror sizes and locations.

SECTIONS 08 71 00 – DOOR HARDWARE

1.00 - WORK

Regulatory requirements:

- Comply with state requirements for handicapped accessibility for applicable hardware.
- Install finish hardware where shown on the drawings and as specified herein.

1.01 - QUALITY STANDARDS

- Provide experienced, well-trained workers competent to complete the work as specified.

1.02 - SUBMITTALS (As requested by owner)

1.03 - MATERIALS HANDLING AND STORAGE

- Install all materials required to complete the work as shown on drawings and specified herein.
- Receive, inspect, and off-load all materials required to complete the work as shown on drawings and specified herein. Deliver and transport materials to avoid damage to the product or to any other work.
- Store materials safely to avoid damage or exposure to dust or moisture and locate to expedite the work.

2.00 - HARDWARE

- Install hardware as per Door hardware schedule in sub section 3.6 below.

2.01 - KEYING

- Owner will arrange for locksets to be keyed appropriately.
- Upon installation of locksets all keys are to be turned over to the SC Swiderski Superintendent.

3.00 - PRECONSTRUCTION

- Examine and verify that job conditions are satisfactory for speedy and acceptable work. Store materials safely to avoid damage or loss.

3.01 - INSTALLATION REQUIREMENTS

- Installation of all locksets and door hardware is by the Finish Carpentry (6200) subcontractor.
- Attach all hardware securely with fasteners made specifically for that hardware.
- Match hardware type, size, and finish, all sets of fastenings, such as screws on hinge butts.
- Match all required screws to all screw-attached hardware, such as hinges.
- Install hardware to open and close easily, without binding and with quiet, secure operation.

3.02 - INSTALLATION

- Install butts/hinges as shown in Hardware Schedule and as specified herein.
- Install as per manufacturer's instructions.
- Install locksets as per manufacturer's instructions. Install cylinder cores with tumblers set upward.
- Carefully guard master keys during construction.
- Match up locks and tagged keys after installing all units.
- Verify that all keys and locks operate smoothly without effort.
- Deliver keys and instructions to SC Swiderski Superintendent daily.
- Install door stops as per manufacturer's instructions.
- Install stops of correct type and in correct positions to fully protect adjacent surfaces.
- Install weather-stripping as per manufacturer's instructions to create a secure seal against air infiltration.
- Provide and install acoustic strips to create a secure sound seal.
- Keep hardware clean. After installation, protect finishes from physical and chemical damage.
- Clean and protect all hardware as recommended by manufacturers. Replace or make undetectable repairs to damaged materials or finishes.

Door Hardware Schedule:

Entrances and

Mechanical Room:

Schlage - Georgian (F51A-GEO-609)

Schlage - B series (B60N-609)

Door Peep – All Main Entrances except Full Glass Doors and Mech Rooms

Wall Stop or Hinge Stop

Bedrooms and Bath: **Kwikset – Hancock (730H-5)**
Wall Stop or Hinge Stop

Closets/Hallways: **Kwikset – Hancock (720H-5) Passage Lock**
Wall Stop or Hinge Stop

ADA – Entrance/ Patio: **Schlage - Georgian (F51-FLA-609)**
Schlage - B series (B60N-609)
Wall Stop or Hinge Stop

ADA - Bedrooms and Bath: **Kwikset – Lido (730L-5)**
Wall Stop or Hinge Stop

ADA- Closets/Hallways: **Kwikset – Lido (720L-5) Passage Lock**
Wall Stop or Hinge Stop

(Verify type of door on drawings and Install necessary Hardware for proper installation.)

END OF SECTION

DIVISION 09 00 00 – FINISHES

SECTION 09 29 00 - GYPSUM BOARD – DRYWALL

1.00 - WORK

- Provide everything required to complete the work as shown on the drawings and specified herein
- Drywall subcontractor is responsible for properly removing and disposing of all drywall scraps from the construction site. DO NOT PUT SCRAPS IN OWNER DUMPSTER.
- Cover floors and gyp-crete as needed during drywall process
- All Drywall areas will receive a “Light Orange Peel Texture”
- All Drywall will receive the following paint finish:

(1) Coat Sherwin-Williams Primer

(1) Coat **Sherwin-Williams – PROMAR 400 – Low Sheen Enamel Paint**

Custom Color =	CCE* Colorant	OZ	32	64	128
N1-RAW UMBER		-	5	1	1
R4-NEW RED		-	1	1	1
Y3-DEEP GOLD		-	5	1	1

(Drywall subcontractor to back roll finish coat to insure even coverage). After application inspect all areas and recoat as necessary achieve even and complete coverage.

1.01 - QUALITY STANDARDS

- Provide experienced, well-trained workers competent to complete the work as specified. Provide all related products and accessories from one manufacturer.
- Cover all floor areas to protect and insure proper flooring installations. Clean and scrape floors after drywall is complete.
- Use products and accessories: from a manufacturer who specializes in making, installing, and servicing systems of this type.
- All work shall comply with manufacturer's instructions and governing building and safety codes.

1.02 - MATERIALS HANDLING AND STORAGE

- Provide all materials required to complete the work as shown on drawings and specified herein.
- Deliver, store, and transport materials to avoid damage to the product or to any other work.
- Store materials in a safe, secure location, protected from dirt, moisture, contaminants, and weather.

1.03 - PRECONSTRUCTION AND PREPARATION

- Examine and verify that job conditions are satisfactory for speedy and acceptable work.
- Confirm there is no conflict between this work and governing building and safety codes.
- Confirm there are no conflicts between this work and work of other trades.
- Confirm that work of other trades that must precede this work has been completed.
- Meet all requirements to secure any applicable warranty.

1.04 - MATERIALS

- Standard Board (GWB):
Provide and install **1/2” thick walls & 5/8” thick ceilings**, tapered or tapered and rounded long edges. Provide Fire rated type X drywall where indicated on drawings.
- Moisture Resistant Board (MBD): ASTM C 630, 5/8” thick, tapered or tapered and rounded long edges, specially formulated gypsum core, moisture resistant paper covering.
- Provide and install proper size Hat or Resilient channel where indicated on the drawings.
- Fasteners: Type S, bugle head, needle point, self-drilling and tapping; minimum 3/8” longer than total thickness of materials being attached.
- Corner bead: galvanized steel, 1-1/8 or 1-1/4” serrated and punched flanges.
- Edge bead: galvanized steel, punched, unequal leg, serrated flanges, 26 gauge, designed for finished joint treatment. Acceptable Products: U.S. Gypsum 200A and/or 200B.
- Control Joints: Back-to-back metal trim.
- Tape: Perforated, cross-laminated fiber, feathered edges.
- Joint Profile: USG Dura bond 90 Joint Compound. Joint Taping Compound: USG Joint Compound.
- Joint Topping Compound: USG Joint Topping.

1.05 - INSTALLATION

- Follow selected manufacturer's installation recommendations for materials installation.

END OF SECTION

SECTION 09 30 00 – FLOORING (RESILIENT SHEET FLOORING)

1.00 - FLOORING AND ACCESSORIES

- Vinyl Flooring:
 - Standard lower unit Kitchen, Laundry, Baths and Entrances = **Benchmark, North Crest, #3832**
 - Standard upper unit Kitchen, Dinettes and entrances = **Earth Werks, Rapture Plank, #SRP711**
 - Standard upper unit Baths and Laundry = **Earth Werks, Adobe Plank, #AAS-314**
 - ADA unit Entrance, Living Room, Kitchen, Hallway = **Earth Werks, Rapture Plank, #SRP711**
 - Laundry, Bathroom = **Earth Werks, Adobe Plank, #AAS-314**
- Underlayment Compound of Benchmark, North Crest, #3832: Applications up to 1/8-inch thickness
- Underlayment Compound of Rapture Plank and Mojave Slate: AcoustiCork, CorkPLUS 250
- Applications up to 1/4-inch thickness: Birch underlayment, or as recommended by flooring manufacturer.
- Adhesives: Waterproof proprietary composition, recommended by tile manufacturer.
- Reducing Strips: Acceptable Manufacturers: Mercer Plastic Co., Inc., Roppe Rubber Co. or equivalent.
- Replacement Flooring: Furnish partial roll of 5 percent of each color or color/pattern combination used.
- Place materials where directed and label to identify color and patterns.
- Installation of flooring must be done so as to minimize the number of joints or seams.
- Flooring contractor to seal Gypcrete where vinyl floors are to be installed
- Flooring contractor must caulk all finished flooring at toilet flanges

2.00 - APPLICATION

- Install flooring as per manufacturer's instructions.
- Install resilient sheet flooring so that all portions are laid in one uniform direction, color and pattern, and matched throughout installation, and seams are minimal.
- Flooring must be level, without humps or depressions. Make seam joints cleanly cut and straight.
- Thoroughly adhere base materials; apply adhesive with a notched trowel; do not spot glue.
- Use materials in the same sequence manufactured. Butt flooring tightly against vertical surfaces, nosings, etc.
- Scribe as necessary to fit around objects. Scribed joints must be a neat and square as manufactured edges. Avoid cut widths less than 3" at edges of rooms.
- Do not allow scrap for base work; use maximum piece lengths. Extend flooring into recesses and concealed spaces such as behind fixtures and closets.

3.00 - CLEANING AND FINISHING

- Only use cleaner recommended by the flooring manufacturer.
- Remove excess adhesive and other marks or stains from finish flooring.

3.01 - REPAIR

- Repair or replace defective work as directed by the Owner. All chipped, scratched, uneven, or other defective work will be repaired or replaced. Repairs shall be undetectable.
- Securely protect floor from damage by traffic or further construction work.

END OF SECTION

SECTION 09 30 00 – FLOORING (CARPET)

1.00 - CARPET AND ACCESSORIES

- Carpet Selected By Owner:
Standard unit = **Mohawk, Aladdin Collection Style #SP235, Color #01**

ADA unit = **Mohawk Aladdin Collection, Style #SP235, Color #02**
- Standard Unit Pad: 3/8" rebound, 8 lb.
- Standard Unit Stairs Pad: 1/2" rebound, 8lb
- Tackless Carpet Strips: Water-resistant plywood strips, thickness to match pad thickness, with angled pins projecting from top designed to grip and hold stretched carpet at backing. Provide 2 row strips for 20 foot wide or less stretched carpet; three row strips for wider stretched widths.
- Metal/Rubber Trim: Metal receiver with rubber trim cap to cover joints between carpet and tile, or between different types of carpet of approximately the same relative height.
- Installation Adhesive: Water-resistant, non-staining type, recommended by carpet manufacturer, which complies with flammability requirements for installed, carpet. Seaming Cement: Hot melt seaming adhesive recommended by carpet manufacturer.

2.00 - PREPARATION

- Order carpet in ample time for scheduled installation.
- Verify that materials are delivered undamaged. Store well protected from weather, moisture and construction dirt and damage.
- Make subfloor ready for finish flooring. Eliminate irregularities and high spots. Nail well, and secure against moving and squeaking. Patch, repair, and sand smooth.
- Make concrete slab ready for finish flooring, level, without humps or dips. Slab must be dry (test moisture content if required), troweled smooth. Patch, repair, and clean slab as required for smooth, uncontaminated surface.
- Coordinate carpet installation with other trades such as baseboard installation and floor-mounted fixtures, cabinets and furnishings.

3.00 - INSTALLATION

- Install carpet so that all portions are laid in the same direction unless specifically directed by the Owner.
- There are no fill strips less than 24" wide.
- No seams in heavy traffic or high visibility areas. Use butt joints, thoroughly bedded and sealed.
- Seam joints to be straight and inconspicuous.
- Apply carpet pad per manufacturer's instructions.
- Protect from moisture before installation.

3.01 - CLEANING AND PROTECTION

- Clean up scraps, threads, and dust as work proceeds.
- Protect all work from weather or moisture.
- Provide heavy duty non-staining paper, plastic, or board walkways if required.

3.02 - REPAIR AND SURPLUS MATERIAL

- Surplus: Save large scraps for the Owner.

END OF SECTION

SECTION 09 91 00 - PAINTING

1.00 - SUBMITTALS

- Provide manufacturer's specifications and other data to prove compliance with specified requirements.

1.01 - JOB CONDITIONS

- Strictly follow paint manufacturer's requirements as to temperature, humidity, condition of work surfaces.

2.00 - PAINT AND RELATED MATERIALS

- Provide all materials and tools required for the work
- Acceptable Manufacturers: Sherwin Williams
- Color Selections: The Owner will select colors or finish from manufacturers' standard available colors.

Exterior Surfaces:

- Metal Entry Doors Exterior – **Sherwin Williams SW6034, ARRESTING AUBURN**

A100 Satin Exterior Acrylic Latex Ultra Deep Base

• Custom Color =	CCE* colorant	OZ	32	64	128
	W1-WHITE	-	18	-	-
	B1-BLACK	2	40	-	1
	R2-MAROON	2	5	-	1
	R3-MAGENTA	2	63	1	1

- Doors are to be a rolled finish with paint roller
- Items to be finished include, but are not limited to:
 - Metal entrance doors and other miscellaneous ferrous metal not otherwise noted.
 - Deck Vinyl Posts: N/A

Interior Surfaces:

- (Gypsum Wall Board – Walls)
- Primer: 1 coat Painted by Drywall Subcontractor.
- Finish: 1 coats Painted by Drywall Subcontractor.
- (Gypsum Wall Board – Ceilings)
- Primer: 1 coat Painted by Drywall Subcontractor.
- Finish: 1 coats Painted by Drywall Subcontractor.
- (Gypsum Wall Board at Wet Areas) Bath, etc....
- Primer: 1 coat Painted by Drywall Subcontractor.
- Finish: 1 coat Painted by Drywall Subcontractor.
- Wood Doors and Trim – **Pre-finished Chesapeake.**

2.01 - MATERIALS -- LIMITATIONS ON USE

- Undercoat must be from the same manufacturer as the finish coat. Thinners must be as recommended by the paint manufacturer and used only as recommended. The undercoat, finish coat and thinner are integrated parts of a total paint finish.
- Do not use latex primer on bare wood. Do not use alkyd primer on gypsum board. Apply primer or sealer to knots and pitch pockets on wood that is to be painted.

2.02 - MATERIALS DELIVERY AND STORAGE

- All paint materials shall be delivered new, in labeled, unopened containers. Material quality shall be verified as necessary by Owner.
- Store all paint materials with ample ventilation, in fire-protected space, secure from damage. Keep paint storage areas clean and clear of spilled material, empty containers, rags and scrap.

2.03 - APPLICATION EQUIPMENT

- Use painting tools and equipment only as recommended by the paint manufacturer. Prior to work, verify that proposed equipment is compatible with material to be applied.

2.04 - WORKING CONDITIONS

- Maintain a proper work environment, dry, clean, well ventilated, free of airborne construction dust, well lighted, And within temperature and humidity ranges required by paint manufacturer. Keep humidity low enough to prevent

moisture condensation on work surfaces. Never apply paint to damp or wet surfaces.

2.05 - MATERIALS PREPARATION

- Handle and mix paint materials strictly according to manufacturer's instructions.

2.06 - SURFACE PREPARATION

- Test areas with paint, and match dried paint to approved color and texture samples. Keep color samples on hand, and use them continuously for comparisons.
- Prepare and clean working surfaces as per paint manufacturer's instructions.
- Remove or protect items attached to work surfaces, which are not to be painted. After painting in each area, reinstall removed items using workers competent in the related trades.
- Clean wood of dirt, oil, and any other material that may interfere with painting.
- Sand exposed wood to smooth uniform surface. Do not paint wood having moisture content of 12% or higher.

3.00 - PREPARATION AND COORDINATION

- Handle and store materials as per manufacturer's instructions.
- Remove or fully protect adjacent or related work that might be marred by painting.
- Review other Sections of these Specifications to determine prime coatings on various materials. Do not allow paint gaps or overlaps at edges of hardware, fixtures, or trim.

3.01 - PAINT APPLICATION

- Mix and apply materials strictly as per manufacturer's instructions. Apply paint to thoroughly cover undercoat, and do not allow show-through, lap or brush marks or any other defects.
- Sand defects smooth between coats. Defects are defined as irregularities visible to the unaided eye at a five foot distance.
- Allow drying time between coats as instructed by the paint manufacturer. Work and smooth out brush coats onto surface in an even film. Where spraying, apply each coat to provide the hiding equivalent of brush coats. Do not double back with spray equipment to build up film thickness of two coats in one pass.
- Match applied work with approved samples as to texture, color, and coverage.

3.02 - PAINTING AND CLEANING SPECIAL SURFACES

- Paint ventilation registers, panels, access doors, etc. to match adjacent surfaces. Apply two coats of heat-resistant paint.
- Wash metal to be painted with solvent recommended by paint manufacturer. Add prime coat followed by two coats of alkyd enamel.
- Exposed pipe and duct insulation: Apply one coat of latex on insulation, which has been sized or primed under another Section. Apply two coats on such surfaces when unprimed. Remove pipe or duct bands before painting, and replace after painting.
- Hardware: Paint prime-coated hardware to match adjacent surfaces. Allow no paint to come in contact with hardware that is not to be painted.
- Damp spaces: In Bath rooms and other damp rooms add approved fungicide to paints.

3.03 - CLEANING AND EXTRA STOCK

- Maintain thorough dust and dirt control throughout the painting process. Thoroughly protect all surfaces that won't be painted with clean, undamaged drop cloths and masking tape. Immediately clean any spilled materials and do not allow dirt or spilled materials to be tracked in a work area or to other work areas. Allow absolutely no paint smears or splatters to remain on adjacent surfaces.
- Upon completion of painting work, deliver to the Owner extra stock of 5 gallons of each color, type, and gloss of paint used in the work. Tightly seal and clearly label each container with notes on contents and location used.

3.04 - INSPECTION, TOUCH UP AND REPAIRS

- The Owner will expect completed work. Unacceptable work includes surface imperfections such as spotting, laps, brush marks, and runs.
- Remove, refinish, or repaint work not in compliance with specified requirements.

END OF SECTION

DIVISION 10 00 00 – SPECIALTIES

SECTION 10 80 00 – TOILET, BATH AND LAUNDRY ACCESSORIES (MATERIALS BY OWNER)

1.00 - WORK

- Comply with state requirements for handicapped accessibility for applicable accessories.
- Provide everything required to complete the work as shown on the drawings and specified herein.
- Other related work: Rough & Finish Carpentry: Blocking in walls and installation of accessories.
- Provide experienced, well-trained workers competent to complete the work as specified.

1.01 - MATERIALS HANDLING AND STORAGE

- Install all materials required to complete the work as shown on drawings and specified herein.
- Receive, inspect and off-load all materials to avoid damage to the product or to any other work.
- Turn over excess materials to the owner. Store materials in a safe, secure location, protected from dirt, moisture, contaminants, and weather.

MATERIALS (by owner)

2.00 - GENERAL

- Style and finish as selected by Owner:
 - Towel bars: **Style Selections Pacific Hills, Oil Rubbed Bronze, 24”- 1 per bathroom**
 - Towel Ring: **Style Selections Pacific Hills, Oil Rubbed Bronze – 1 per bathroom**
 - Toilet paper holder: **Style Selections Pacific Hills, Oil Rubbed Bronze - 1 per bathroom**
 - Grab bars - Install blocking only for ADA Units (1) 36” & (1) 42” per ADA Bathroom. Rough Carpentry Subcontractor to install all backing.

3.00 - WORK CONDITIONS

- All work conditions shall be as per manufacturer's instructions, trade association standards, and governing building and safety codes.

3.01 - INSTALLATION

- Install products as per drawings and these Specifications.
- Carpentry subcontractor to provide backing/blocking before Gypsum Wall Board is installed.

3.02 - REPAIR AND CLEANUP

- After installation, inspect all work for improper installation or damage.
- Clean the work area and remove all scrap and excess materials from the site.

END OF SECTION

DIVISION 11 30 00 – EQUIPMENT
SECTION 11 30 00 – APPLIANCES (KITCHEN/LAUNDRY)

Brand	Item	Model #	Qty.	Color
Amana	Range – Electric Range Cord – 20-4048	ACR4530BAB		Black
Whirlpool	Dishwasher	WDF320PADB		Black
Amana	Washer Washer Hose, 4 ft. – 50-1001	NTW4655EW		White
Amana	Dryer – Electric Dryer Cord – 21-2048	NED4655EW		White
Broan	Range Hood 30" Non vent	41302330		Black
Frigidaire	Refrigerator	FFTR1821QB		Black

AC Sleeves – Amana TTW A/C Sleeve (As Shown) per unit (See Plans) Model # PBWS01A

AC Cover – Chill Stop R Indoor A/C Cover - 6" deep x 26 ¾" wide x 17 ¼" high, Covers Amana/GE units

AC Units – Amana TTW A/C E* 11,800 BTU, 115 Volt - Model # PBC122E00BX –

- One bedroom units will receive only (1) ac unit located in the Living Room Area even though there is (2) sleeves per unit.
- All upper Two and Three bedroom units' will have (2) ac units. One located in the Living Room Area and the other will be located in the Master Bedroom
- All lower Three bedroom units' will have (2) ac units. One located in the Living Room Area and the other will be located in the Master Bedroom

Owner supplier will provide everything required to complete the work as shown on the drawings and specified herein.

1.00 - QUALITY STANDARDS

- Provide experienced, well-trained workers competent to complete the work as specified.
- All work shall comply with manufacturer's instructions and governing building and safety codes.

1.01 - MATERIALS HANDLING AND STORAGE

- Provide all materials required to complete the work as shown on drawings and specified herein.
- Deliver, store, and transport materials to avoid damage to the product or to any other work.
- AC Sleeves and AC units delivered bulk for whole site on pallets in one delivery
- Dishwashers and Range hoods delivered per building and dropped in each unit as separate delivery
- Remaining appliances delivered and installed per building

1.02 - PRECONSTRUCTION AND PREPARATION

- Examine and verify that job conditions are satisfactory for speedy and acceptable work.
- Confirm there are no conflicts between this work and work of other trades.
- Confirm that work of other trades that must precede this work has been completed.

2.00 - INSTALLATION

- Install products as per drawings and these Specifications.
- Provide for maintenance of this work for one year following final acceptance by the Owner. Maintenance includes all work required in manufacturer's instructions including inspection and adjustment, and repair and replacement of parts as required.
- Properly attached the washing machine drain hoses so they cannot be easily removed.

3.00 - REPAIR AND CLEANUP

- After installation, inspect all work for improper installation or damage.
- Operating hardware must perform smoothly. Repair or replace any defective work.
- Clean the work area and remove all scrap and excess materials from the site.

END OF SECTION

DIVISION 12 00 00 – FURNISHINGS

SECTION 12 30 00 – CASEWORK - CABINETS / SECTION 12 36 00 – COUNTERTOPS

1.00 - WORK/INSTALLATION

- Please bid each building separately.
- All base corner cabinets will be a shelf cabinet
- Cabinet door swings and sizes will need to be changed as needed.
- We use frameless doors, price knobs, price should include recessed soft close hinges.
- Please have installation quote listed separately. Per building & per unit type.
- The types of cabinets we install are of good quality but need to be competitively priced.
- We prefer a lighter melamine finish, not stained or painted.
- Please list the material type and provide product literature with your quote.
- Include all materials for Kitchen & Bath Cabinetry and Countertops
- Provide everything required to complete the work as shown on the drawings and specified herein.
- Other related work: Rough Carpentry wood blocking.

1.01 - QUALITY STANDARDS

- Provide experienced, well-trained workers competent to complete the work as specified.
- All work shall comply with manufacturer's instructions and governing building and safety codes.

1.02 - SUBMITTALS

- Submit shop drawings as required with complete details and assembly instructions.
- Submit samples of proposed exposed finishes and hardware for approval by the Owner.

1.03 - MATERIALS HANDLING AND STORAGE

- Provide all materials required to complete the work as shown on drawings and specified herein.
- Deliver, store, and transport materials to avoid damage to the product or to any other work.
- Store materials in a safe, secure location, protected from dirt, moisture, contaminants, and weather.

1.04 - PRECONSTRUCTION AND PREPARATION

- Examine and verify that job conditions are satisfactory for speedy and acceptable work.
- Field Measure prior to ordering any materials.

2.00 - GENERAL

- Product shall be as manufactured by:
 - Cabinets: **Bid Builder Level cabinets as outlined above in sub-section 1.1 Frameless, Melamine (lighter color), Concealed Hinges, Reverse bevel doors and drawers. Include standard knob hardware as separate price**
 - Counter-tops: **Nevamar, Armored protection, Madura Gold Granite, GR4001T, Textured all counter tops.**

3.00 - WORK CONDITIONS

- Correct any conditions that might interfere with speedy, well-coordinated execution of the work.
- All work conditions shall be as per manufacturer's instructions, trade association standards, and governing building and safety codes.

3.01 - INSTALLATION

- Installation of cabinets and countertops is by Section 06200 – Finish Carpentry as per drawings and these specifications.
- Install cabinets plumb, level, true and straight with no distortion. Shim as required using concealed shims. Where manufactured casework and countertop abuts other finish work, scribe and cut for accurate fit.
- Provide filler strips, scribe strips and moldings as indicated or required and in finish to match adjacent surface.
- Anchor cabinets securely in place with concealed (when doors and drawers are closed) fasteners, anchored into structural support members of wall construction.
- Attach countertops securely to base units. Glue and mechanically join countertop seams. Provide cutouts for fixtures and appliances as indicated. Smooth cut edges and coat with waterproof coating or adhesive.
- Complete hardware installation and adjust doors and drawers for proper operation.

- Provide for maintenance of this work for one year following final acceptance by the Owner. Maintenance includes all work required in manufacturer's instructions including inspection and adjustment, and repair and replacement of parts as required, at no added cost to the Owner.

3.02 - REPAIR AND CLEANUP

- After installation, inspect all work for improper installation or damage.
- Operating hardware must perform smoothly. Repair or replace any defective work. Repair work will be undetectable. Redo repairs if work is still defective, as directed by the Owner.
- Clean the work area and remove all scrap and excess materials from the site.

END OF SECTION

DIVISION 21 00 00 – FIRE SUPPRESSION
SECTION 21 10 00 – WATER FIRE SUPPRESSION

1.00 - SUMMARY

- The Fire Alarm monitoring system is to be bid according to the plan, specifications and code requirements
- Fire detection equipment and alarm system shall be designed and installed in accordance with the State, NFPA Codes and Owner's Insurance Company
- Fire detection equipment and alarm system equipment shall be approved by the local Fire Marshal
- Coordinate location of panel to avoid interference with location of boiler, water heater and fire sprinkler system in mechanical room

1.01 - SUBMITTALS

- Submit for approval product data and alarm monitoring fee.

1.02 - QUALITY STANDARDS

- Provide experienced, well-trained workers competent to complete the work as specified.
- All work shall comply with manufacturer's instructions and governing building and safety codes.

1.03 - PRECONSTRUCTION AND PREPARATION

- Examine and verify that job conditions are satisfactory for speedy and acceptable work.
- Confirm there are no conflicts between this work and work of other trades.
- Confirm that work of other trades that must precede this work has been completed.

2.00 - MATERIALS HANDLING AND STORAGE

- The main fire control panel shall use cellular technology for communication.
- Deliver, store, and transport materials to avoid damage to the product or to any other work

2.01 - INSTALLATION

- Install products as per drawings and manufactures specifications.
- Owner prefers to have **(1)** main fire control panel that is wired to all buildings. Confirm with local Fire Marshal if this installation is acceptable. If not acceptable, each building shall have **(1)** main fire control panel.
- Prior to testing any portion of the system, subcontractors shall notify the Owner to witness test and sign subcontractor's test certificates. This to be completed prior to final inspections by municipal authorities or other governing agencies.
- Instruct Owner's personnel in proper operation of systems.

3.00 - REPAIR AND CLEANUP

- After installation, inspect all work for improper installation or damage.
- Operating hardware must perform smoothly. Repair or replace any defective work.
- Clean the work area and remove all scrap and excess materials from the site.

END OF SECTION

SECTION 21 10 00 – WATER FIRE SUPPRESSION – EXTINGUISHERS, ALARMS

1.00 - SUMMARY

- Fire sprinkler system in buildings with (4") main- Water main will be run up into mechanical room by others.
- This specification for fire protection work is a 'performance' specification. It is intended to establish the design criteria for the work.
- The Fire Protection subcontractor shall assume full responsibility for the design and details to meet the requirements of the State, NFPA Codes, and Owner's Insurance Company.
- Coordinate location of fire protection systems to avoid interference with location of designated lighting fixture locations and HVAC ductwork.
- Coordinate with building and local fire officials regarding requirements during periods of shut down.
- Clean and sweep each unit as work is completed at all stages of construction.

1.01 - SUBMITTALS

- Submit for approval shop drawings, product data and as-built documents.

1.02 - QUALITY ASSURANCE

- Work covered by this section must be performed by a licensed Fire Protection subcontractor regularly engaged in design, engineering, fabrication and installation of automatic sprinklers and related fire protection systems.
- The hydraulically designed sprinkler system shall be based on an area per sprinkler and density rate as required by NFPA 13R Codes and Owner's Insurance requirements.
- Sprinkler subcontractor shall verify static pressure, residual pressure and flow rates with the local Water Utility Department and identify as part of his bid.
- Prior to installation, complete working drawings must be reviewed by the State of Wisconsin, local municipality, fire chief.
- Work includes furnishing all labor, material, equipment and performing all operations necessary to install the fire protection system, including piping, fittings, sprinkler heads, valves, controls, alarms, hangers and any other supplemental items necessary to complete the system which shall involve installing a new hydraulically designed sprinkler system for the proposed building and connect to water supply furnished by others.
- Protection subcontractor must furnish a system whole and complete, ready for test and operation and dully approve by agencies as previously noted herein.

2.00 - MATERIALS

- Overhead piping shall be clean-cut tapered threads or plain end grooved for couplings or glued as the installation system requires.
- Fittings for overhead piping shall be grooved coupling type for 175 psi cold working water pressure or cast iron screwed fittings free from flaws, sand holes and burrs as required and approved by NFPA.
- Piping and fittings shall be anchored, clamped and rodded as required by NFPA. D.
- All valves controlling sprinkler supplies shall be provided with tamper switches
- All gate butterfly or glove valves two (2)" and smaller shall be brass or bronze.
- All valves 6" in size or larger shall be of the OS&Y flanged type, 175 psi working pressure, Kennedy Valves or equal or UL approved butterfly valves.
- All check valves two (2)" or smaller shall be brass or bronze approved type, ITT Grinnel or equal. All check valves 6" in size or larger shall be of the flanged type, 175 psi working pressure, Kennedy Valve or equal.
- Subcontractor to furnish, install and test double check or double detector check backflow preventer of manufacturer type which will meet approvals of local municipality.
- Seal all openings between pipe sleeves with fiberglass and vinyl acrylic plastic. For piping passing through fire walls, floors or ceilings, use 3-M Fire Barrier CP-25 caulk and 303 putty synthetic elastomers, UL rated.
- Flow switches, tamper switches, bell, horn/strobe shall be by the Sprinkler subcontractor.
- Switches must be UL approved.
- Alarm bells shall be located as required by code.
- Identify each valve in the system with valve tags in conformity with the Fire Underwriters and State requirements.
- All piping and equipment in the Division of the Work shall be identified as required by NFPA Codes and local Fire Department Standards.
- Install white plated, semi-recessed sprinklers with white escutcheon in all areas having a finished ceiling.
- Install brass upright sprinklers in all areas having an exposed construction ceiling.
- Sprinkler cabinet with spare sprinkler heads and sprinkler wrench for emergency use per code.
- Provide 1/2" ball drip valve with check valve for Fire Department Connection.

- Provide dry or anti-freeze systems complete with compressors for areas, as appropriate.

3.00 - INSTALLATION

- Install materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials in proper relation with adjacent construction and with uniform appearance for exposed work. Coordinate with work of other sections. Comply with applicable regulations and building code requirements.
- Complete sprinkler system shall be subject to hydrostatic pressure test at 200 pounds per square” or 50 psi in excess of the expected municipal static pressure whichever is greater, for a minimum of a two (2) hour period. Prior to testing any portion of the system, subcontractors shall notify the Owner to witness test and sign subcontractor's test certificates. This to be completed prior to final inspections by municipal authorities or other governing agencies.
- Instruct Owner's personnel in proper operation of systems.

END OF SECTION

DIVISION 22 00 00 – PLUMBING

SECTION 22 10 00 - PLUMBING

1.00 - GENERAL

- Faucets and fixture spec sheets must be included with bids. Substitutions may be made but must be of equal or greater value as approved by the Project Manager Approval of equal substitutions from specification requires a signed agreement by both parties.
- Buildings will have floor truss system. Consideration must be given for leaving space around plumbing lines for insulation.
- Seal all openings between pipe sleeves with fiberglass and vinyl acrylic plastic. For piping passing through fire walls, floors or ceilings, use 3-M Fire Barrier CP-25 caulk and 303 putty synthetic elastomers, UL rated.
- **Submit separate pricing for each building type.**

1.01 - ADDITIONAL WORK AND INFORMATION

- Provide and install plumbing as shown on the drawings and as specified herein.
- Plumbing includes:
 - Hot and cold water distribution systems.
 - Waste drains and vents.
 - Plan so all plumbing will not interfere with closet shelving and braces- confirm with Superintendent.
 - Plumbing shall be as shown on the drawings and the Plumbing Fixture Schedule. Work includes trim and related construction as required.
 - Dishwasher connections and installation.
 - Wash machine hookups with outlet box. (Outlet box to be Oatey 38547)
 - Provide washer box with valves and drain all in one box located directly behind washer
 - Venting for dryers and bathroom fans is by Plumbing subcontractor. (Fans supplied and installed by Electrical subcontractor) venting shall meet code. Prefer PVC for bath fans and metal for Dryers.
 - Include connection to 2-indirect hot water tanks (supplied by HVAC matching Boiler) interlinked with water temperature set at 120 degrees.
 - Provide and install shut off valve per apartment for ease of future maintenance work.
 - Permanently mark all valves in mechanical room as to what they do.
 - Piping directly between the boiler and mixing valve in mechanical room shall be copper
 - Place thermometer on outgoing pipe for domestic hot water
 - Toilet water supply to be made with a flexible hose from valve to toilet.
 - Toilet shut offs need to be copper coming out of the wall and should have a white plastic cover or chrome cover over the copper piping.
 - Hot water pipes are to be rated at 180 degrees or higher- NO CVPC allowed Material to be used must be approved by Project Manager
 - Compacting of disturbed soil for in slab plumbing must be done by plumber.
 - Inspect tubs and showers for damage after installation with Owner's onsite supervisor – documentation must be submitted to construction office.
 - Include all State Approvals, drawings and Design fees.
 - Hook up water and sewer within 5 feet of building.
 - Run vent pipe through roof before shingles are applied to roof. Install vent flashings.
 - Provide temp water meter hookup if required.

1.02 - QUALITY STANDARDS

- Provide experienced, well-trained workers competent to complete the work as specified.
- All work shall comply with manufacturer's instructions and governing building and safety codes.

1.03 - MATERIALS HANDLING AND STORAGE

- Provide all materials required to complete the work as shown on drawings and specified herein. Deliver, store, and transport materials to avoid damage to the product or to any other work.
- Reject and return any products or materials delivered in a damaged or unsatisfactory condition.
- Store materials indoors, protected from dirt, moisture, contaminants, and weather.

1.04 - PRECONSTRUCTION AND PREPARATION

- Examine and verify that job conditions are satisfactory for speedy and acceptable work.

- Maintain and use Up-to-date trade standards and manufacturer's instructions.
- Confirm there is no conflict between this work and governing building and safety codes. Confirm there are no conflicts between this work and work of other trades.
- Coordinate design with HVAC to eliminate any conflicts.
- Meet all requirements to secure warranty.

2.00 - SANITARY SEWER PIPES (INTERIOR)

- Sanitary sewer piping within the building line shall be: PVC pipe as per ASTM D2729, solvent weld joints or ABS pipe as per ASTM D2680 or D2751, solvent weld joints.

2.01 - WATER SUPPLY

- Supply water with sizing as per building requirements. Actual water line material must be submitted and approved by Project Manager.
- Supply a 1 ½" copper water supply line for sprinkler system on every other building including all piping and meter installation as required – Location Determined by owner.

2.02 - PLUMBING FIXTURES

- Provide and install plumbing fixtures, trim, and related construction as per the drawings and as outlined below.
 - Toilet Bowl: Pro Flo PF1403
 - Toilet Tank: Pro Flo PF5112
 - Toilet Seats: Painted wood seats (Centoco #900 – White available at HD Supply part # 568559)
 - Lavatory Sink: Gerber 20x17 4CC VC DI Lav. KWH or approved equal (openings cut by Carpentry Sub)
 - Lavatory Faucet: Delta D520DST Lavatory faucets or approved equal
 - Tub/ Shower: Warm Rain (white) or approved equal (must have ADA required backing in all Lower Units)
 - Tub/ Shower Drain: Watco 580255-CP or approved equal
 - Tub/Shower Faucet unit: Delta D13220 shower valve or approved equal
 - Shower Faucet unit: Delta D13220 shower valve or approved equal
 - Kitchen Sink: ProFlo 33x22 with 8" depth stainless kitchen sinks
 - Kitchen Sink Faucet: Delta 400 faucet with side spray
 - Provide floor drain In Mechanical Room.
 - Hose bib: Provide (2) per building. Coordinate location with Owner.

3.00 - WORK CONDITIONS

- Correct any conditions that might interfere with speedy, well-coordinated execution of the work.
- All work conditions shall be as per manufacturer's instructions, trade association standards, and governing building and safety codes.

3.01 - PREPARATION

- Vents and related support construction for plumbing and mechanical equipment must be as required by the trade association standards, and governing building and safety codes.

3.02 - INSTALLATION

- Prior to installation of plumbing lines refer to these specifications, Section 06200 Finish Carpentry and Millwork 2.02 Closet Shelving, the location of all closet shelves and support brackets. Plumbing lines shall be run to avoid shelving bracket and supports.
- Install products as per drawings and these Specifications.
- Upon completion, secure all required pressure tests, inspections, and approvals of the completed system.
- Make all required adjustments and corrections at no added cost to the Owner.
- Sterilize the water system and provide copies of a Certificate of Performance.
- Provide for maintenance of this work for one year following final approval by governing agencies.
- Maintenance includes all work required in manufacturer's instructions such as inspection, adjustment, repairs and replacement of parts as required.
- Install water shut off valves at all plumbing fixtures.

3.03 - REPAIR AND CLEANUP

- After installation, inspect all work for improper installation or damage.
- Operating fixtures must perform properly. Repair or replace any defective work. Repair work will be undetectable. Redo repairs if work is still defective, as directed by the Owner.
- Clean/sweep each unit as work is completed. Properly dispose of all materials in dumpster.

END OF SECTION

SECTION 22 13 00 – SANITARY SEWER AND WATER

1.00 - SUMMARY

- Provide an operating underground, exterior storm and sanitary sewer collection system. Include sewer conduits, manholes, frames, covers and gratings.
- Provide and install all materials per plans and specifications and state and local codes to complete the Storm Sewer and Sanitary Sewer systems.

1.01 - QUALITY ASSURANCE

- Comply with governing codes and regulations.
- Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three (3) years.
- Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.
- Plan depth of all piping to satisfy needs of any future expansions shown on drawings.

2.00 - MATERIALS

- Conduit material
 - Cast-iron pipe, ASTM A74, bell and spigot type with neoprene rubber gaskets
 - Concrete pipe, ASTM C14
 - D-3034 PVC or SCH40 PVC
- Manholes: Precast concrete, ASTM C478
- Manhole frames, covers, gratings, and steps: Grey cast-iron with service type cast in covers and grates.
- Install cleanouts and frost sleeves as required by state code.

3.00 - INSTALLATION

- Install materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials and systems in proper relation with adjacent construction.
- Coordinate with work of other sections.
- Install sanitary sewer riser up into mechanical room as per location determined by Owner.
- Test for proper operation. Clean out system and protect work from damage.
- Provide sampling man-hole as may be required by municipal requirements.
- All man holes, drains and other components that are located in asphalt must be adjusted to proper height prior to asphalt installation

END OF SECTION

SECTION 22 20 00 – WATER DISTRIBUTION

1.00 - SUMMARY

- Provide an operating underground, exterior water service piping system. Include piping, control valves, and steel and concrete anchorages and sprinkler "tee".

1.01 - SUBMITTALS

- Submit for approval shop drawings, product data and test reports

1.02 - QUALITY ASSURANCE

- Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

2.00 - MATERIALS- MUST MEET LOCAL MUNICIPALITY APPROVAL

- Pressure pipe: (Verify with local municipality)
- Ductile iron pipe: AWWA C151 with cement mortar lining
- Steel pipe: AWWA C200, Schedule 40
- Concrete pipe: AWWA C300, reinforced steel cylinder
- Polyvinyl chloride pipe: C-900
- Control valves: Gate, check and butterfly valves with 150 psi minimum working pressure unless greater working pressure required at site
- Water Meter: Local utility company standard to be met.

3.00 - INSTALLATION

- Install materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials and systems in proper relation with adjacent construction. Coordinate with work of other sections.
- Clean and sterilize system. Test for proper operation. Flush system and provide water testing as required. Properly backfill with #1 stone or smaller unless otherwise approved, and protect work from damage. Installer to provide Ductile with Flange ran into mechanical room at location determined by owner.
- Water main must be drained by installer to prevent freezing with unheated buildings.
- All valves or caps that are in asphalt areas must be adjust to proper heights before asphalt installation.

END OF SECTION

SECTION 22 30 00 – FIRE-WATER DISTRIBUTION

1.00 - SUMMARY

- Provide an operating, underground, exterior fire water system for general Installation. Include all piping, control valves, hydrants and anchorage.
- Provide and install all related materials for a complete fire water system per the plans and specifications and per state and local governing agencies.

1.01 - SUBMITTALS

- Submit for approval shop drawings, product data and test reports

1.02 - QUALITY ASSURANCE

- Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

2.00 - MATERIALS

- Pressure pipe: Cast-iron pipe, AWWA C 106.
- Hydrants: Cast-iron sidewalk type fire hydrants, FM approved and UL listed.
- Control valves: Gate, check and butterfly valves with 150 psi minimum working pressure unless greater working pressure required at site.
- Anchorage: Steel and concrete.

3.00 - INSTALLATION

- Install materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials and systems in proper relation with adjacent construction. Coordinate with work of other sections.
- Test for proper operation. Clean and protect work from damage.
- Fire hydrant to be located within 150' of Fire Department Connection on the building. Verify with local municipality.

END OF SECTION

DIVISION 23 00 00 – HEATING, VENTILATION AND AIR CONDITIONING

SECTION 23 00 00 – HVAC/ SECTION 23 31 00 – A/C AND SLEEVES

- All materials and equipment used in this installation shall be of best quality and all work shall be executed in a neat and orderly manner.
- The subcontractor shall fully inform himself regarding all conditions affecting the execution of the work under contract, including the application of all laws, codes and ordinances.
- Prior to submitting his bid the subcontractor shall call to the attention of the Owner any discrepancies or any materials needed to complete the project.
- No extras will be allowed because of the subcontractor's misunderstanding as to the work involved.

1.00 - QUALITY STANDARDS

- Provide experienced, well-trained workers competent to complete the work as specified.
- All work shall comply with manufacturer's instructions and governing building and safety codes.

1.01 - SUBMITTALS (as per Owner request)

1.02 - MATERIALS HANDLING AND STORAGE

- Provide all materials required to complete the work as specified herein.
- Deliver, store, and transport materials to avoid damage to the product or to any other work. Reject and return any products or materials delivered in a damaged or unsatisfactory condition. Materials and products delivered will be certified by the manufacturer to be as specified.
- Store materials indoors, protected from dirt, moisture, contaminants, and weather.

1.03 - PRECONSTRUCTION AND PREPARATION

- Examine and verify that job conditions are satisfactory for speedy and acceptable work.
- Maintain and use up-to-date trade standards and manufacturer's instructions.
- Confirm there is no conflict between this work and governing building and safety codes. Confirm there are no conflicts between this work and work of other trades. Confirm that work of other trades that must precede this work has been completed. Meet all requirements to secure warranty.
- Coordinate design with Plumbing to eliminate any conflicts

2.00 - GAS PIPING: GAS SUPPLY

- HVAC subcontractor is responsible for all interior gas piping for this project (Including gas to fireplace units if applicable this project).
- HVAC subcontractor is not responsible for costs associated with the new underground gas service (by Owner)

Installation of "Hydronic Base Board Heating" to include:

- Triangle Tube Prestige and Wels McLain Boiler or approved equal
(If bidding a different product, include specs for our review)
Approval of equal must have written approval signed by Project Manager and sub-contractor
- Boiler piping plan – supplied by plumber
- All necessary labor, piping and fittings to complete heating with one zone per apartment and all baseboard required (Argo low trim, white)
- Proper amount of Antifreeze installed in the system. Installation of the antifreeze into the boiler system is required at 30% into the system. Centinell X500 with an inhibitor will be required as premixed or with mixed distilled water. Connection of system to the municipal water is prohibited. Self-contained unit with pump and container of antifreeze is required. Sample test must be provided to Site Superintendent immediately after antifreeze is installed.
- One Honeywell Focus Pro 5000 large digital screen per apartment unit and set not to exceed 75 degrees
- System shall have outside temperature sensor
- All connections and pumps for indirect water heater
- Piping directly between the boiler and the indirect water heater shall be copper
- Provide adequate temporary heat for the building. Should reach at least 60 degrees in all areas
- Complete and Provide a boiler combustion analysis
- Permanent marking of all zones per apartment number
- Forced heat test must be completed when warmer condition require to insure system is functioning properly
- All end caps for registers must be installed with fasteners and shall be 4" endcaps
- Prior to Carpet installation no register end caps or face plates may be installed and should be stored to prevent

damage

- Baseboard blocking should be put in on ends of baseboard for attachment to the wall
- Provide color matched paint for baseboard
- Supply and install roof venting
- Locate base under windows as much as possible
- HVAC subcontractor to set up Inspection with State Boiler Inspector
- Provide warranty information
- State permits, design and fees to be included in the bid proposal
- Local permits and fees are required to be pulled and paid for by the subcontractor

2.01 - WATER HEATER

- Supply 2 Indirect water heater with domestic water pipe connections and safety valves and re-circulation pumps for hot water with insulated recirculation lines with Aqua stat set at 120 degrees. Design and size according to demand for each building based on the number of units, size and square footage of units.
- Water heaters to be supplied by the HVAC contractor and be compatible with Boiler. HVAC and PLUMBING contractors shall coordinate all details as to proper installation for each parties work.
- Final design must be approved by HVAC Contractor, Plumbing Contractor and Project Manager

2.02 - Installation of In-Floor Heat (Lower Level only) to include:

- Ensure water lines are not placed under walls
- Loops should not exceed 300 FT
- Install foam under complete heated slab
- Water lines shall be secured to foam
- Water temp not to exceed 120 degrees

WARRANTIES

- 10 year parts and labor warranty on all heating and cooling equipment- Complete system shall have 1 year warranty from time building opens.

3.00 - WORK CONDITIONS

- Correct any conditions that might interfere with speedy, well-coordinated execution of the work.
- All work conditions shall be as per manufacturer's instructions, trade association standards, and governing building and safety codes.

3.01 - PREPARATION

- Vents and related support construction for mechanical equipment must be as required by the building department.

3.02 - INSTALLATION

- The Heating subcontractor shall provide and be responsible for the testing, adjusting and balancing of the mechanical systems.
- The Heating subcontractor may at his option sublet this work to a separate subcontractor who specializes in testing and balancing.
- The Heating subcontractor shall provide dampers, drives, etc., for the proper balancing of the system as required.
- The Plumbing subcontractor shall vent all dryers and bath exhaust fans.
- Provide for maintenance of this work for one year following final approval by governing agencies.
- Maintenance includes all work required in manufacturer's instructions such as inspection, adjustment, lubrication, repair and replacement of parts as required, and emergency call-back service.

3.03 - CLEANING AND FINISHING

- During the progress of the work and when directed by the Owner, the subcontractor shall remove from the building site, all rubbish, dirt and other debris caused by his work.
- After all tests have been made and the systems pronounced tight and satisfactory, the subcontractor shall go over all his work and clean ducts inside and out, equipment, filters, piping, etc. and leave clean and in complete working order at final completion of the project.
- HVAC subcontractor shall go over all installed baseboard units and inspect for any imperfections in paint. If imperfections are found, the subcontractor shall provide and complete all paint touch ups
- HVAC subcontractor shall provide two sets of maintenance and operating manuals to the Owner. At that time HVAC subcontractor shall instruct the Owner on the system operation and maintenance.

3.04 - GUARANTEE

- All material and workmanship must be new and first class in every respect.
- This subcontractor shall balance and adjust all systems to insure proper circulation to the satisfaction of the Owner.
- Before final acceptance of this work, the subcontractor shall have the entire system in complete and satisfactory operation and shall maintain it in satisfactory and continuous operation for a period of ten (10) days prior to date of acceptance and shall guarantee its operation for one (1) year from the date of final acceptance.

END OF SECTION

DIVISION 26 00 00 - ELECTRICAL

SECTION 26 00 00 – ELECTRICAL

1.00 - WORK

- Provide and install complete electrical service, power and lighting as specified herein.
- Provide and install the appropriately sized main service for each building (size varies by building type) with (1) – 100 amp meter for each unit plus (1) – 100 amp meters for each Mechanical room.
- Aluminum 100 amp feeders from the main service to each of the units and one mechanical room panel.
- 100 amp 20 circuit panels in each unit and mechanical room
- Provide and install 1- 20 AMP / 120V dedicated circuit to fire monitoring panel located in mechanical room. Prior to installation confirm with Owner exact power requirements.
- Exterior lighting consists of wall sconces supplied by owner – Per plans. **Center Fixture @ 6'-6" AFF**
- Supply and install bath fans- (1) for each bathroom. **Broan – Model A110 - Size determined by CFM Requirements** – No other manufacturer will be accepted. Venting by Plumbing subcontractor.
- Supply and install humidity sensor – (1) for each bathroom. **Leviton – IPHS5-ILT. Requirements** – No other manufacturer will be accepted. Refer to Electrical Drawings for exact location.
- Provide power to (2) through wall Air Conditioning unit per dwelling unit. In buildings without forced air.
- Install power to electric roof vents as per plans- If applicable –Air Vent Inc Model# 1476125
- Install (1) under cabinet light in each kitchen.
- Phone and TV cable wiring at each location marked as TV on electrical plans. Dual Jack to be used. Cable wiring to be RG6 Shielded and to consist of 2 wires to each box and 2 home runs to mechanical room.
- Wiring per the plan including electric dryers and ranges in each apartment
- Install and wire Range hoods supplied by owner.
- Trenching and underground wiring to the detached garage units and mailroom. Wiring to be ran in conduit. See site plan for layout
- Include wiring of garages per electrical plan. Includes 1 light, 1 switch, 1 wall receptacle, 1 receptacle for garage door opener. Also exterior lights hooked to house meter and photo sensor- (8 stall has 2 exterior lights, 16 stall has 4 exterior light and a 20 stall has 5 exterior lights)
- Include wiring of mail shed per Site plan if needed. Includes 1 interior light on a motion sensor and 1 exterior light hooked photo sensor. Power to be hooked to house meter.
- Each apartment will have interconnected smoke detectors and Carbon Monoxide detectors per code.
- Remove existing manufacturer batteries in smoke detectors. Provide and install Duracell Procell Alkaline 9 volt professional battery for smoke detectors.
- Door chime in each apartment with push button by main entry door supplied by electrician
- Arc fault breakers and tamper resistant outlets per code
- Clean up: Sweep all units as installations are completed. Put all debris and cardboard from rough in and finish work in dumpsters provided.
- Provide temporary service for each building.
- Provide portable service with 150 feet of wire and 6 outlets attached – 3 separate, 20 amp breakers
- Before drywall begins electrician will need to provide temporary receptacles in each unit. This shall consist of 3 receptacles in each unit located with one for the washing machine and one for each ac unit.
- Electrician shall test meters to determine that they match the address with the Site Superintendent

1.01 - QUALITY STANDARDS

- Provide experienced, well-trained workers competent to complete the work as specified.
- Use products and accessories from manufacturers who specialize in making, installing, and servicing systems of this type, from a manufacturer specified or approved by the Owner.
- All work shall comply with manufacturer's instructions and governing building and safety codes.

1.02 - MATERIALS HANDLING AND STORAGE

- Provide all materials required to complete the work as specified herein. Deliver, store, and transport materials to avoid damage to the product or to any other work. Reject and return any products or materials delivered in a damaged or unsatisfactory condition. Materials and products delivered will be certified by the manufacturer to be as specified.
- Light Fixtures that are provided by S.C. Swiderski shall be distributed by electrician as needed.
- Store materials indoors, protected from dirt, moisture, contaminants, and weather.

1.03 - PRECONSTRUCTION AND PREPARATION

- Examine and verify that job conditions are satisfactory for speedy and acceptable work.
- Maintain and use up-to-date trade standards and manufacturer's instructions
- Confirm there are no conflicts between this work and work of other trades. Meet all warranty requirements.

2.00 - GENERAL

- All materials must be new and of the type and quality specified. Materials must be delivered in labeled, unopened containers. All electrical products must bear the Underwriters Laboratory label.
- For wiring passing through fire walls, floors or ceilings, use 3-M Fire Barrier CP-25 caulk and 303 putty synthetic elastomers, UL rated.

2.01 - TEMPORARY POWER

- Provide temporary power, power pole, and connection to utility and temporary meter as required for construction.
- Provide and install permanent electrical meter as building nears completion.
- The Owner shall pay for all temporary power costs and costs for final connection.
- After the permanent meter is connected, the Owner will pay metered costs for electrical power.

2.02 - ELECTRICAL SERVICE

- Provide complete electrical service as specified herein.
- Service: as noted above. Provide surface cabinet with screw cover and hinged door.
- Wiring, nonmetallic sheathed cable, size 14 through 4 AWG, copper conductor, 600 volt insulation, type NM.
- Conduit, junction boxes, and electrical wire connectors shall be as required by the local building code.
- Circuits shall be labeled as to what rooms they serve.

2.03 - SWITCHES, RECEPTACLES AND WALL PLATES

- Provide complete switches, receptacles, wall plates and related materials as shown on the drawings and specified herein.
- Wall switches: **Standard style – light almond color. Install 48” AFF to top of switch.**
- Receptacles: **Standard style – light almond color. Install 18” AFF to top of plate. At countertop locations install 48” AFF to top of plate**
- Provide telephone cover plates. Same color as receptacles
- GFCI Receptacles: Duplex convenience receptacle with integral ground fault current interrupter.
- Exterior weatherproof cover plates.
- Plate covers are to be unbreakable

3.00 - WORK CONDITIONS

- Correct any conditions that might interfere with speedy, well-coordinated execution of the work.
- All work conditions shall be as per manufacturer's instructions, trade association standards, and governing building and safety codes.

3.01 - PREPARATION

- Straps and other support construction for electrical equipment must be as required by the trade association standards, and governing building and safety codes.

3.02 - INSTALLATION

- Install products as per these Specifications.
- Provide for maintenance of this work for one year following final approval by governing agencies. Maintenance includes all work required in manufacturer's instructions such as inspection, adjustment, repairs and replacement of parts as required.

3.03 - REPAIR AND CLEANUP

- After installation, inspect all work for improper installation or damage.
- Operating fixtures must perform smoothly. Repair or replace any defective work.
- Clean the work area and remove all scrap and excess materials from the site.

END OF SECTION

SECTION 26 51 13 – INTERIOR AND EXTERIOR BLDG LIGHTING FIXTURES, LAMPS

1.00 - WORK

Install (Owner Supplied) interior and exterior lighting fixtures and lamps as per electrical drawings.

- **Kitchen Ceiling – Portfolio White Ceiling Fluorescent Light, 4 foot, Model GL4248-4T8-WH**
- **Kitchen Under Cabinet – White LED Hardwire Under cabinet Light – 120V , 90 CRI, 11 Watts, 2700K, 690 lumens, dimmable 18"x3 ½" lamp fixture**
- **Dining Ceiling – (DL)Allen + Roth Winnsboro 15.5" Semi Flush Mount Bronze – Lower Units Only**
- **Kitchen Island Pendants – (PL) Portfolio Colton Lakes 6" Oil Rubbed Bronze Model HII899IA**
- **All Ceiling Fan/Lights – Hunter Westminster 52" Ceiling Fan, Model 247857**
- **Various Locations - (1B) 1 Light, Patriot, Oil Rubbed Bronze, 2 pack, 11 inch, Model CC51611**
- **Various Locations - (2B) 2 Light, Patriot, Oil Rubbed Bronze, 2 pack, 13 inch, Model CC51613**
- **Various Locations – (3B) 3 Light, Patriot, Oil Rubbed Bronze, 2 pack, 15 inch, Model CC51615**
- **Entrance Hallway – (WB) 1 Light, Burley Light, Patriot, Oil Rubbed Bronze, Model WL5871**
- **Bathrooms – Portfolio 3 Light Weathered Bronze Bathroom Vanity Light, Model VB13-3WDBZ**
- **Bathrooms – Portfolio 4 3/8" Frosted Vanity Light Glass, Model 758F**
- **Exterior Wall Sconces – Maxim, 1026BK**
- **Garages/Owner Mechanical Rm - Keyless Lamp Holder by Electrician**

2.00 - GENERAL

- All materials must be new and of the type and quality specified.
- All electrical products must bear the Underwriters Laboratory label.
- Provide and install all required accessories for mounting and operation of each fixture.

3.00 - WORK CONDITIONS

- Correct any conditions that might interfere with speedy, well-coordinated execution of the work.
- All work conditions shall be as per manufacturer's instructions, trade association standards, and governing building and safety codes.

3.01 - PREPARATION

- Straps and other support construction for electrical equipment must be as required by trade association standards, and governing building and safety codes.

3.02 - INSTALLATION

- Install lighting and device products as per these Specifications and per the Owners electrical drawings
- Provide for maintenance of this work for one year following final approval by the Owner. Maintenance includes all work required in manufacturer's instructions such as inspection, adjustment, repairs and replacement of parts as required.
- Discard existing manufacturer lamps in all ceiling fans and replace with owner provided 13W CFL bulb. Existing bulbs may be disposed of or taken by the electrician for their use.

3.03 - REPAIR AND CLEANUP

- After installation, inspect all work for improper installation or damage.
- Operating fixtures must perform smoothly. Repair or replace any defective work. Repair work will be undetectable. Redo repairs if work is still defective, as directed by the Owner.
- Clean the work area and remove all scrap and excess materials from the site.

END OF SPECIFICATIONS

DIVISION 31 00 00 – EARTHWORK

SECTION 31 11 00 – EARTHWORK – CLEARING, GRUBBING, EXCAVATION

1.00 - WORK

- Subcontractor is responsible for the removal of all trees, tree stumps and all grubbing.
- Subcontractor is to make himself aware of all utilities prior to start of tree removal. Use caution around all overhead and underground utilities. Removal of all trees to be done in such a way as to prevent damage to adjacent property and structures.

1.01 - QUALITY STANDARDS

- Provide experienced, well-trained workers competent to complete the work as specified. Unless approved by the Owner, provide all related products and accessories.
- All work shall comply with governing building and safety codes.

1.02 - MATERIALS

- Provide all materials and equipment required to complete the work as shown on the drawings and specified herein.

1.03 - PRECONSTRUCTION AND PREPARATION

- Examine and verify that job conditions are satisfactory for speedy and acceptable work. Notify the Owners representative when work is scheduled to be started and completed. Comply with Owner Task and phasing schedule for agreed installation & field observations.

END OF SECTION

SECTION 31 20 00 – EARTH MOVING

1.00 -SUMMARY

- Perform excavation, filling, compacting and grading operations both inside and outside building limits as required for below-grade improvements and to achieve contours and elevations indicated.
- Utility and electrical subcontractors to perform their own excavation and backfilling, complying with this section of the specification.
- Provide suitable fill from off- site if on-site quantities are insufficient or unacceptable, and legally dispose of excess fill offsite.
- Provide and install and maintain erosion control measure per owner direction and erosion control plan.
- Provide rock excavation without blasting unless blasting is specifically authorized.
- Strip topsoil and remove excess material.
- Preparing for the foundation work and back fill with compaction.
- Prepare for all concrete flatwork and curbing.
- Prepare all areas of site for landscaping.
- Use existing topsoil materials if possible, screen onsite top soil materials and place in all areas to receive seed, sod and landscaping. Provide additional suitable topsoil materials necessary to complete the project. Placement of topsoil is to be within 1" of final desired grade.
- Topsoil, if brought on site or existing, shall be free from hard lumps, plants and their roots, gravel, cinders, stone over 1/2" in any dimension, weed seeds and quack grass roots, and other undesirable material, and shall consist of fertile friable loam, neither excessively alkaline, suitable for growth of grass and plants.
- Loosen soil in all drainage infiltration ponds before landscaping – done by excavator
- Installing gravel base for asphalt.
- Maintain site so water drains during construction.
- All other excavating required to complete the project.
- Blacktop patching by S.C. SWIDERSKI CONSTRUCTION, LLC.

1.01 - SUBMITTALS

- Submit for approval test reports, list of materials and gradations proposed for use if requested by the Owner.

1.02 - QUALITY ASSURANCE

- Comply with governing codes and regulations. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.
- Provide certificate of environmental compliance for all imported material.

1.03 - RELATED SECTIONS

- Subcontractor to review all related sections in these specification to determine scope of work.

2.00 - MATERIALS

- Sub-base material: Gravel or crushed stone graded for intended use as sub-base for paving Materials Specified.
- Drainage fill: Washed gravel or crushed stone, 1/4" to 3/4" size.
- Common fill: Mineral soil free from organic and unsuitable materials, and free from rock or gravel larger than 2" in diameter. Recycled bank run material is acceptable.
- Structural fill: Gravel or sandy gravel free of organic and unsuitable materials.

3.00 - INSTALLATION

- Excavation is unclassified and includes excavation to subgrade regardless of materials encountered. Repair excavations beyond elevations and dimensions indicated as follows:
 - At structure: Concrete or compacted structural fill.
 - Elsewhere: Backfill and compact as directed.
- Do not perform work without written authorization from the Owner if sub grade material is unsuitable for intended use.
- Maintain stability of excavations; coordinate shoring and bracing as required by authorities having jurisdiction. Prevent surface and subsurface water from accumulating in excavations. Stockpile satisfactory materials for reuse, allow for proper drainage and do not stockpile materials within drip line of trees to remain.
- Compact materials at the optimum moisture content as determined by ASTM D 1557 by aeration or wetting to the following percentages of maximum dry density:
 - Structure, Pavement, Walkways: Each fill layer to 95% of maximum dry density to suitable depth.

- Unpaved Areas: Top 6" of subgrade and each fill layer to 90% maximum dry density.
- Place acceptable materials in layers not more than 12" loose depth for materials compacted by heavy equipment and not more than 8" loose depth for materials compacted by hand equipment to subgrades indicated as follows:
 - Structural Fill: Use under foundations, slabs on grade in layers as indicated and foundation and trench backfill.
 - Drainage Fill: Use under designated building slabs, at foundation drainage and elsewhere as indicated. (6" of 3/4" traffic bond or equivalent graded road gravel)
 - Common Fill: Use under unpaved areas.
- Sub-base Material: Use under pavement, walks, steps, piping and conduit.
- Grade to within ± 1 " above or below required grade with average ± 0 " (not consistently high or low)
- Control erosion and windblown dust. Dispose of waste and unsuitable materials off site in a legal manner.
- Spread topsoil unless indicated elsewhere.

END OF SECTION

DIVISION 32 00 00 – EXTERIOR IMPROVEMENTS

SECTION 32 12 16 - ASPHALT PAVING

1.00 - SUMMARY

- Provide asphalt concrete paving for indicated applications and prepared sub-base and compacted base.
- Provide parking lot striping as per plan –Yellow for paint color

1.01 - SUBMITTALS

- Submit for approval product data and test reports.

1.02 - QUALITY ASSURANCE

- Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

2.00 - MATERIALS

- Base course materials – by section 31 11 00 and 31 20 00
- Virgin crushed limestone materials shall be required unless otherwise allowed in project specifications or plans.
- Dense grade 1-1/4" limestone shall be used for all asphalt pavement base courses.
- A submittal from base supplier shall be required to verify gradations of crushed stone base course.
Asphalt materials
- Tack Coat: Emulsified asphalt according to AASHTO T 59
- Asphalt Cement: As determined by project specific plans and specifications
- Asphalt lower layers: 19mm or 12.5mm
- Asphalt upper layers: 12.5mm or 9.5mm
- An asphalt mix design submittal from asphalt supplier shall be required to verify source, properties and gradations of asphalt aggregate and asphalt cement materials.

3.00 - INSTALLATION

- Asphalt Mixture: Comply with Asphalt Pavement Design Guide as published by Wisconsin Asphalt Pavement Association (latest edition).
- Remove loose material from compacted sub-base. Proof roll and check for areas requiring additional compaction. Report unsatisfactory conditions in writing.
- Beginning of work means acceptance of sub-base and grades.
- Apply tack coat to previous laid work and adjacent in-place concrete surfaces.
- Begin rolling when pavement can withstand weight of roller. Roll while still hot to obtain maximum density and to eliminate roller marks.
- Test in-place asphalt work for thickness and smoothness. Remove and replace defective work and patch to eliminate evidence of patching. Provide the following thickness and smoothness:
- Base course layers
 - Shall be placed to the project specific plans and specification, in lift thicknesses not exceeding 6".
 - Watering shall be required as needed to ensure adequate moisture in the aggregate during placing, shaping and compacting to prevent segregation and achieve adequate compaction
 - Compaction shall be required until there is no appreciable displacement, either laterally or longitudinally, under the compaction equipment
- (3") asphalt pavements shall be placed in two (2) layers
 - Lower layer shall be 1.5", asphalt
 - Upper layer shall be 1.5", asphalt
- (4") asphalt pavements shall be placed in two (2) layers
 - Lower layer shall be 2.5", 19mm asphalt
 - Upper level shall be 1.5", 9.5mm or 12.5mm asphalt (see project specific plans and specifications)

END OF SECTION

SECTION 32 13 13 - CONCRETE PAVING – DUMPSTER AND MAILBOX

1.00 - SUMMARY

- Provide asphalt concrete paving for indicated applications and prepared sub-base and compacted base.
- Provide parking lot striping as per plan –Yellow for paint color

1.01 - SUBMITTALS

- Submit for approval product data and test reports.

1.02 - QUALITY ASSURANCE

- Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

2.00 - MATERIALS

- Base course materials – by section 31 11 00 and 31 20 00
- Virgin crushed limestone materials shall be required unless otherwise allowed in project specifications or plans.
- Dense grade 1-1/4" limestone shall be used for all asphalt pavement base courses.
- A submittal from base supplier shall be required to verify gradations of crushed stone base course.

3.00 - INSTALLATION

- Aggregate Mixture: Comply with Asphalt Pavement Design Guide as published by Wisconsin Asphalt Pavement Association (latest edition).
- Remove loose material from compacted sub-base. Proof roll and check for areas requiring additional compaction. Report unsatisfactory conditions in writing.
- Beginning of work means acceptance of sub-base and grades.
- Apply tack coat to previous laid work and adjacent in-place concrete surfaces.
- Remove and replace defective work and patch to eliminate evidence of patching. Provide the following thickness and smoothness:
- Base course layers
 - Shall be placed to the project specific plans and specification, in lift thicknesses not exceeding 6".
 - Watering shall be required as needed to ensure adequate moisture in the aggregate during placing, shaping and compacting to prevent segregation and achieve adequate compaction
 - Compaction shall be required until there is no appreciable displacement, either laterally or longitudinally, under the compaction equipment

4.00 - CONCRETE PAVING

- Concrete mixing in compliance with standards as per CI 301. Provide concrete ready-mixed in compliance with ASTM C 94. On-site mixed concrete will conform to ASTM C 685. Concrete strength will conform to ACI 301, 318, and applicable building code requirements.
- Add air-entraining admixture as required to protect concrete exposed to exterior weather. Admixture proportions as per ACI 301, ACI 318, and manufacturer's instructions.
- Provide metal or wood formwork for borders and curbs. Earth forms are not allowed.
- Reinforcing shall comply with ACI 301 and related ACI, CRSI, and ASTM standards. No. 10 welded wire mesh, plain type in sheets or coiled rolls, unfinished.
- Sub-base aggregate 6" minimum. Maximum size is 3/4", compacted to 95%.

5.00 - PREPERATION

- Examine site conditions and correct any conditions detrimental to the work. Install related work before concrete pour, and protect from damage.
- Keep pour area free of scraps, trash, and organic matter.
- Secure screed boards against displacement during pour. Install screed boards at correct height for paving thickness. Brace formwork to maintain work at the lines and grades shown on the drawings.

6.00 - CONCRETE MIX AND PLACEMENT

- Place concrete according to ACI 301. Do not allow trucks to wait beyond time limits before pour.
- Do not allow unauthorized watering. Verify that visual slump is correct.

- Keep pour area free of scraps, trash and organic matter.
- Construct reinforcing as detailed with clearances to allow concrete flow. Reinforcing must be free of loose scale, clean of dirt or grease, and secure against dislocation during concrete pour.
- Provide movement and relief joints in locations, depths, and widths as detailed. Make joint lines straight and uniform, coordinated and aligned with other work.
- Do not trowel until bleed water is gone, do not over-trowel, and do not apply dust to cement to speed up troweling start time.
- Use approved coverings and curing and wetting methods and protect fresh pavement from foot or traffic damage.
- Repair or replace defective work as directed by the Owner.

END OF SECTION

SECTION 32 16 13 – CONCRETE CURB AND GUTTER & SIDEWALKS

1.00 SECTION INCLUDES

- Portland cement concrete is used for sidewalks, curb and gutter, driveway approaches, and concrete steps.

1.01 SUBMITTALS FOR REVIEW

- Submit for approval product data and test reports

1.02 QUALITY ASSURANCE

- Perform work in accordance with Section 501, 601 and 602 of the WisDOT Standard Specifications for Highway and Structure Construction, latest edition.
- Obtain cementitious materials from same source throughout.

2.00-MATERIALS

- Reference Section 03 10 00 - Concrete Forming and Accessories.
- Place reinforcement as shown on the plans and details when required.
- Provide the Owner with a concrete mix design for review and approval prior to the commencement of work.
- Special custom mixture will include color additive where specified. Integrally color concrete using non-fading pigments conforming to ASTM C979 and color as specified by the plans. **Not utilized on this project.**
- Curing compound shall conform to the requirements of ASTM C309, Type W or AASHTO M148 Type 2, White Pigmented for Liquid Membrane – Forming Compounds for Curing Concrete.
- Proper Covering. All curing accessories and products must be compatible with each concrete type used. For colored concrete follow manufacturer recommendations, typically, a plastic sheet minimum 4 mil thickness with felt or pulp backing. Ultra Cure NCF or approved equal.

3.00 INSTALLATION

- Verify base conditions under the provisions of Section 31 05 16 - Aggregates for Earthwork.
- Verify compacted base is acceptable and ready to support paving and imposed loads.
- Verify gradients and elevations of base are correct.
- Moisten base to minimize absorption of water from fresh concrete.
- Notify superintendent a minimum 24 hours prior to commencement of concrete operations.
- Place and secure forms to correct location, dimension, profile, and gradient.
- Assemble formwork to permit easy stripping and dismantling without damaging concrete.
- Place joint filler vertical in position, in straight lines. Secure to formwork during concrete placement.
- Place reinforcement at mid-height of slabs-on-grade.

3.01 PLACING CONCRETE

- Deposit, consolidate, and slip form the concrete to the required section. If not using a slip form process, deposit the concrete in the forms to the proper depths, spade against the forms, consolidate thoroughly, strike off, and finish to the required section.
- Unless constructed integrally with concrete pavement, securely anchor concrete curb, gutter, or curb & gutter, to adjoining concrete pavement by placing specified tie bars if and as the plans indicate.
- Tie new work to existing concrete pavement using tie bars driven into the existing pavement. Use only cast-in-place tie bars in construction joints between pavement and curb, gutter, or curb & gutter placed under the contract.
- Form contraction joints by sawing or forming an induced plane of weakness at least 2 inches (50 mm) deep in the curb, gutter, or curb & gutter directly opposite all construction or contraction joints in adjoining concrete pavement and at the required spacing in curb, gutter, or curb & gutter adjoining asphaltic pavement. Space all joints between 6 feet (1.8 m) and approximately 20 feet (6 m) apart, as the Engineer directs.
- Ensure reinforcement materials are not disturbed during concrete placement.
- Place concrete continuously over the full width of the sidewalk, driveways and curb and gutter and between predetermined construction joints.

3.02 JOINTS

- Place contraction joints at 5 foot intervals in sidewalks and 10 feet intervals on curb and gutter. Place expansion joints at 200 - 300 foot intervals and, at both sides of inlets and at tangent/radius points. Align curb, gutter, and sidewalk joints.
- For sidewalks of uniform width, construct transverse joints at right angles to the sidewalk centerline, and construct longitudinal joints parallel to the centerline, unless specified otherwise. For sidewalks of variable or tapering widths, make the transverse and longitudinal joints at right angles to each other, if possible, and construct the joints as the Engineer laid them out in the field.
- Use contraction joints to divide the sidewalk into sections.
- Place ½-inch (13 mm) wide transverse expansion joint filler through the sidewalk at uniform intervals not greater than 96 feet (30 m) apart.
- Place ½-inch (13 mm) wide expansion joint filler between the sidewalk and back of abutting parallel curb or gutter; and place one-inch (25 mm) wide expansion joint filler between sidewalk and buildings or other rigid structures.
- Place ½-inch (13 mm) wide expansion joint filler between sidewalk approaches and the back of curb or gutter or edge of pavement.
- No joint may deviate more than 5 degrees from perpendicular to the surface of the finished. Ensure that all joint axis do not deviate more than ½-inch (13 mm) from a straight line, or from the designated alignment at any point. If constructing the joints in sections, do not use offsets or concrete struts between adjacent units.
- If constructing the sidewalk in partial width slabs, place transverse joints so they match the like joints in adjacent slabs. If widening existing sidewalks, place transverse joints in line with like joints in the existing sidewalk.
- If possible, do not divide sidewalks into sections less than 3 feet (900 mm), or greater than 12 feet (3.7 m) in any dimension. Produce the unit areas by using metal slab division forms extending to the concrete's full depth, or by contraction joints, as specified below.
- A contraction joint in sidewalk may consist of a slot or groove, at least one inch (25 mm) deep and ¼-inch (6 mm) in wide. Form them by inserting a metal parting strip in the concrete after striking off and consolidating, and while the concrete is still plastic. As soon as the concrete retains its shape, remove the parting strip and edge-finish the joint.
- The contractor may form contraction joints by cutting the concrete not less than 1/4 of the depth through with a pointed trowel or other suitable tool. Edge-finish the joint.
- The contractor may saw contraction joints at least one inch (25 mm) in depth and approximately 1/8-inch (3 mm) wide in the concrete sidewalk. Perform the sawing as soon as possible after the concrete sets sufficiently to prevent raveling during sawing and before shrinkage cracking occurs.
- Extend the expansion joint filler to the concrete's full depth and make the top slightly below the finished surface of the sidewalk.
- Spade and compact the concrete thoroughly at all expansion joint faces to fill the voids, and finish the surface smooth and true to grade as specified above. Round the sidewalk edges along forms, un-sawed joints, and metal slab division forms with a ½-inch (6 mm) radius edger.
- Do not seal joints.
- Place joint filler between curb and gutter and sidewalk.

3.03 FINISHING

- Trowel and brush the face surfaces of the curb, or curb & gutter. Unless specified otherwise, round the back edge of curbs, the edge of the gutter next to the pavement, and edges next to expansion joints or induced contraction joints, with a 1/4 inch (6 mm) radius edger. Refinish or rework any honeycombed areas occurring along forms on back of curbs or edges of gutters with mortar. Use mortar except use only Portland cement for cementing material.
- Curbs and Gutters: Light broom.
- Direction of Texturing: Transverse to pavement direction.
- Inclined Handicap Ramps: Truncated domes per detail.
- Place curing compound on exposed concrete surfaces immediately after finishing. Apply in accordance with manufacturer's instructions.

3.04 JOINT SEALING

- Place joint filler in pavement pattern placement sequence. Set top to required elevations. Secure to resist movement by wet concrete.
- Extend joint filler from bottom of pavement to within ¼ inch of finished surface.

3.05 TOLERANCES

- Maximum Variation of Surface Flatness: ¼ inch in 10 feet.
- Maximum Variation From True Position: ½ inch.

3.06 FIELD QUALITY CONTROL

- Three concrete test cylinders will be taken for every 100 cubic yards or less of concrete placed each day.
- One additional test cylinder will be taken during cold weather and cured on site under same conditions as concrete it represents.
- One slump test and one air entrainment test will be taken for each set of test cylinders taken.
- Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken. The Contractor shall perform this work if the Owner does not provide testing services.

3.07 PROTECTION

- Immediately after placement, protect all pavement from premature drying, excessive hot or cold temperatures, and mechanical injury.
- Do not permit pedestrian or vehicular traffic over pavement for 7 days minimum after finishing, and until 75 percent design strength of concrete has been achieved.

3.08 SCHEDULES

- Concrete Sidewalks: 4,000 psi @ 28 days, 4, 5, and 6 inches thick. Terrace: 4,000 psi @ 28 days, 6 inches thick.
- Concrete Curb and Gutter: 4,000 psi @ 28 days.

END OF SECTION

SECTION 32 84 00 – LANDSCAPING (LAWN AREAS)

1.00 - EXTENT OF WORK

- Finished landscaping shall extend to all areas disturbed during the construction process. Topsoil will be place by site work subcontractor under Section 02200 to within 1". Final finish grading of topsoil is by Section 02930.

2.00 - MATERIALS

- Recommended Grass Seed: Provide fresh, clean, "new crop" certified seed.

<u>Seed Species</u>	<u>Purity</u>	<u>Germination</u>	<u>Mixture</u>
21# Kentucky Blue Grass	85%	80%	15%
Perennial Rye Grass	98%	90%	10%
Red Top	92%	90%	5%
Chewing's Fescue	97%	80%	55%
White Clover	95%	90%	15%

- Seeds shall be of high quality and vitality and shall conform to requirements of Wisconsin Administrative Code, Chapter 95 (Seed Law) regarding noxious weed content.
- Commercial seed mixtures having deviations to above mixtures must be approved by owner.
- Fertilizer: Fertilizer shall be commercially available complete fertilizer. Deliver commercial fertilizer to site in original sealed containers and store it in waterproof storage space. Composition of fertilizer is subject to revision to suit project site conditions.

3.00 - PLANTING SEASON

- Seed may be sown during growth seasons only.
- Preparation for seeding may begin prior to growth season.

3.01 - PREPARATION

- Deliver, stockpile or spread topsoil to all areas of the site to avoid trucking across finished walks and septic drain fields. Spread, rake compact topsoil and otherwise manipulate it to shape and contour as indicated. After settlement, smooth draining grades as indicated.
- Topsoil, which has been compacted during the raking operation, shall be cultivated and tilled until it is of a uniformly friable condition. Maintain surfaces at designated finish grades. Deposit additional topsoil required to take care of any settlement or erosion up to date of acceptance.
- Remove stones, roots, rubbish and other material from topsoil.
- Just prior to seeding apply fertilizer to all new lawn areas at a rate recommended by the manufacturer. Scarify ground to incorporate fertilizer to depth of 2" in soil.

3.02 - SEEDING

- Sow seed by means of mechanical distributors. Run distributors over ground as necessary to sow seed at rate of 4 pounds per 1,000 square feet. Do not sow seed when wind is strong enough to separate light and heavy seed when it is being sown, or when ground is wet or otherwise non-tillable.
- After seeding, light rake or cover seed by other approved means by stirring ground not deeper than 1/4". Follow seeding with roller weighing not more than 100 pounds per linear foot and not less than 25 pounds per linear foot. Cover all seeded areas with straw mulch or blankets.

3.03 - MAINTENANCE OF SEEDED AREAS

- Maintain seeded areas for one month after seeding has shown "a catch" or uniform stand or until substantial completion of the project, whichever comes first. Areas which fail to show "catch" or uniform stand for any reason whatsoever shall be reseeded with original mixture and such seeding shall be repeated until seeding shows "a catch" or uniform growth.
- Damage resulting from erosion, gully, washouts, or other causes shall be repaired by filling with topsoil, tamping, re-fertilizing and reseeding. When directed, and prior to final acceptance, clean walks and roadways by sweeping or washing.

4.00 - CONCRETE BORDER EDGING CURB

- Provide all labor and materials to complete the colored and textured 4" concrete curb/mow strip around perimeter of buildings as shown on the landscape plan.
- Coordinate installation with the Owners onsite supervisor.

END OF SECTION

SECTION 32 84 00 – LANDSCAPING (TREES, PLANTS AND GROUND COVER)

1.00 - SUMMARY

- Provide trees, plants, and ground cover as indicated on the drawings, as specified herein, and as needed for a complete and proper installation.

1.01 - SUBMITTALS

- Submit for approval material list and information.

1.02 - QUALITY ASSURANCE

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

2.00 - MATERIALS

- Fertilizer. Provide commercial balanced Soil Amendment
- Mulch
- Tree Stakes
- Planting Material
- Tree's
- Shrubs
- Other Materials - Provide other materials, not specifically described but required for complete installation.

3.00 - PLANTING TREES AND SHRUBS

- Plant nursery stock immediately upon delivery to the site. Water nursery stock in containers, and place them in a cool area protected from the sun and drying winds.
- Excavate for shrubs in one gallon containers, dig a hole 12" in diameter and 12" deep. For shrubs and trees in five gallon containers, dig a hole 20" in diameter and 18" deep. For trees in 15 gallon containers, dig a hole 30" in diameter and 30" deep.
- Fill holes with backfill mixture consisting of three parts soil taken from the hole and one part soil amendment.
- Thoroughly water each plant when the hole is 2/3 full.

3.01 - PLANTING GROUND COVER

- Rake existing soil smooth and free from soil lumps, rocks, sticks, and other deleterious material.

3.02 - STAKING

- Stake trees, using two stakes per tree, and driving stakes into the ground at least two feet.

3.03 - TOPSOIL

- Fine grade topsoil unless indicated elsewhere.

3.04 - MAINTENANCE

- Maintain planting, starting with the planting operations and continuing for 30 calendar days after planting is complete. At the end of the maintenance period, all plant material shall be in a healthy growing condition.
- Continue the maintenance period at no additional cost to the Owner until previously noted deficiencies have been corrected, at which time the final inspection will be made.
- Provide one year Warranty and Inspection report at eleven months.
- Erosion control to be removed by Landscaper within 45 days of completion of all landscape work or satisfactory establishment of grass/plant material.
- Place no fill or backfill on frozen, muddy or excessively wet surfaces or those containing frost or ice.

END OF SECTION

DIVISION 33 00 00 – UTILITIES

SECTION 33 40 00 - STORM DRAINAGE UTILITIES (IF APPLICABLE)

1.00 - SUMMARY

- Provide foundation drainage system at building perimeter.
- Provide under-slab sub-soil drainage system.

1.01 - QUALITY ASSURANCE

- Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

2.00 - MATERIALS

- Non-perforated type with open joints:
- PVC pipe: ASTM D 2729.
- Perforated type with perforations facing down:
- Flexible coiled type with "sock".
- Screening for joints: Synthetic drainage fabric.
- Provide "bleeders" in foundation wall no greater than 10' on center.

3.00 - INSTALLATION

- Install materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials and systems in proper relation with adjacent construction. Coordinate with work of other sections. Provide cleanouts.
- Connect to above-grade and below-grade drainage systems. Drain system to approved location. Test for proper operation. Clean system out and protect work from damage.

3.01 - PREPARATION

- Obtain and obey all applicable regulations regarding grading and excavation.
- Identify, mark, and protect from damage all existing underground pipes, conduits, and cable. Provide engineered shoring and bracing as required by site conditions.
- Provide temporary drains and/or pumps to remove ground water.

3.02 - GRADING AND EXCAVATION

- Grade and excavate to create positive drainage away from the structure. Protect buried water, sewer, steam, or gas lines.

3.03 - BELOW GRADE WATERPROOFING

- Thoroughly damp-proof basement foundation walls before backfilling – See Section 07 10 00

END OF SECTION

SECTION 33 70 00 – ELECTRICAL, GAS UTILITIES, COMMUNICATIONS

1.00 - GENERAL

- All materials must be new and of the type and quality specified. Materials must be delivered in labeled, unopened containers. All electrical products must bear the Underwriters Laboratory label.

1.01 - COMMUNICATIONS

- Provide complete telephone and video cable service as specified herein.
- Telephone service includes equipment not provided by the phone company and may include service entrance equipment, outlets, terminal boards and other items required for a complete operating telephone service.
- Coordinate installation of items provided by the telephone company.
- Cable television includes equipment not provided by the cable company and may include service entrance equipment, outlets, and other items shown on the drawings or required for a complete operating cable service.

2.00 - WORK CONDITIONS

- Correct any conditions that might interfere with speedy, well-coordinated execution of the work.
- All work conditions shall be as per manufacturer's instructions, trade association standards, and governing building and safety codes.

3.00 - PREPARATION

- Straps and other support construction for electrical equipment must be as required by the trade association standards, and governing building and safety codes.

3.01 - INSTALLATION

- Install products as per these Specifications.
- Upon completion, secure all required inspections, and approvals of the completed system. Make all required adjustments and corrections at no added cost to the Owner.

3.02 - REPAIR AND CLEANUP

- After installation, inspect all work for improper installation or damage.
- Operating fixtures must perform smoothly. Repair or replace any defective work.
- Clean the work area and remove all scrap and excess materials from the site.

END OF SECTION