SECTION 1 – General Requirements A. General

- The intent of this specification is to give the tradesperson enough information to perform a complete job. In each Section the Contractor and/or Subcontractor are responsible for providing all labor, materials, and equipment to perform the full work in a complete and craftsman like manner.
- This contract is for a complete project. The Contractor and/or Subcontractors shall provide all materials, labor, tools, permits, equipment, staging, temporary and permanent utilities and insurance necessary to complete the construction as shown and as implied by these Contract Documents. All materials shall be new.

 Contract Documents include the agreement, drawings, specifications and all addenda incorporated prior to execution of the careement.

- ntract Documents include the agreement. Soution of the agreement.

 See documents have been prepared in accordance with the International Building Code, 2009 as well as ine Uniform Building Code. All work shall be in accordance with governing codes and standards. Clean, e, working conditions shall be maintained at all times. Safety precautions shall include such measures to
- proceed as quickly as possible. Each trade shall layout and coordinate their work to expedite process. All materials shall be good quality. Defective work shall be removed and all existing on
- and Subcontractors must visit the site and become familiar with nitting any bid proposals.

 I verified by the Contractor and/or Subcontractor. Contractor and/or Subcontractor.

 drawings, specifications and code, the following shall be the overrule the specifications, and the specifications shall overrule
- New contractor is a shall be field verified by the Contractor and/or Subcontractor.

 Should discrepancies be found between the drawings, specifications and code, the following shall be the order of clarification pricrity: The code shall overrule the specifications, and the specifications shall overrule the drawings, or whichever is most restrictive.

 At the end of each work day, clean the work area of rubbish and construction debris of any nature. Store materials so that they do not create natural pockets for papers or other combustible materials.

 A minimum of two (2) fire extinguishers shall be placed throughout the work area per floor. In general, the use of open flame devices is prohibited. In the event that operations are undertaken to which use of an open flame device is essential, the Subcontractor shall consult with the Owner, describing the circumstances necessitating the device. The Owner may require additional precautions as he/she deems necessary.

 Construction shouldn't begin prior to 7:00 am or extend beyond 5:00 pm, Monday thru Friday, unless the Owner and authority having jurisdiction has approved extended working hours.
- king hours.
- Provide a number of calendar days to complete the project. A flow chart for construction will be provided to the Owner and Architect upon award of the contract. Flow chart will be updated periodically as required by request of the Owner and Architect.
- ng. The Contractor and/or Subcontractor shall test all equipment, doors, windows, hardware, appliances, assure proper installation and operation and shall verify the same to the Owner in writing prior to turn the Owner.
- 'n es, Warranties, O&M Manual.
 Subcontractors shall provide the Owner with all Guarantees, warranties, operation and Subcontractors shall provide the Owner with all Guarantees, warranties, operation and Subcontractors and other literature provided with all equipment used in the project.
 In the equipment warranty period, defective equipment shall be repaired or replaced by sost to the owner.
- 1. Monitor quality control over suppliers, manufacturers, products, services, site conditions and workmanship to produce work of specified quality.

 2. Comply in full with manufacturers instructions including each step in sequence.

 3. Should manufacturers instructions conflict with Contract Documents or deviate from good construction practice, request clarification from Owner and Architect before proceeding.

 4. Comply with specified standards as minimum quality for the work, except when more stringent tolerances, codes or specified requirements indicate higher standards or more precise workmanship.

 5. Perform work by persons qualified to produce workmanship of specified quality.

 6. Secure products in a place with positive anchorage devices designed and sized to withstand stresses and vibration without physical distortion or disfigurement.
- Subcontractors shall provide all samples to the Owner as required by the drawings and
- e names of specific manufacturers specified herein are used as <u>a basis for the design</u> or quality desired. Substitutions of products by other manufacturers may be made approved by the Owner.

 y Electricity.
 y Electricity.
 ide portable generators or connect to temporary power service. Power consumption not disrupt Owners need for continuous service.
 ide power outlets for construction operations with branch wiring and distribution is. Provide flexible power cords as required.
 nanent convenience receptacles may be utilized during construction.

- Furnish temporary heat devices as required to maintain specified conditions for construction operations. Permanent building heating systems may be used during construction.

 Prior to operation of permanent facilities for temporary heating purposes, verify that installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for operations, maintenance and regular replacement of filters and page.
- intain appropriate minimum temperature as recommended by manufacturer. งry Ventilation.
- e enclosed areas as required in order to assist curing of materials, to disperse and to prevent accumulations of dust, fumes, vapors or gases. anitary Facilities.

 and maintain required facilities and enclosures.

- ovide barriers as required to prevent unauthorized entry to construction areas, to allow Owner's use of site and protect existing facilities and adjacent properties from damage im construction operations.

 on of installed work.

 ovide special protection where specified in individual specification sections and where ork is of a type or in position to be vulnerable to construction process damage. ohibit traffic or storage on waterproofed or roofed surfaces. When traffic or activity is cessary, obtain recommendations for protection from waterproofing or roofing material and for the construction.

- manufacturer.

 Prohibit traffic in landscaped areas.

 Maintain temporary services for construction until permanent services are availab Maintain temporary above grade utilities, equipment, facilities and materials prior substantial completion inspection.

 Clean and repair damage caused by installation or use of temporary work.

 Restore permanent facilities used during construction to specified condition.
- fer to allowance schedule at end of these specifications.
 nd Patching.
 t existing construction as required in order to accommodate new work.
 tch existing construction as required. Match new work, blend old and new
 pearance.
- vide temporary supports, and protection from elements and ongoing construction vage existing construction as directed.
- and electrical work, and the chanical and electrical work vocaninating trades, sequen
- ordinate the Work, including but not limited to, mechanical and electrical wollocontractors. Anticipate areas where the installation of mechanical and electrogested or difficult. The Contractor shall be responsible for coordinating tracethods and schedules.

 Ordinate the work of all trades and with work being performed by the Owner of Contractors. Owner's
- SECTION 2 SITE WORK
 A. Soils Report

- uilding
- Perform soils tests to determine soil type and bearing characteristics.
 Consult Owner and Architect if soil bearing capacity is less than 3000 p.s.i.
 Private water supply and sanitary systems.
 Install systems in accordance with applicable, Local, State and Federal requirements.
 Install sanitary system in location shown on approved Utilities plan.
 Contractor to review lateral line placement, for positive drainage, and coordinate with site plan.
 Owner and Architect.
 Protect any trees designated to remain on site and remove all vegetation from areas within the boutline. Remove all debris and any excess cut & fill material from the site.
 Install hay bales and silt fences for erosion control, as necessary, during construction.
 No burning of cleared and grubbed material will be allowed. Dispose of material off site. Transplegally dispose of materials off site.

- lay bales and silt fences for erosion control, as necessary, during construction. Jrade shall slope away from all structures. All entries must be ADA-AG compliant. tion drains & french drains: 4 inch minimum perforated pipe wrapped with filter fabric and a m of 12 inches of Class "A" gravel backfill; minimum slope 1% if recommended by Geotech report.
- Ill exposed exterior concrete to be air-entrained, 3000 psi. Ill exposed exterior concrete to be air-entrained, 3000 psi. Concrete driveways are to be 5 inches thick with 6 x 6 W1.4xW1.4 w.w.f. over 6 inch minimum crushed tone, compacted and rolled. It is concrete paving to be Class 1, Type 1-1 of Mass. Highway Specifications. Pavement to consist f 2 ½" thick lift of Binder Course and 1 ½" thick Top Course of bituminous concrete. Subbase to be 6 inch nick minimum crushed stone, compacted and rolled.

 Valkways to be minimum 4 inch concrete with 6 x 6 W1.4xW1.4 w.w.f. over 4 inch minimum gravel or sand ase. Walkway surface to receive non-slip broom finish.
- l design by landscape designer or General Contractor.
- omptly remove and dispose of all water from every source lork.
- SECTION 3 CONCRETE
- (Refer to structural drawings drawings will overrule these

- Grade beams and pile caps are to sit on pilings an grade). The Contractor shall verify soil bearing ca drawings for concrete grade beams and pile caps of Precast units are to be design/build per structural or Grade beams and pile caps per structural drawing. Unreinforced foundation walls shall support a max. Notch and block foundation walls as required for good to Clahe. and below frost level (48 inches, minimum, below finish capacity with geotechnical engineer. Refer to structural p system sizes and rebar requirements. all drawings and specifications.
- $\dot{\Omega}$
- 2. D. Rei 1.
- for all concrete walls having reinforcing steel in both faces. #3 and #4 bars to
- Concrete Slabs:

 1. Concrete slab concrete slabs are to be structural slabs per structural engineer's drawings and specifications.

 2. Install 15 mil polyethylene vapor barrier under all slabs.

 3. Floor slabs to have a steel troweled finish.

 Reinforcing Steel:

 1. Reinforcing steel to meet ASTM A-615, latest revisions with supplemental requirements. #3 and be GR-40; #5 and larger bars to be GR-60

 2. Provide #3 Z-BAR spacers 24" O.C. each way for all concrete walls having reinforcing steel in boundary Precast Units:

 1. Provide an Acid-Etched finish for Precast Finish Type I, color to be light gray.

 2. Provide an Exposed Aggregate surface retarder finish for Precast Finish Type 2, color to be med Refer to Owner to verify color.

 4. Submittals: Provide product data and samples.

SECTION 4 - MASONRY

(Refer to structural drawings and specifications for drawings will overrule these specifications.)

- Provide mortar for masonry systems as sched specified; M, masonry in contact with earth; O, Submittals: Provide product data and samples
- B. Unit Masonry:
 1. Exterior: Basis of Design, Ground face Type 2 G
 2. Provide reinforced concrete masonry walls at exter drawings.
 3. Provide normal weight concrete block on interior w reinforcing to be galvanized truss type. Special shad submittals: Provide product data and samples for a serior of the product data and sampl

- - with tight fits, true angles and secure anchorage. All fe and coated with a rust inhibitive primer. %" diameter pipe railing system, paint ed, refer to owner led by craftsmen to resemble, as closely as possible, ign is provided, design selection shall be made by Owner in

 - diction including applicable building codes. Iring formed steel stud exterior wall framing of materials and installation procedures: In ing; ASTM, AWS, and AISC.

SECTION 6 – WOOD AND PLASTICS

- (Refer to structural drawings for additional these specifications.) specification criteria.
- A. Wood framing general:
 1. Refer to Sheet S-0.0 for additional information. S
 2. All dimensional framing lumber shall be stress gramaximum moisture content. Lumber shall have a modulus of elasticity "E" of not less than 1,200,00
 3. All wood in contact with concrete or masonry shaled.
 4. All exposed framing to remain unfinished to be provide blocking, bracing and stiff backs as requisited blocking and framing under all beams and posts.
- heathing: All wall sheathing is to be covered with air infil material. Install per manufacturers recommer ration barrier, Tyvek or equal, prior to installing final cladding dations. All joints are to be taped.

- \Box

- SECTION 7 THERMAL AND MOISTURE PROTECTION

 A. Dampproofing and Waterproofing:

 1. Install bituminous dampproofing at all below grade walls. Dampproofing to be asbestos free, Karnak Chemical Company or equal. Install protection board over all dampproofed surfaces prior to back fill.

 2. Follow manufacturer's instructions for specific applications. W.R. Grace "Bituthene" line of products equal.

 3. Elevator Pits: Provide Paraseal LG bentonite sheet waterproofing membrane.
- Elevator Pits: Provide Paraseal LG bentonite sheet waterproofing membrane. Elevator Pits: Provide Paraseal LG bentonite sheet waterproofing membrane. Provide Tremco TREMproof 250GC self-leveling grade cold applied polyurethane waterproofing membrane between the retail and parking area floor system, minimum thickness to be 120 mils with a TREMDrain 1000PF drainage layer and bi-level drains as basis of design.

 Apply TREMproof 250 GC over the expansion joints overlapping onto the adjacent concrete as basis of

- oints within the garage to be Tremco Dymonic 100 as sealant as basis of design rated joints: Provide fire safing insulation or approved equal. icular Traffic Coating: Vulkem 350/345/346 system.

- ing Insulation:
 Refer to drawings for R value and location of insulation.
 Install perimeter rigid insulation where indicated. Rigid insulation is to be extruded polystyrene, Dow Chemical "Styrofoam" or equal.
 Spray Foam Insulation: Basis of Design GacoProFill FR6500R or equal sprayed in place insulation approval by owner. (R-3.93/jn. at >3.5").

 Fiberglass thermal insulation.

 a. Install unfaced fiberglass batts full width of stud/joist/rafter cavity.

 b. Install 4 mil polyethylene vapor barrier on conditioned space side of all fiberglass batts as revaled in scaled.

 According insulation:
- insulation:
 Install acoustic insulation around all bathrooms.
 Refer to drawings for other locations to receive acoustic insulation.

11 - EQUIPMENT le shop submittals for all equipment.

- ΩΩ4. wall to roof. Submittals: provide submittals indicating product data, colors and samples. Installer to have a minimum of 3 years experience. Aluminum: ASTM B209, 5005 alloy, temper as required for intended application.
- polyurethane. Color to match adjacent materials or unless noted otherwise.
- 7. skylights, and other roof accessories. Install step flashing at all intersections of roofs and brick or masonry.

SECTION 1

13 - SPECIAL CONSTRUCTION - NOT USED (Intentionally left blank)

12 - FURNISHINGS- NOT USED (Intentionally left blank)

- nts: Apply sealants to all joints, seams and intersections, both interior and exterior, and between dissimilar materials. Apply sealant around all penetrations of exterior walls, around all plumbing fixtures and between
- counters and walls.

 Provide sealant accessories such as backer rods, primers, etc.

 Provide sealant accessories such as backer rods, primers, etc.

 One part Non-acid curing Silicone: Joints in concrete, exterior joints at window heads, soffits, ceilings, (Not for use in joints to be field painted).

 (Not for use in joints to be field painted).

 One-part Polysulfide: Horizontal joints in concrete and all horizontal joints in paving subject to foot traffic. One-part Mildew resistant Silicone: Ceramic tile, all interior joints subject to moisture.

 One-part Mildew resistant Silicone: Ceramic tile, all interior joints subject to moisture.

 Pigmented small joint sealant: For joints on interior side of exterior walls too small to be caulked with able sealant.

 Acrylic Emulsion/Latex joint sealant: General purpose interior sealant for joints to receive painters finish. SECTION 14 – CONVEYING SYSTEMS

 A. Ecospace manufactured by Kone or similar.

 B. Provide two (2) machine room-less traction passenger elevator. Provide complete turnkey installation. Provide protection pads for each cab.

 C. Provide pre-engineered packaged elevator unit as listed: Passenger elevator of 3500 lb. capacity, center opening, handicap Accessible, speed – 150 FPM, remote room and provide Onboard Diagnostics or Diagnostics Tools:

 D. Finishes:

 1. Signalization: KSS-140

 2. Walls: 4623-60 (Graphic Nebula)

 3. Ceilings: LF-88

 4. Handrails: 2" round

 5. Flooring: Rubber coin grip sheet flooring, Black

 E. Provide shop submittal.
- 'nΝ mal barrier over spray on foam insulation:
 Provide a 15 minute thermal barrier as required by the Maine State Fire Marshal's Office to be installed over the spray on foam insulation to separate the foam from the habitable and occupiable space. Title 25 section 2447-B allows for ½" gypsum wallboard or equivalent to be installed to obtain this thermal barrier.
 Installed 15 minute thermal barrier per manufactures requirements.
 Installer shall provide property owner a certification of correct installation of this product. A copy of the product data sheet and the certification shall be kept by the owner for verification of compliance.

 Alternate materials (Coordinate with the Maine State Fire Marshal's Office)

 a. Thermax Sheathing complying with ASTM C 1289 Type 1 Class 2 or equal.

 b. Thermax White Finish complying with ASTM C 1289 Type 1 Class 2 or equal.

 c. Contractor to confirm additional products with the Maine State Fire Marshal's Office.

(Refer to Macriteria.)

anical drawings for plumbing, fire

protection and Heating Ventilation & Air Conditioning specification

SECTION 15 - MECHANICAL SYSTEMS

SECTION 16 - ELECTRICAL

(Refer to El

ectrical drawings for electrical specification criteria.)

vner to determine, based on overall budget, uired.

- SECTION 8 DOORS AND WINDOWS

 A. Doors:

 1. Exterior Doors: Pre-Hung in exterior doors should be a minimum and the should be a minimum and th Exterior Doors: Pre-Hung in exterior frames; refer to plans for sizes and types.
 All exterior doors should be a minimum "U" value of .036 or better.
 Interior Doors: Pre-Hung metal frames as noted, Refer to plans for sizes and types.
 Hardware: Contractor to consult Owner about style and quality of hardware. Contractor to rafter completion of construction and provide the owner with three sets of keys.
 ows:
 Refer to plans for sizes and types. All windows are to meet the Energy Star criteria.
 All window glass is to be insulated glass with low-e coating and argon gas with a U value of All glass is to be tempered.

- U. IMirrors:

 1. 1/4" polished plate glass mirror for Toilet room. Field measure and install with both mechanical fasteners mastic. Use of mastic alone is not permitted.
 All changes of glass and door specifications must be updated with a revised energy calculation at the cost to the contractor. Contractor is to notify Architect of any changes that may have occurred in relation to the architectural drawings.
- A. Gypsum Board: United States Gypsum (USG) or equal.

 1. ½" G.W.B. at all interior surfaces, use Type "X" fire rated gypsum at exterior walls. Use moisture resistant type wallboard in all bathrooms. Use cement backer board as substrate for tile in showers and bathtubs. Mud & tape all joints and finish smooth (no texture)

 B. Submittals: Provide product data and samples
 C. Paint. Follow manufacturer's recommendations for preparation and applications of paints and stains. Colors are to be selected by Owner. Prior to sanding, insure all surfaces are properly prepared, caulked, sanded, nail heads set and puttied, and weather conditions favorable to painting.

 1. Exterior:
- Metal: 1 coat rust inhibitive primer; 2 coats eggshell alkyd enamel; ICI paint or equal Masonry: 1 coat acrylic bonding primer; 2 coats flat acrylic latex; ICI paint or equal. EIFS (Exterior Insulation Finish System): Manufacturers' premixed polymer finish.
- Gypsum Wallboard: 1coat latex primer; 2 coats flat latex, ICI paint or equal Metal: 1 coat acrylic primer; 2 coats eggshell alkyd enamel.

a. Install all required trim and accessories to make a w. Gypsum Sheathing:
1. Standard: ASTM C117
2. Basis of Design: Dens-Glass Series Sheathing, G-P Gypsum Joint sealant by Tremco, Dymonic 100 with backer rod.

Iniformity of manufacturer: For each sign form and graphic image process indicate furnish products of a ingle manufacturer.

Jubmittals: Provide product Data and full size samples.

Jubmittals: Provide furnity of manufacturer: For each level of manufacturer furnity of manufacturer.

Jubmittals: Provide furnity of manufacturer: For each level of manufacturer.

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Jubmittals: Provide furnity of manufacturer.

Jubmittals: Provide fu

ARCHITECTS I I I

·break glass. ons: Refer to drawings. Coordinate number of fire extinguisher and cabinets with owner for the retail

oilet Accessories

Provide surface toilet tissue dispenser, grab bars and towel dispenser as indicated on drawings. No names or labels are permitted on exposed surfaces. Fabricate with tight seams and joints and piano hinges.

Submittals: Provide product data.

Toilet tissue dispenser: Surface mounted single roll dispenser. Size to accommodate core tissue to 5" diameter. Spindle less chrome plated zinc alloy construction with tension spring delivery control.

Paper towel dispenser: Surface mounted, stainless steel with hinged front equip with tumbler lockset. Provide pierced slots at sides as refill indicator. Not less than either 300 C-Fold or 400 multi-fold paper towels without need for special adaptors.

Grab bars: Stainless steel type grab bars with wall thickness not less than 18 (.050") gage and as follows:

a. Mounting: Exposed, manufacturer's standard nonslip texture.

b. Clearance: 1 ½" clearance between wall surface and inside face of grab bar.

c. Gripping surface: Manufacturer's nonslip texture.

Till towels dispenser as indicated on drawings. No names or labels and piano hinges.

A

Till towels without need for special adaptors.

Clearance: 1 ½" clearance between wall surface and inside face of grab bar.

Till towels without need for special adaptors.

Clearance: 1 ½" clearance between wall surface and inside face of grab bar.

Till towels without need for special adaptors.

Till towels 105 WILLOW BROOK AVENUE STRATHAM, NEW HAMPSHIRE 03885 Tel: (603) 770-2491 Fax: (603) 773-0238

1. "Dero" duplex rack galvanized surface mounted square tube construction. Each rack to accommodate thirty eight (38) bicycles. Refer to drawings for number of racks. Substituted manufacturer per Owner.

2. Installed per manufacturers requirements.

3. Finish: Galvanized per manufacturers requirements and as directed by owner.

Parking Systems:

1. Barrier Gate Operator: "DKS Doorking", or equal. 1601 operator for high use, ½ HP, G90 galvanized steel, painted white, fail-secure mechanical release method, wood arm, loop detectors as required, battery back-up in case of power outage and UL listed. Provide unit on a 4" slab island or as specified by Owner.

2. Ticket Dispenser: "TIBA" Parking Systems, Model MP-30 Ticket Dispenser, automatic ticket issue and proximity card use, coordinate with loop detectors, stainless steel housing, data line surge protector with heater, embedded industrial controller, RS-485 backed up by lithium ion battery, built-in clock, provide devise lock, TMS Software included and UL listed. Color: standard white AL 9010. Coordinate with loop detectors, stainless steel housing, data line surge protector with heater, embedded industrial controller, RS-485 backed up by lithium ion battery, built-in clock, full off line operation capability, TMS software included, and UL listed. Color: standard white AL 9010. Coordinate all requirements with owner.

ATE OF MAIL

midtown Portland

Somerset Street Street

Portland, \leq

Building

Specifications

MEP Engineer McCabe & Associates Structural Engineer Becker Engineering

McCabe & Associates

SCALE: February 8, 2015 SSUED / DRAWN BY

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2018

JOB NO: 5001

SHEET NUMBER

Permit Set