850 FALMOUTH ROAD

HYANNIS, MASSACHUSETTS

ARCHITECT:



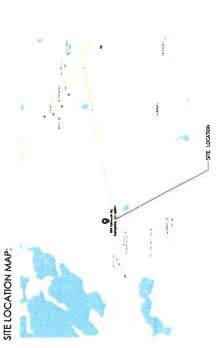
678 Massachusetts Avenue Cambridge, MA 02139 tel: 617-661-4222 fox: 617-661-4244 DRAWING UST: COVER

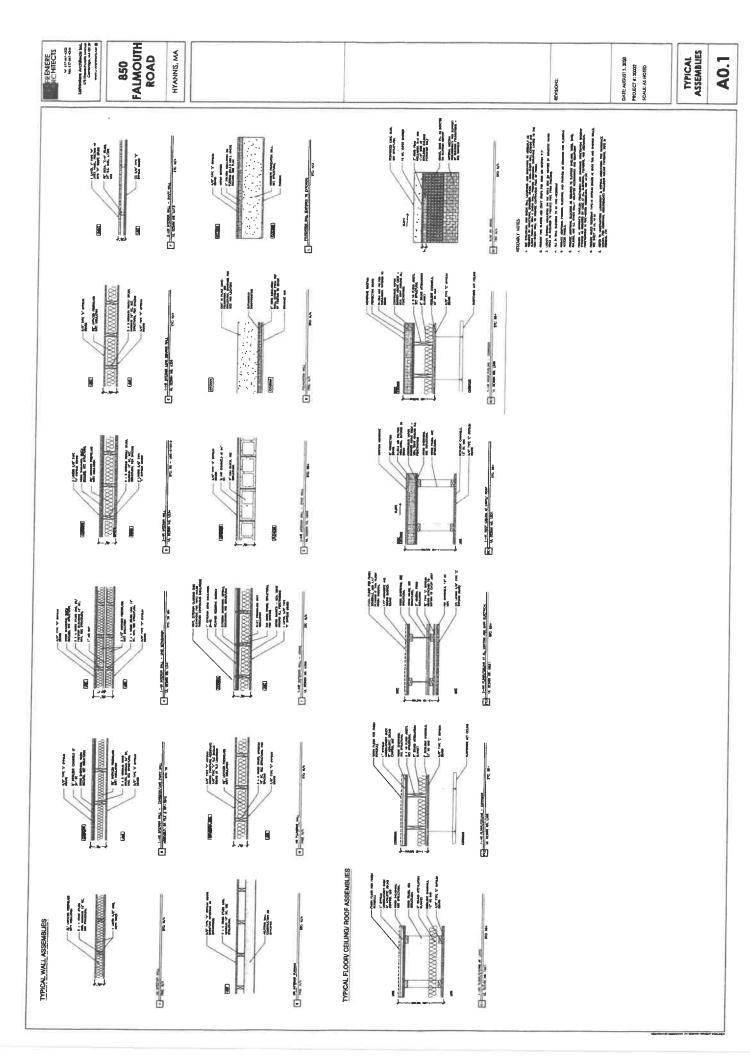
A0.1 TYPICAL ASSEMBLIES

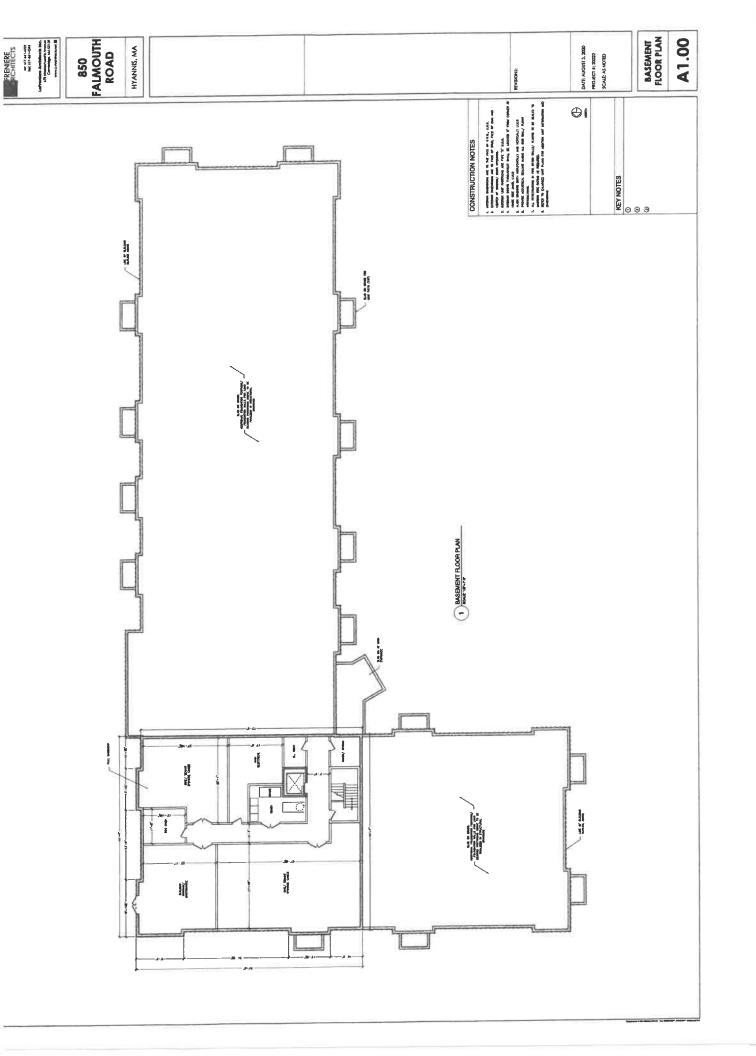
A1.00 BASEMENT FLOOR PLAN
A1.01 1ST FLOOR PLAN

A1.02 2ND FLOOR PLAN
A1.03 3RD FLOOR PLAN
A2.00 ENLARGED UNIT PLANS

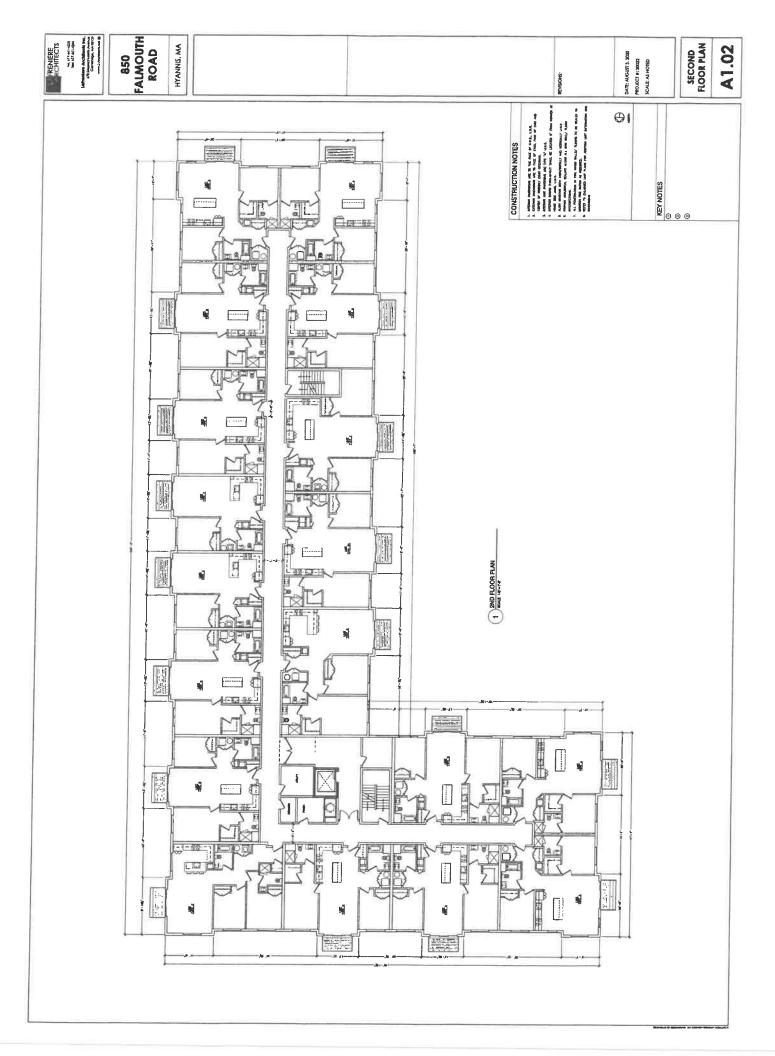
A2.00 ENLARGED UNIT PLANS A2.01 ENLARGED UNIT PLANS A3.00 EXTERIOR ELEVATIONS

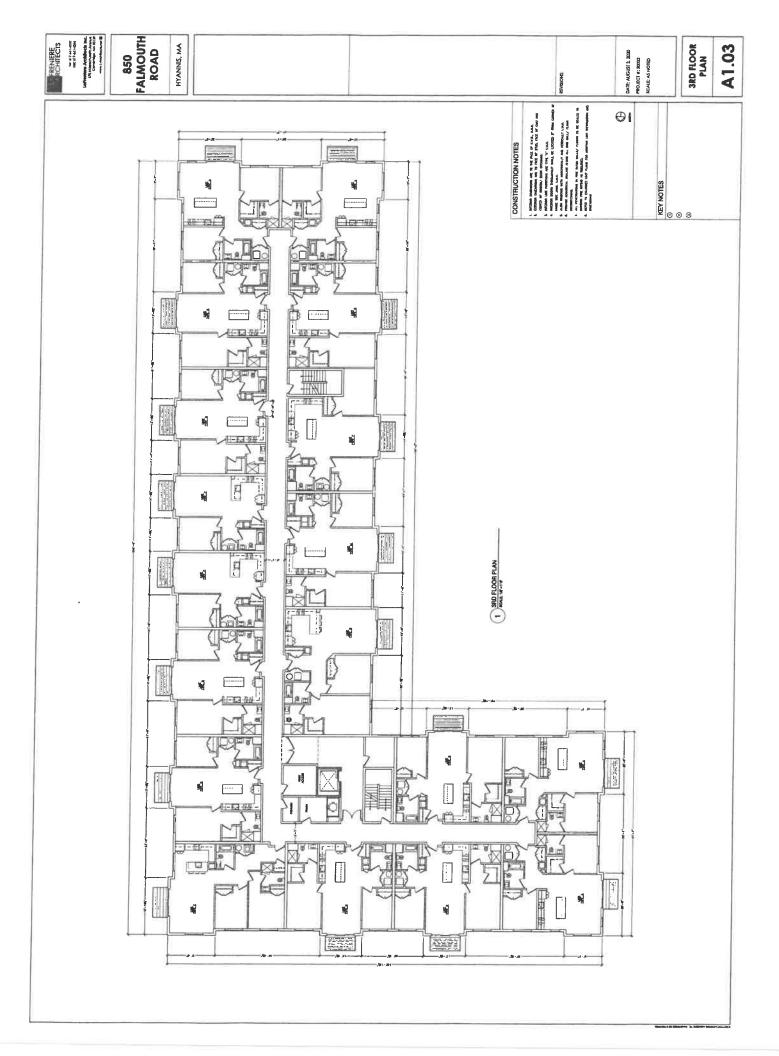


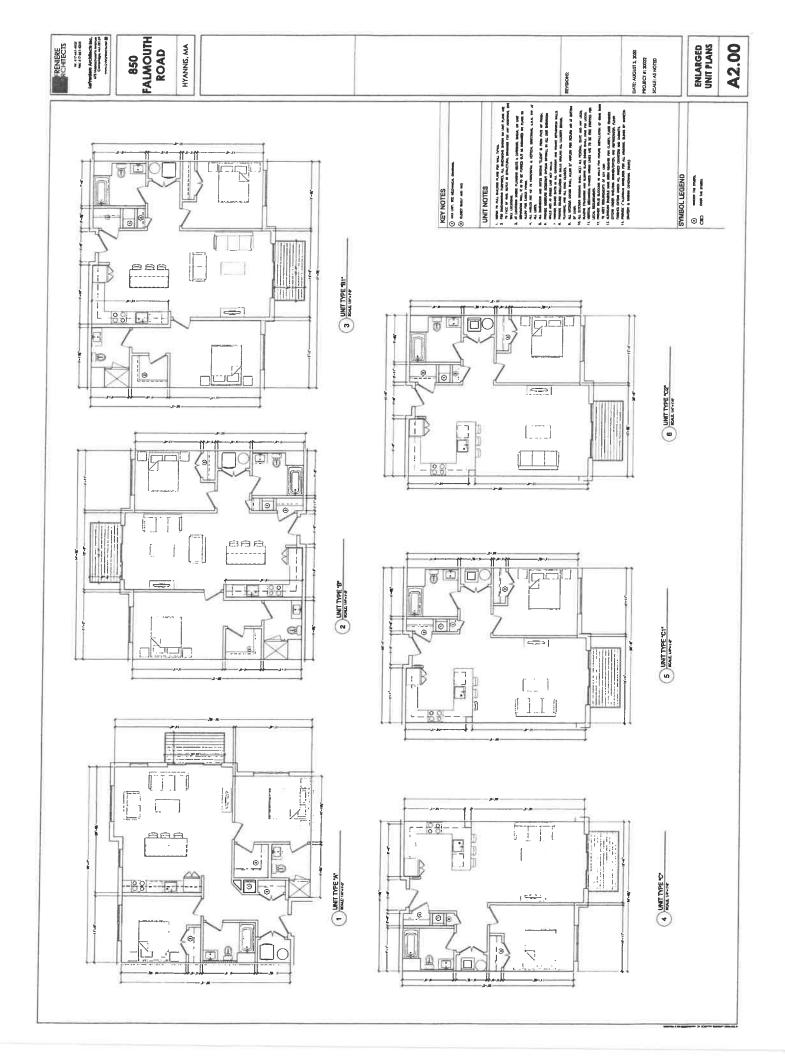




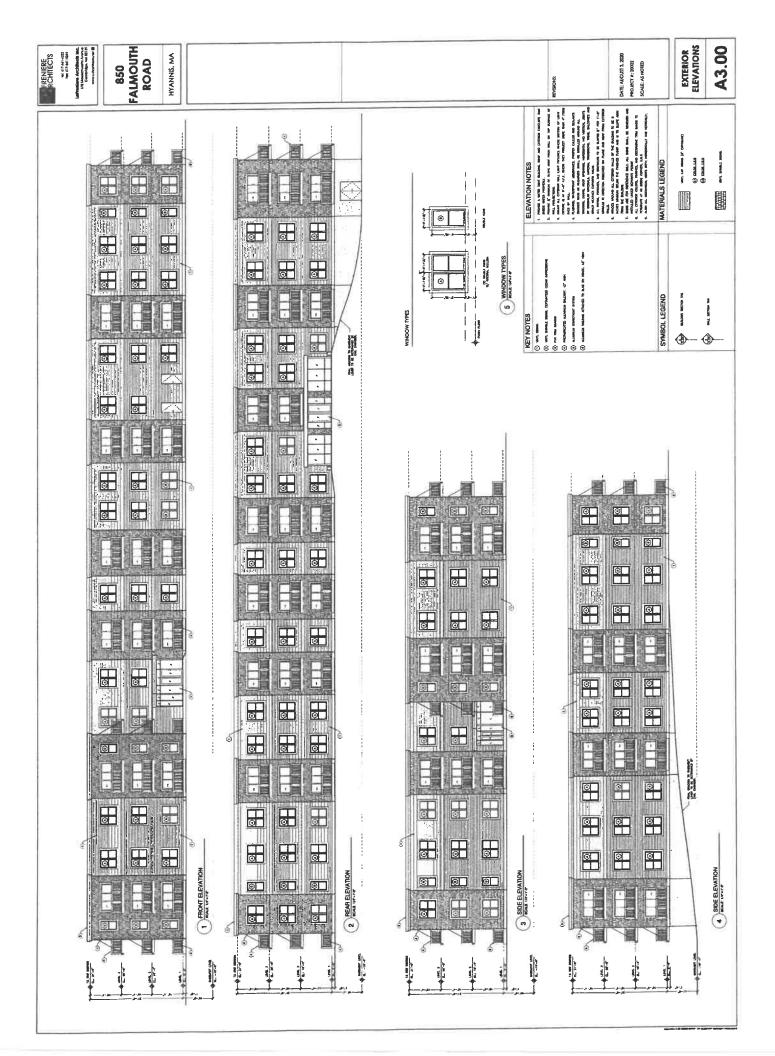














OUTLINE SPECIFICATIONS

August 3, 2020

New 53- Unit Apartment building, 850 Falmouth Road, Hyannis

PROPOSED BUILDING: 3- story (plus partially enclosed basement level) 53-unit apartment building with amenity spaces on first and lower floors, All parking will be provided on grade. Building will be 5A wood framed construction. Elevator shaft will be concrete block construction an the stairs will be wood framed.

DIVISION 01- GENERAL REQUIREMENTS

All work to be performed to industry highest standards, and according to each trades and manufacturer's standards and instructions, Project to include all administrative costs and general contractor overhead associated with management and supervision of the work. Provide the owner with allowances for independent testing of materials (concrete, soil compaction, etc.) and for warranted assemblies.

DIVISION 02- EXISTING CONDITIONS and Site Work

SITE WORK:

The site shall be fully prepared and finished for the proposed new building, and new parking and landscaped areas, including clearing and grubbing, grading, foundation preparation, paving and landscaping. Included is all site work associated with drainage, water run-off control and construction measures. G.C. to provide all underground storm water control. All utilities to be underground and connected to new building systems. Provide allowances for connections to electrical services, water and sewer hook-up, and telcom. Carry a \$100,000 allowance for landscaping, hardscape at building entry and at rear patio. Provide allowances for 1;3 slopes and some Versalock retaining walls at transition to basement level grade.

DIVISION 03 - CONCRETE

- 1. Work shall include all foundations, footings, slabs, sidewalks. Concrete paving shall all be reinforced and sloped to drains as required. Concrete paving to be broom finished exposed aggregate, with expansion and control joints as required. Assume soil is capable of bearing building on typical spread footings for 3-story building.
- 2. Basement slab to be waterproofed, and tied into retaining walls.
- 3. Concrete retaining walls at steps to partial basement from slab on grade areas, and areas where basement meets grade at first floor level.
- 4. Elevator to have 5' deep pit, with sump pit, and to be fully waterproofed.
- 5. Sidewalk and pad at back of building with 6' wide sidewalk access for trash container removal by landlord staff..

DIVISION 04 - MASONRY

Fieldstone landscape walls at patio (as shown on site plan)

DIVISION 05 - METALS

- Miscellanious steel hangers with off-set joist supports where floor frame into wood structure at stairs
- 2. Miscellaneous hangers and connectors throughout building, including custom steel clips, brackets and rods to support prefabricated aluminum balconies.
- 3. Provide and install new steel pipe rails at both sides at egress stairs.
- 4. Prefabricated aluminum decks and rails with white powdercoat finish
- 5. Provide and install steel ladder for roof hatch access.

DIVISION 06 - WOOD, PLASTICS, COMPOSITES

Rough Carpentry:

- 1. All framing will be as defined on structural drawings with 18" wood floor and roof open trusses with special openings as required for the passage of mechanical systems.
- 2. Exterior wall framing to all be 2x6 studs (16" O.C.) to meet requirements of type V construction. All other framing elements in exterior walls to be wood. Exterior wall sheathing to be ½" exterior C-D X plywood. 2x4 wood partitions within units unless noted otherwise for laod bearing purposes.
- 3. Walls between units to be double stud (2) 2x4 walls with 1 inch air gap between.
- 4. Walls between units and corridors walls are structural shear walls and will have 1/2" plywood, with nailing 6" o.c..
- 5. Work to also include sleepers for roof HVAC units.
- 6. Provide in-wall blocking for all cabinets and bathroom accessories in all unit bathroom to meet ADA requirements.

Finish Carpentry:

1. All units will be have primed and painted standing and running trim. For pricing, assume 5" wood base and custom 4" door casings. No trim at windows.-GWB returns.

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

- 1. New finish for exterior of building to be vinyl shingles and vinyl siding of various dimensions and styles in standard manufacturers' colors. Vinyl shingles to have shingle corner pieces. Siding to have corner trim boards All trim boards will be vinyl. All vertical transitions will be fully flashed, and sealed. Attachment to sheathing through insulation to follow all manufacturers' standard details. Any paneled areas to be on metal furring channels. Vinyl shingles shall be Certanteed 5' Driftwood Blend. Vinyl lap siding to be double 4" select cedar Clapboard by Certanteed.
- 2. Roofing for building to be 60 mil single-ply mechanically fastened, white TPO fully adhered membrane roof by Carlisle, or equal. All curbs, parapet sealants, copings, and penetrations to be fully guaranteed, and to be part of complete roofing system. Roofing

- accessories to be fully coordinated with rigid insulation system to ensure an effective thermal and moisture protection system. Roof to pitch to interior drains.
- 3. Vestibule and projecting first floor roof at garden patio to be 60 mil black EPDM fully adhered roof memebrane. All curbs, parapet sealants, copings, and penetrations to be fully guaranteed, and to be part of complete roofing system. Roofing accessories to be fully coordinated with rigid insulation system to ensure an effective thermal and moisture protection system. Roofs to pitch to two scuppers with rain leaders.
- 4. Joint Sealant to be provided at all masonry or concrete expansion joints, window and door frames, etc. Colors of all seals to be selected by architect from full range of manufacturers' colors.
- 5. Roof/overflow drains, with cast iron rain water leaders, to feed vertically through the building to be tied to storm water management system under the parking lot.
- 6. Weather resistive barrier to be Tyvek Commercial Wrap "D" at all siding/panel locations and fluid applied bituminous waterproofing at all underground concrete locations.
- 7. Roof insulation to be rigid polyisocyanurate insulation with a minimum insulation value of R-30ci. Tapered insulation at roof to drain properly to roof drains, building insulation up as required, so minimum insulation is maintained by code.
- 8. Wall thermal insulation to be 6" fiberglass insulation with an insulation value of R-21. With 1" exterior rigid insulation with an R value of R-4ci minimum.
- 9. Acoustic insulation in party walls between units to be 3" fiberglass acoustical insulation on each side of double wall.
- 10. Acoustical insulation above ceiling to be 6" fiberglass insulation.
- 11. All exterior horizontal trim boards and changes in materials to be fully flashed with metal, to present superior architectural appearance.
- 12. One 4ft x 4ft insulated roof hatch to be provided for roof access. Coordinate framing opening and steel ladder.

DIVISION 08 - OPENINGS

- 1. Hollow Metal Doors and Frames: All exterior doors (except glass store-front) to have welded steel frames with painted finish. Interior utility room doors with steel frames may have KD frames. 3'-0" x 7'-0", with 2" face, unless otherwise noted. All exterior doors (except glass store-front) to be hollow metal doors with painted steel finish.
- 2. Wood Doors: All interior unit entry doors to be solid core wood doors 3'-0" x 7'-0" x 1 3/8", with primed and painted face. All unit interior doors to be 1 3/8" thick solid MDF doors with 2 recessed panels.
- 3. Aluminum Storefront system: Entry storefront system to be extruded aluminum system TRIFAB II 451, By Kawneer, in clear anodized aluminum. Entrance doors to be wide-style full- height 3'-0" x 8'-0" extruded aluminum entry system by Kawneer. Each leaf to have 3 off-set pivot hinges, closers to be concealed overhead type with adjustments to meet ADA requirements.

- 4. Window systems: All windows in units to be Anderson 100 Series, types as shown on elevations, with thermal breaks and low-e insulated glass. Window units to be impact resistant. Provide insect screens and window control opening devices for all windows. Alternative: vinyl windows by Harvey in same sizes as shown on drawings.
- 5. Unit sliding patio doors to be 3-panel 9ft wide x 7ft high Anderson 100 to meet required impact resistance rating.
- 6. Finish Hardware at building entry doors: Push-pulls on aluminum entrance doors to be 1" diameter brushed stainless steel tubes, with off-set pulls, and full-width push bar, similar to Kawneer classic Architectural series. All aluminum doors to have concealed closers. All pairs to have concealed flush-bolts and panic paddles, and latch-locks.
- 7. All doors to have Schlage locksets with Jupiter lever handles of functions appropriate to the use. AL-Series at all common area locksets, \$200 Series on unit entries and AL-Series at unit interior doors. All finishes to be brushed stainless steel.
- 8. Main entrance lobby door and rear entrance doors on 1st floor to have card access. Provide electric strikes and card reader tie-in.
- 9. All units to have electronic entry locks activated by cell phones.
- 10. All exterior glass in windows to be clear low-E insulating glass. All exterior glass in store-front system at lobby and restaurant to be clear 1" thick insulating glass.
- 11. All glass and windows to meet "shoreline hurricane rated" standards.

DIVISION 09 - FINISHES

- 1. Gypsum drywall:
 - a. Interior unit partitions to be built of 2x4 wood studs at 16" o.c. extending to GWB unit ceiling of 5/8" GWB' with 5/8" GWB each side. All installation to be according to manufacturer's standards and specifications.
 - b. All ceilings of units to be 5/8" GWB on resilient channels at 12" o.c.
 - c. 1st floor and lower level partitions to have 3-5/8" steel studs (25ga) at 16" o.c. with 5/8" GWB each side.
 - d. Exterior walls in type 5 construction) to have 2 layers of 5/8" type-X GWB on interior face. GWB to extend completely to underside of sheathing of the floor above. Where trusses penetrate the exterior wall use Firewall hangers by UPS(MiTek)
 - e. Stairway which goes to basement will have continuous 2-hour drywall partitions around, and that with only three floors may have a 1-hour continuous partition around.
 - f. Elevator to have 2-hr continuous GWB elevator shaft, using 1" shaft-wall on the interior, and two layers of 5/8" GWB on the exterior of the shaft.

- 2. Gypcrete floor underlayment: All wood structure floors to have 1" gypcrete on top of ¼ resilient soundboard, throughout the second and third floors, and also at the first floor where there is (not slab on grade, and there is basement space below.)
- 3. Ceramic Tile finishes: All unit bathrooms to have porcelain tile floors. All tiles shall be laid according to the applicable TCA standards on resilient flooring system to provide sound isolation for unit below. Provide \$6 per SF allowance for all tile material (tile material only, not mud/grout or installation)
- 4. Wood Flooring: All units to have wood look luxury vinyl planks flooring in kitchen/living / dining and bedroom areas. Provide \$4 /SQ. FT material (flooring material only, not glue or installation) allowance.
- 5. Carpeting:
 - a. In common area corridors commercial carpet tile provide \$35 /SQ. YD material allowance for carpet tile.
 - b. In common area alternative: same budget for LVT plank flooring.
- 6. Acoustical Ceilings: Ceilings in common areas on lower level and 1st floor to be GWB. In corridors on first floor, ceiling to be 9/16" suspension system by Armstrong or equal, with 24"x72" ceiling tile to be Armstrong Optima tile with tegular edges.
- 7. Resilient flooring and vinyl base: (in common area utility rooms and stairs) Vinyl flooring on areas not to be carpeted or tiled. Armstrong Excelon vinyl composite tile. Vinyl Base to be 4" x 1/8" vinyl base by Johnsonite, straight at carpet, coved at vinyl.
- 8. Painting: Painting scope to include painting of all exposed interior drywall partitions. All GWB to receive one coat of primer and two coats of finish paint.

DIVISION 10 - SPECIALTIES

- 1. Provide 1 mirror 3'w x 4'h in each of the unit bathrooms.
- 2. Bathroom accessories: provide \$300 allowance for materials only for towel bars, hooks and t-paper holders for each bathroom in the units.
- 3. Provide standard post-office mail-boxes in main lobby. (54 mail slots and 10 parcel boxes)
- 4. Provide special programmable package delivery/storage boxes (30' length)
- 5. Provide \$25,000 allowance for building signage.
- 6. Shower enclosures to be single piece fiberglass with base.
- 7. Shower enclosures at tubs to be 3-piece porcelain by Mincey Marble, or alternate 3-piece fiberglass surround.
- 8. Trash chute shall be 30" diameter single chute with 2hour rated doors at 1st, 2nd and 3rd floors, and rated bottom opening closure, by Midland, or similar manufacturer. Provide water connection and sprinkler at top of chute.
- 9. In unit thermostats to be smart thermostats (Google Nest or similar)
- 10. Main building entrance to have ButterflyMX smart video intercom system.

DIVISION 11 - EQUIPMENT

1. Provide a \$2,000 allowance per unit for (all-electric) appliances.

DIVISION 12 - FURNISHINGS

- 1. Kitchen and bathroom cabinets: white finish plastic foil laminate cabinets with euro style full overlay doors. European hinges, bar pulls.
- 2. Kitchen and bathroom counters: Caesar Stone quartz counters with 4" splash. 1¼" thick at kitchens and ¾" thick at bathrooms. Provide cut-outs for under-counter mounted sinks, and through counter spread valves and faucets. (assume \$40 / SF material cost w/o fabrication)

DIVISION 13 - SPECIAL CONSTRUCTION

Not used.

DIVISION 14 - CONVEYING EQUIPMENT

1. Elevators to be Otis Gen Two 3500 lb electric elevator (not hydraulic) 250 FT/min.

DIVISION 21 – FIRE SUPPRESSION

Codes, Standards, and Authorities

Perform work in accordance with rules, regulations, standards, codes, ordinances, and laws of local and federal governments, and other authorities with lawful jurisdiction, and be responsible for compliance therewith.

Material and equipment shall be Underwriters Laboratories, UL-listed and ASME approved as applicable for service intended.

Conform to applicable code for installation of backflow prevention devices. Provide certificate of compliance from authority having jurisdiction indicating approval of installation of backflow prevention devices. All required permits and inspection certificates shall be obtained and made available at the completion of the work.

Fire Service

Fire service shall be supplied to the building from a minimum 6-inch cement lined ductile iron line originating 10'-0" outside the building. Upon entering the building, the piping shall transition to schedule 40 black steel with Victaulic couplings.

Hydrant flow testing will be necessary to determine if a fire pump will be required.

Fire Protection Piping Distribution

Fire protection distribution schedule 40 piping will extend from the water service room to the stair enclosures and rise up through the building.

The building will be provided with one (1) minimum four inch (4") sprinkler alarm check valve.

Two (2) 4" combination standpipe / sprinkler risers, and one (1) 4" standpipe equipped with fire department valve.

Each level will be a dedicated sprinkler zone.

Floor control valve assembly will be located within the stair containing combination standpipe / sprinkler riser.

CPVC "BlazeMaster" piping used only in Light Hazard occupancy will extend from the floor control stations to the corridors and residential units supplying sprinkler heads throughout.

Schedule 40 galvanized steel piping shall be utilized for the dry-pipe systems.

Fire Protection Systems

Fire Protection systems will include wet pipe sprinkler system throughout residential units, common areas, stairs, units, mechanical and storage spaces.

The number of zones will be discussed with the building owner.

Sprinkler systems in storage and mechanical spaces will be designed to comply with Ordinary Hazard I criteria; sprinkler system for commercial spaces will be designed to comply with Ordinary Hazard I criteria.

Sprinkler system common areas and residential units will be designed to meet Light Hazard criteria.

Sprinkler Heads

Sprinkler heads located within each dwelling unit shall be fully concealed residential type. Sprinkler heads located outside each dwelling unit in common areas shall be concealed quick response type.

DIVISION 22 - PLUMBING

Codes, Standards, and Authorities

Perform work in accordance with rules, regulations, standards, codes, ordinances, and laws of local and federal governments, and other authorities with lawful jurisdiction, and be responsible for compliance therewith.

Material and equipment shall be Underwriters Laboratories, UL-listed and ASME approved as applicable for service intended. All Plumbing fixtures, equipment, and materials shall be approved by the Board of State Examiners of Plumbers and Gas Fitters.

Conform to applicable code for installation of backflow prevention devices. Provide certificate of compliance from authority having jurisdiction indicating approval of installation of backflow prevention devices. All required permits and inspection certificates shall be obtained and made available at the completion of the work.

Domestic Water Service

Domestic water shall be supplied to the buildings by a minimum four inch cement lined ductile iron line originating 10'-0" outside the building. Upon entering the building, the piping shall transition to type "L" copper and pass through a compound type water meter with remote reading capability.

<u>Domestic Water Distribution and Water Equipment</u>

Domestic water piping and fittings two inches and smaller shall be flow guard gold CPVC and routed throughout the building to serve the new fixtures and equipment as required.

Each unit shall include quarter turn ball valves. Piping larger than two inches shall be schedule 80 CPVC.

Domestic water systems include cold water and hot water. Domestic water piping within community or assembly areas (commercial spaces only) shall be type "L" copper.

Hot Water Generation

Hot water generation (130 degrees F) shall be provided at each unit from a 40 gal. electric hot water heater within each unit.

Sanitary Waste

Sanitary waste and vent piping shall be provided for all plumbing fixtures. A sanitary sewer main shall be provided extending 10'-0" outside the building and connect to site sanitary system.

Sanitary waste piping and fittings within the residential sections of the building shall consist of solid core schedule 40 PVC with glued couplings. Sanitary, waste and vent piping within the first floor common areas of the building shall be cast iron.

Storm Drainage

Storm Drainage system shall consist of roof drains (primary) for flat roof areas. Secondary drainage will include roof drains with minimum two inch standpipe that will be piped independent of the primary system and spill to grade.

Drainage piping from the roof drains shall consist of solid core schedule 40 PVC with glued couplings.

Horizontal storm drainage piping shall be covered with a minimum of one inch of vapor barrier type insulation.

A storm drainage main shall be provided extending 10'-0" outside the building and connect to the site storm system.

Natural Gas

Natural gas service shall be extended to the building.

Natural gas distribution piping will be a combination of Schedule 40 black carbon steel ASTM A53, with malleable iron fittings in sizes up to 2-1/2". For piping 3" and larger, all piping and fittings shall be welded. Corrugated Stainless Steel Tubing (CSST) may be utilized in sizes up to 2".

Plumbina Fixtures

All high-quality plumbing fixtures shall be provided and installed per ADA and ANSI requirements when required. Fixtures shall be water-conservation type. Water closets shall be low consumption elongated tank type complete with closed front seat and cover.

Lavatories shall be equipped with low consumption faucets with aerators. Insulation kits for ptraps and supplies shall be provided when required by ADA.

Kitchen sinks shall be a minimum of 20 gauge and complete with single lever faucet with pull out spray. Tailpiece from kitchen sink shall include stem for connection of drain from dishwasher.

Testing, Adjusting, and Balancing

Provide testing of plumbing systems as specified and as required by authorities with jurisdiction including Owner and Architect.

Before date of acceptance, furnish Architect with certificates of testing and inspection for plumbing systems indicating approval of authorities with jurisdiction and conformance with requirements of contract documents.

Piping Installation

Install in accordance with manufacturer's instructions. Route piping in orderly manner and maintain gradient. Route parallel and perpendicular to walls.

Install piping to maintain headroom, conserve space, and not interfere with use of space.

Provide clearance in hangers and from structure and other equipment for installation of insulation and access to valves and fittings.

Provide access where valves and fittings are not exposed.

Establish elevations of buried piping outside the building to ensure not less than 5 feet of cover for water piping and not less than 3 feet for drainage piping.

Install vent piping penetrating roofed areas to maintain integrity of roof assembly.

Sleeve pipes passing through rated partitions, walls and floors.

Equipment Installation

Install products in accordance with manufacturer's instructions. Fixture Heights: Install fixtures to heights above finished floor as directed by the Architect.

Extend cleanouts to finished floor or wall surface. Ensure clearance at cleanout for rodding of drainage system.

Encase exterior cleanouts in concrete flush with grade.

Install water air chambers on hot and cold water supply piping to all plumbing fixtures with quick closing valves.

Rough-in fixture piping connections in accordance with minimum sizes per code.

Install each fixture with trap with cleanout plug for servicing and cleaning.

Provide chrome plated rigid or flexible supplies to fixtures with handle stops, reducers, and escutcheons.

Install components level and plumb.

Install and secure fixtures in place.

DIVISION 23 - HVAC

The apartment windows will meet the natural ventilation requirements.

Apartment heating and cooling

Ducted electric heat-pump units, similar to Mitsubishi products (or approved equal), To heat and cool the apartments. The indoor units would be vertical type (model PVA-A), and to be installed in recesses in walls with access from front grills.

Supply, rectangular duct will be located between the ceiling joists. Flexible ductwork will connect the rectangular duct with ceiling diffusers. The diffusers will be provided with fire blankets and fire dampers.

In-duct electric heating coils should be part of the heat pump package.

There will be one outdoor unit per apartment. Mechanical ventilation would be in the scope of work. The outdoor units (Mitsubishi model PUZ) will be mounted on the roof. Elevated stands, attached to the roof structure, would be provided. Units will be grouped together in 4 clusters, leaving most of roof open for solar panels by others.

Bathroom Exhaust

Bathroom exhausts will be terminated at the building façade. The bathroom fans will be controlled by wall-mounted switches. Location of exhaust outlets will be coordinated with operable windows. A minimum distance of 36 inches between outlets and windows will be required to meet the code. The bathroom fans will be wired to run continuously at 30 CFM and as needed at 80 CFM

Dryer Exhaust

Dryer exhausts from unit washer/dryers will be terminated at the building façade.

Location of exhaust outlets will be coordinated with operable windows. A minimum distance of 36 inches between outlets and windows will be required to meet the code.

Kitchen

The kitchens hoods will be vented to the exterior; Kitchen hood shall be specified by the architect.

Corridors and Public areas

The corridors will be ventilated, heated and cooled by a single roof-top unit. Smoke/fire dampers will be required at the shaft penetrations.

First floor public areas and basement will be ventilated, heated and cooled by separate heat pumps, with condenser units on the roof.

Miscellaneous Heating

Electric cabinet unit heaters and unit heaters will provide miscellaneous heat for areas such as vestibules, staircases etc.

DIVISION 26 - ELECTRICAL

Site and Utility Work

Utility pad-mounted transformer will serve the building. The secondary will be 120/208V, 3-phase, 4-wire service and will extend underground to the main electric room to be located on the first floor.

The building telephone service will enter underground to the main communications room located on the first floor level via 4- 4-inch conduits. Tel/data closets will be provided on every floor.

The fire alarm service will consist either of an underground municipal loop or radio master box to the main fire alarm control panel located in the main lobby. The final system connection will be coordinated with the local authorities.

Electrical Distribution

The building electric service is anticipated to be a 3200A (estimated), 120/208V, 3 phase, 4 wire switchboard located in the main electrical room in the lower level floor to distribute power throughout the entire building via two riser run through each level. The riser will consist of conduits and building wire.

House panels will be provided on alternate floor and will serve the corridors, stairwells and other common areas.

New distribution and branch circuit panels will be provided throughout the building in new electric closets. 120/208V panels will service the house lighting, HVAC, and receptacle loads.

Every floor will include central electric closets in the core areas off the egress corridors with a conduit riser, 120/208V, 3 phase, 4 wire panelboards for lighting, HVAC, and receptacles. Load distribution centers will be located on alternate residential floors to power the load centers within each apartment. In the main electrical room in the basement there will be individual meters for each of the 51 residential units, and 1 meter for the common spaces .

Each floor will include a central tel/data closet in the core area off the egress corridors.

Standby/Emergency Generator

There is no requirement for a standby generator.

General Power

Power connections will be provided to all mechanical systems as required. General receptacles and direct connection will be provided for all miscellaneous equipment including vending machines, computer equipment, copiers, etc. New convenience receptacles will be provided throughout to meet general requirements. Wiring devices including receptacles and switches shall be residential grade type.

Building Lighting System

The Owner will select the fixtures and forward to the design team. Unit bedrooms, living rooms, kitchens will have a surface mount light in each room. Bathrooms will have a fan/light in the ceiling and a vanity light above the sink. Emergency lighting will be battery unit types in the residential floors.

Fire Alarm

The fire alarm system will consist of an addressable system and will be located in the main lobby. A remote annunciator shall be located in the main lobby. Detectors will be installed in all electric, telephone, elevator pit, and code required areas. Smoke detectors will be installed at top of each Stairwell. The roof top units will contain duct smoke detectors. The system will include manual pull stations along with speaker/strobes along corridors and at egress exits. The system will be connected to the Fire Department via a radio master box. Generator annunciator panel and Fire pump controller (if installed) shall be tied to the fire alarm panel for monitoring.

The residential units will be equipped with speaker/strobe units with low frequency devices in sleeping areas. Local smoke detectors and combination carbon monoxide and smoke detectors will also be installed in all apartments. Bed shakers with a low frequency alarm will be included in the designated hearing impaired units. The low frequency alarm shall communicate with the local smoke detector.

Bi Directional Antenna system will be provided as per local Fire Department requirements for Fire Department Communication.

Two Way Communication System

A two way communication system will be provided per local AHJ requirements.