PROJECT MANUAL

AUGUST 26, 2019

RESTROOM RENOVATIONS

OLIVER STEDMAN GOVERNMENT CENTER
WAKEFIELD, RHODE ISLAND

SACCOCCIO & ASSOCIATES
ARCHITECTS

1085 PARK AVENUE
CRANSTON, RHODE ISLAND

PROJECT NUMBER 16177

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TITLE PAGE

Project:
Restroom Renovations
Oliver Stedman Government Center
4808 Tower hill Road
South Kingstown, Rhode Island

Owner:
State of Rhode Island
Department of Administration
Division of Capital Asset Management & Maintenance
1 Capitol Hill
Providence, RI 02908

Architect:
Saccoccio & Associates, Inc.
1085 Park Avenue
Cranston, Rhode Island 02910-3144
Tel: 401-942-7970
www.sa-architects.com
Contact: Vic LaPerche

MP/FP Engineer:
Akal Engineering Inc.
Mechanical and Plumbing Engineers
44 Central Street, Suite 4
Berlin, Massachusetts 01503

Electrical Engineer:
Associated Engineers
640 George Washington Highway
Building B, Suite 103
Lincoln, Rhode Island 02865

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INFORMATION AVAILABLE TO BIDDERS

1. EXISTING CONDITIONS

   A. Hazardous Material:
   Various suspected asbestos containing materials have been tested throughout the building and asbestos containing material has been detected in the construction area.

      1. Hazardous Material Report:
      A Hazardous Materials Inspection Report dated June 28, 2010 conducted for an earlier construction project is included following this page. It contains information on some materials that may be disturbed under this project. If existing materials are disturbed or required to be removed for the installation of new finishes, the hazardous material must be properly removed and disposed-of by the Contractor.

      2. Hazardous Material Report & Abatement Plan
      A Hazardous Materials Inspection report and Abatement Plan dated March 7, 2018 pertaining to materials directly affected by this project is included following this page. If existing materials are disturbed or required to be removed for the installation of new finishes, the hazardous material must be properly removed and disposed-of by the Contractor.

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HAZARDOUS MATERIAL REPORT

Submitted by
LSG, Inc.

LSG Inc.

303 Jefferson Blvd, Warwick, RI 02888-3845
Phone: (401) 751-6131 – Fax: (401) 454-0059

June 28, 2010

Lerner, Ladd + Bartels, Inc.
Attention: Nathan Langlais
236 Hope St
Providence, RI 02906

Phone: (401) 421-7715; Fax (401) 421-7718
email: nlanglais@llbarchitects.com

Reference: **Hazardous Materials Consulting Services for Renovation Project**
Project – Stedman Building, 4808 Tower Hill Rd, Wakefield, RI 02879

To whom it may concern:

Inspections were undertaken by **LSG** in accordance with our proposal of April 29, 2010, except that roof inspection and sampling was excluded from the scope of work.

A hazardous materials inspection was previously conducted and report prepared by another company for areas associated with the existing roof. Review of this other inspection and report were not reviewed by **LSG** and no comment can be made with respect to its completeness. This other inspection and report were accepted by the owner. Any scope that may affect areas of the roof shall be coordinated with the previous report, a copy of which may be obtained through the architect upon request.

BACKGROUND

This project comprises interior renovation of 3rd floor areas, the north 1st floor lobby, the 1st floor generator room, and 2nd floor office spaces based on your demolition drawings and comments regarding extent of work options. The scope of work included inspection for building materials that may be impacted by the project that are suspected of being **ACM**[1], and paints and varnishes suspected of containing Lead. Bulk samples were collected from representative materials suspected as containing asbestos and representative painted and varnished surfaces.

Visual inspections of representative light fixtures were made for the presence of PCB containing ballasts and Mercury in light tubes. Representative thermostats were inspected for the presence of Mercury. Visual inspection for manometers or gas meters (which may contain Mercury) were made in representative areas of the areas included in the scope of work.

Bulk samples from suspect **ACM** were not collected where renovation work may only be included as an alternate so as not to damage these materials, which cannot easily be matched by repairs.

[1] **ACM** = Asbestos Containing Material, defined as any material containing more than one percent (>1%) asbestos

INSPECTION AND SAMPLING - Asbestos

Visual inspection was conducted in representative locations of accessible project areas to identify types of materials suspected as containing asbestos.

Holes were made in representative areas to evaluate the presence of suspect hidden **ACM**; however, some hidden **ACM** materials may only be discovered during renovation and demolition activities. Representative wood doors were found to have holes in them and appeared to be solid wood core doors. No suspect **ACM** insulation materials (such as Vermiculite) were found in representative cavities inside interior walls.

The 2nd floor ceiling space below and including the underside of the 3rd floor concrete floor were visually inspected in representative areas for evidence of suspect **ACM** that may be impacted by vibration or renovation activity during work on the 3rd floor. No spray applied fire proofing was identified on the underside of the 2nd floor ceiling slab and 3rd floor roof deck in representative areas inspected. Fiberglass insulation on pipes with hard joint insulation [hard joint insulation is presumed to be ACM (**PACM**)] exist throughout the building, including inside walls, above ceilings and in 2nd floor and 1st floor utility rooms. *Caution must be exercised not to disturb any materials that may contain asbestos not included in the scope of work for abatement (i.e. removal, repair, enclosure or encapsulation), which must be sampled for laboratory analysis prior to being impacted in any way that may create airborne fiber release.*

A total of 70 bulk samples were collected between May 21 and 24, 2010 and a further 9 bulk samples on June 3, 2010, and submitted to the laboratory for analysis. Two samples of sheetrock joint compound that tested as 2% Chrysotile asbestos were re-analyzed by the laboratory using the 400-point count method and the asbestos content results were confirmed as > 1% (i.e. the sheetrock joint compound was confirmed as being **ACM**).

The 79 samples were grouped into 34 homogeneous material types (i.e. an area of materials that is uniform in color and texture) and typically also similar in type and use [see Table 1 below]. The samples of each homogeneous material were analyzed in numerical order with analysis stopped for each homogeneous group when a sample was found to **ACM** (i.e. positive stop). Once one sample in a homogeneous group tested positive, all the materials of the homogeneous group are considered to be **ACM**. The samples submitted were analyzed for asbestos by EMSL Analytical laboratory, a RI licensed analytical laboratory.

57 of the 79 samples were analyzed by **PLM**[2] (with 2 of these 57 samples confirmed as ACM by additional analysis by PLM with quantitation using 400-point count procedure); 4 of the 79 samples were analyzed by **PLM EPA NOB**[3]; and 18 of the 79 samples were not analyzed based on the stop positive criterion once one sample from the homogeneous was found to be ACM.

The laboratory sample analysis results and drawing annotated with sample locations are attached.

[2] **PLM** = Polarized Light Microscopy, EPA method 600/R-93/116
[3] **PLM EPA NOB** = PLM, EPA method 600/R-93/116 section 2.3 for Non-Friable Organically Bound Materials.

LSG Inc.

Table 1 – Homogeneous Materials

Sample #	Homogeneous Material – Description	Homogeneous #	Line
1, 33	Vinyl Floor Tile [VT] 12"x 12" (White with Blue + Purple flecks)	A	1
2, 34	Glue (yellow) under #1	B	2
2A	Mastic (black) under #2 on concrete	C	3
3, 35	Vinyl Cove Base [VC] (black) 4"	D	4
4, 9, 25	Glue (yellow) under #3	E	5
5, 5A, 10, 23, 28, 36, 59	Glue (brown) residue under #4 on sheetrock wall [Sh]	F	6
6, 16, 17, 29, 31, 43, 45, 60	Joint compound [JC] on Sh wall joint (taped) [+ screw heads]	G	7
7, 18, 32, 44, 46, 61	Sh under #6	H	8
8	Cloth wrap on fiber glass [FG] pipe insulation	I	9
11	VC (blue) 4"	J	10
12, 22, 27, 58	Glue (cream) under #11	K	11
13	Gray coating underside steel sink	L	12
14, 55	Glue (dark brown) under metal edge frame (pin-board) – on Sh	M	13
15, 42, 56	Glue daub (beige) under pin-board on Sh	N	14
19, 30	12"x 12" splined ceiling tile	O	15
20, 41	Debris (off-white) from roof panels on top of ceiling tiles	P	16
21	VC (gray) 4"	Q	17
24, 75	VT 12"x 12" (Light + dark beige flecks)	R	18
26	VC (beige) 4"	S	19
37, 38	Glue under carpet on concrete	T	20
39, 40	2' x 4' ceiling tile (small hole pattern)	U	21
47, 48, 49	Electrical wire insulation material (red/white/black) - light fixtures	V	22
50, 52, 54	Joint compound [JC] on Sh ceiling duct soffit joint [+ screw heads]	W	23
51, 53	Sh under #50	X	24
57	VC (brown) 4"	Y	25
62	Grout (white) between CWT (ceramic wall tile)	Z	26
63	Glue (orange) under #62 on Sh	AA	27
64	Caulk (white) between CWT and counter top	AB	28
65, 67	White skimcoat plaster – wall	AC	29
66, 68	Gray plaster under #65 on metal lathe	AD	30
69, 70	Silver foil/brown insulation paper, interior side of exterior brick wall behind Sh outside wall.	AE	31
71, 72	Brown 9" wide, thick glue material under wall chalk boards at vertical seam between adjacent chalk boards, on Sh wall.	AF	32
73, 74	Glue daub (gray) under wall chalk boards on Sh wall.	AG	33
76, 77	2' x 4' ceiling tile (large hole pattern)	AH	34

SIMILAR

Notes:

1. **Sample numbers that were ACM are shown above as (##);**
2. **Samples that were non-ACM but do contain some asbestos are shown above as [##]**

The laboratory analyses identified 7 of the 34 homogeneous materials as **ACM** (Table 2).

Table 2 – ACM

Line #	Suspect material identified as ACM	Homog #	Sample #	Asbestos Content	Quantity Estimates
1	Mastic (black) under VT and non-ACM glue on concrete (ground floor, elevator lobby G-00)	**C**	2A	5% Chrysotile	**270 SF**
2	Glue (brown) residue under 4" VC (different colors) and non-ACM glue on sheetrock walls <u>and on some wood cupboard bases</u> – {brittle in some areas}	**F**	5	2% Chrysotile	**4,575 LF** [2,200 LF to be demolished + 2,375 LF scrape off substrate]
3A 3B	Joint compound [JC] on Sh wall joint (taped) [+ screw heads] Joint compound [JC] on Sh ceiling duct soffit joint [+ screw heads]	**G** + **W**	6 + 50	1.25%-1.5% Chrysotile	**13,750 SF** (all sheetrock scheduled for demolition will be demolished as ACM)
4	Gray coating underside steel sink	**L**	13	10% Chrysotile	**1 EA**
5	Glue (dark brown) under metal edge frame (pin and chalk wall boards) – on sheetrock wall 8 ea 4'x 4' pin boards (6 ea are adjacent to chalk boards) 1 ea 6'x 4' pin board 6 ea 4'x 16' chalk boards	**M**	14	3% Chrysotile	**34 SF** [404 LF x 1" strip], most will be demolished with sheetrock walls.
6	Electrical wire insulation material (red/white/black) – 4' ceiling mounted light fixtures - each "set" of fixtures has a 10' BX leader with **ACM** wires to junction box above suspended ceiling. – 1' light fixtures mounted on wood panels in wall cabinetry, each with a 10' BX leader with **ACM** wires to junction box above suspended ceiling.	**V**	47	15% Chrysotile	**150 EA** 4' ceiling fixtures + **30 EA** 1' wall fixtures

Note: SF = Square Feet; LF = Linear Feet; EA = Each

The remaining 27 homogeneous materials were identified as **non-ACM** (i.e. as materials containing less than or equal to one percent (≤ 1%) asbestos).

However, additional sampling and analyses are required for some materials, and other materials are presumed to be ACM (**PACM**), as discussed below.

1. The following materials that are **<u>not</u>** scheduled to be impacted by the project were not sampled but are **PACM**. These items will be clarified in the project specification.
   - Hard joint insulation on fiberglass insulated pipe runs.
   - 9"x 9" VFT (Vinyl Floor Tile) and mastics.
   - Boiler exhaust breeching insulation materials.
   - Generator exhaust insulation (approximately 30 SF).

2. The following materials that may be included in the renovation project are **PACM**. Limited (informational samples) or no samples were collected from these materials as to protect them from damage in the case that they are not included in the scope of work. Additional sample collection and analysis is required prior to disturbing these materials. These items will be addressed in the forthcoming specification and abatement plan.
   - Masonry components such as brick, block and mortar and associated caulks – no samples collected (approximately 60 SF).
   - Plasters on metal lathe – 2 samples collected (#66 and #68) above the ceiling (similar wall plaster materials but in a different area to the bathroom wall that may be demolished) tested as <1% Chrysotile asbestos. Additional sample collection in the actual renovation area and analysis using PLM point counting method is required.
   - Steel toilet partition interior materials – no samples collected.
   - Ceramic wall tile (CWT) grout, setting bed or glues and caulk – 3 samples collected in room 237B (similar wall materials to the bathroom wall that may be demolished) tested as **ND**[4]. Additional sample collection and analysis for asbestos of ceramic wall and floor associated materials in the actual renovation area is required.
   - Cloth wrap on fiberglass pipe insulation – 1 sample (#8) tested as **ND**. Additional sample collection and analysis for asbestos is required if this type of material is to be disturbed.
   - Vapor barrier materials at concrete slabs and foundations – none visually identified at the time of inspection.
   - Roofing materials [refer to inspection previously conducted and report prepared by another company for areas associated with the existing roof – available through the architect].
   - Any other materials not sampled.

[4] **ND** = None Detected (i.e. no asbestos detected)

INSPECTION AND SAMPLING - Lead

Sampling and laboratory analysis was undertaken for Lead in paint on sheetrock walls, steel door frames, metal light fixtures, metal ceiling grids, steel cupboard bi-fold doors, steel and wood unit ventilator covers, generator room concrete walls and ceiling; and varnish on doors and built-in cupboards.

22 paint samples were collected and submitted to EMSL Analytical laboratory for analysis for Total Lead by Flame AAS (Atomic Absorption Spectrophotometry, EPA method SW 846 3050B/7000B). No TCLP[5] analysis was included, which is required from representative materials in each dumpster being transported for disposal. Rhode Island Resource Recovery Corporation indicated in our telephone conversation that these types of materials with some lead in paint or varnish as indicated in Table 3 below, are typically accepted for disposal at their facility as C&D debris (except for the painted steel stair components).

The laboratory sample analysis results and drawing annotated with sample locations are attached. The sample and analytical results are summarized in Table 3.

The EPA standard for classifying paint as LBP[6] is 0.5% by weight.

Table 3 – LEAD IN PAINT AND VARNISH

Sample #	Paint description	Homogeneous group	Total Lead (% wt)	Line #
1, 16, 19	White and off-white	Metal unit ventilator covers and metal horizontal chases	< 0.010 to 0.077	1
6	Gray	Wood unit ventilator covers	0.011	2
2, 5, 7, 8, 10, 15, 18, 20, 21	White; cream; light beige; green; light blue; blue; and yellow	Paint on sheetrock walls and ceiling duct soffit (no plaster skimcoats)	< 0.010 to 0.042 and 0.083 ground floor	3
9, 13	Light beige and off-white top coat and red undercoat	Steel door frames	0.14 to 0.18	4
3	Black top coat and red undercoat	Steel stair components	0.64	5
4, 12	Brown/clear varnish	Varnish on wood door and wood cupboards	0.095 (door) 0.27 (cupboard)	6
11	White	Metal ceiling tile grid	< 0.039	7
14	White	Metal ceiling light fixture	< 0.029	8
17	White	Metal bi-fold cupboard door	< 0.011	9
22	White- peeling	Paint on concrete walls and ceiling – generator room	0.053	10

Notes: **(1) 0.015 % wt = 150 ppm (x by 10,000);**
(2) Results that exceeded the 0.5% weight EPA standard are shown above as ##

Only 1 of the 22 samples was found to have lead above 0.5% weight – sample #3 (Black top coat and red undercoat on Steel stair components). Even though the remaining 21 samples were

[5] **TCLP** = Toxicity Characteristic Leaching Protocol
[6] **LBP** = Lead Based Paint

found to have < 0.5% wt total lead, they do still contain lead and renovation activities including drilling, grinding and sanding can cause airborne lead fumes and dust as well as settled residual dust that contains lead.

RIDOH regulations[7] (which are more stringent than EPA HUD regulations) would apply to this facility, which would be classified as a Regulated Facility, if it has residential rental units; it is a single family residence or owner occupied dwelling units in which children under age 6 reside or are likely to reside in the next 12 months; it is a licensed child care facility whose primary purpose is or will be to educate or care for children under the age of 6; and it is a property in which a child under six years of age resides or is expected to reside within the next 12 months for 14 or more days per year. If this is a regulated facility, the treatment of lead in paint including renovation activities, must be conducted in accordance with these RIDOH as well EPA regulations.

INSPECTION – PCB light fixture ballasts; Mercury fluorescent light tubes; Mercury in thermostats, manometers and gas meters.

Visual inspections of representative light fixtures were made for the presence of ballasts labeled as "no-PCB" and Mercury in light tubes.

- Two main types of fluorescent light fixtures were identified – 4' ceiling fixtures in painted metal housings either flush or ceiling surface mounted; and 1' wall mounted fluorescent light fixtures in wood cabinets in individual offices. The representative 4' light fixtures inspected had "no-PCB" labeled ballasts. The ballasts in the representative 1' wall mounted fluorescent light fixtures in wood cabinets had no labels indicating the presence or absence of PCB.
- The fluorescent tubes used in the 4' light fixtures were mostly Philips T8 ALTO series lamps which typically have 1.7 mg to 3.5 mg of Mercury. The 1' fixtures typically have Sylvania F15T12 CW lamps, which also are likely to contain small amounts of Mercury.

Visual inspections were made for thermostats, manometers and gas meters that may contain Mercury.

- No manometers were found in representative project areas inspected.
- No gas meters or regulators were found in representative project areas inspected.
- Wall mounted, thermostats/pneumatic damper and unit ventilator controllers were identified in most rooms. Plastic covers were removed on representative thermostats. No visible signs of Mercury including float switches were found. The thermostats appeared to be bi-metal strip type controllers. Destructive inspection would have to be undertaken to determine if these units have interior components that contain Mercury, which would be damaging beyond repair.

No sampling and laboratory analysis of any other materials or sample analysis by other methods was included in the scope of work.

[7] Rhode Island Department of Health - Rules and Regulations for Lead Poisoning Prevention [R23-24.6-PB]

RECOMMENDATIONS

1. **ACM and PACM** were identified by inspection and sampling in the areas scheduled for renovation work. Based on information provided regarding the extent of the renovation work and the budgetary constraints, some of the ACM and PACM will remain (e.g. 9" x 9" VT and mastics; black mastic under non-ACM 12" x 12" VFT; some old brown glue on sheetrock walls or wood cupboard bases under VC); some will remain undisturbed (e.g. hard joints on fiberglass pipe insulation runs; boiler exhaust breeching insulation; generator exhaust insulation; and some sheetrock walls with ACM joint and nail-head compound); and most will be removed (e.g. old brown glue on sheetrock walls and some wood cabinets bases under VC ; sheetrock with joint and nail-head compound; steel sink with anti-sweat coating; chalk/pin board frame glue on sheetrock walls; electrical wire in ceiling and wall fluorescent light fixtures). Other materials will have additional sampling and analysis to determine asbestos content (CWT/CFT grout and glues/setting beds; wall plasters; masonry and concrete slab components and caulks; bathroom steel wall partition interior materials).

   The quantities of these materials exceed the RIDOH quantities above which as asbestos abatement plan is required to be prepared and submitted for their review and approval prior to undertaking the abatement work. The General Contractor Shall provide unit costs for the estimated quantities of removal per Table 4 which summarizes anticipated ACM abatement removal quantities based on the following assumptions being undertaken by the General Contractor per demolition activities prior to hazardous materials abatement:

   a. Light fixtures have been removed from the ceilings and wood wall cabinetry and wires disconnected from the junction boxes above the suspended ceilings. (The asbestos abatement contractor will remove the ACM wire insulation from the light fixtures and 10' BX leaders).
   b. Suspended ceilings and grids have been removed. (The asbestos abatement contractor will be responsible for positive engineering controls and protecting and/or cleaning and encapsulation the steel ceiling joists and deck and other components within the ceiling spaces).
   c. Furniture, fixtures and carpets have been removed (except any wood cabinet bases that have VC attached with potential for ACM brown glue, which will be removed by the asbestos abatement contractor).

   The General Contractor shall carry the quantities in Table 4 below as a guideline for the scope of hazardous materials work but shall not be limited to the quantities herein. The owner, architect and their consultants are not responsible for additional sampling and testing that may be required for unforeseen conditions as described in specification section 01113 and all related documents, sections, reports and procedures.

Table 4 – Anticipated ACM Abatement Removal Quantities

Line #	Suspect material identified as ACM	Quantity Estimates
1	Mastic (black) under VT and non-ACM glue on concrete (ground floor, elevator lobby G-00)	**Excluded**
2	Glue (brown) residue under 4" VC (different colors) and non-ACM glue on sheetrock walls and on some wood cupboard bases – {brittle in some areas}	**4,575 LF** [2,200 LF to be demolished + 2,375 LF scrape off substrate]
3A 3B	Joint compound [JC] on Sh wall joint (taped) [+ screw heads] Joint compound [JC] on Sh ceiling duct soffit joint [+ screw heads]	**13,750 SF** (all sheetrock scheduled for demolition will be demolished as ACM)
4	Gray coating underside steel sink	**1 EA**
5	Glue (dark brown) under metal edge frame (pin and chalk wall boards) – on sheetrock wall 8 ea 4'x 4' pin boards (6 ea are adjacent to chalk boards) 1 ea 6'x 4' pin board 6 ea 4'x 16' chalk boards	**34 SF** [404 LF x 1" strip], most will be demolished with sheetrock walls.
6	Electrical wire insulation material (red/white/black) – 4' ceiling mounted light fixtures each "set" of fixtures with a 10' BX leader with **ACM** wires to junction box above suspended ceiling. – 1' light fixtures mounted on wood panels in wall cabinetry, each with a 10' BX leader with **ACM** wires to junction box above suspended ceiling.	**150 EA** 4' ceiling fixtures with BX leaders + **30 EA** 1' wall fixtures with BX leaders
7	Ceramic wall tiles with grout and setting bed and associated plasters on metal lathe (65 SF); and ceramic floor tiles with grout and setting bed (35 SF) –bathroom.	**100 SF**

2. Levels of **lead in paint** were lower than the EPA standard for LBP of 0.5% wt by AAS for all components sampled except the paints on steel stair components. However, there is some lead in the paint on various components scheduled to be demolished. It is recommended that positive engineering controls be used by appropriately trained workers (including EPA compliant lead renovator/remodeler training) using appropriate personal protective equipment and respiratory protection and who are being medically monitored. Procedures to be used by the contractor must be reviewed by the architect and owner in the form of a site specific health and safety plan (SSHSP) prior to commencement of work. Air sampling outside work areas during renovation and demolition work that impacts painted surfaces should be conducted to verify no lead dust is migrating to adjacent areas (as well as areas above or below work areas) that may be occupied by unprotected building occupants and visitors. Work area clean up techniques should include visual inspection for visible residual dust, HEPA vacuuming and wet wiping with TSP or equivalent procedures. Collection of dust wipe samples and laboratory analysis for lead after completion of renovation activities may be considered, however the choice of compliance standards for acceptance as adequately clean can be challenging and cost prohibitive.

Estimated quantity of paint containing lead (black paint with red paint undercoat) on steel stair components that will be impacted by actions such as addition of steel balusters – i.e. subjected to actions such as sanding, drilling, grinding or burning that will cause release of lead dusts and fumes.	**50 SF**

3. **Fluorescent light fixture ballasts** that are NOT labeled as "no-PCB" must be removed and disposed of as PCB containing ballasts. All "no-PCB" labeled light ballasts must be disposed of appropriately. There are approximately 150 ceiling mounted 4' fluorescent light fixtures that contain ballasts labeled as "no-PCB" based on representative light fixture inspections. There are approximately 30 wall mounted 1' fluorescent light fixtures that contain ballasts with no indication of PCB content based on representative light fixture inspection. These light ballasts must be disposed of as PCB containing ballasts.
4. **Mercury fluorescent light tubes and CFL (Compact Fluorescent) bulbs** must be removed and disposed of appropriately. There are approximately 300, 4' fluorescent light tubes and 30, 1' fluorescent light tubes. No CFL bulbs were found at the time of inspection.
5. Roofing materials were excluded from the scope of work – coordinate with architect for the previous roof inspection report.
6. Coordinate with the abatement plan prepared and submitted to RIDOH for approval prior to commencement on any work that would disturb these materials. The ACM must be abated by a RIDOH licensed asbestos abatement contractor in accordance with all applicable federal and state rules and regulations, including but not limited to RIDOH, OSHA and EPA.

Reasonable efforts were made to discover hidden ACM. However, there may be additional inaccessible or hidden ACM that may only be discovered during renovation activities. Some materials may have to be sampled and analyzed for asbestos prior to inclusion in the scope of renovation or demolition. Renovation and demolition work must stop immediately upon discovery of previously hidden additional materials that are suspected of being ACM. The owner must be notified immediately in order to test these suspect materials and quantify any additional ACM that would then have to be removed in accordance with all applicable regulations.

This report shall be used in conjunction with the specification and asbestos abatement plan and shall only be used as a guideline for removal of identified or suspected hazardous materials.

Very truly yours,

LSG Inc.

Kenneth Davis
Environmental Scientist

r100628-insprpt-stedman

Attachment – Appendix

- Sample locations and laboratory reports

APPENDIX

- Sample Location Drawing
- Laboratory Sample Analysis Reports

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 858-4800 Fax: (856) 786-5974 Email: westmontasblab@EMSL.com

Attn: **Ken Davis**
LSG, Inc.
PO Box 40593
Providence, RI 02940-0593

Fax: Phone: (401) 751-6131

Project: **STEDMAN BLDG, 4808 TOWER HILL RD, WAKEFIELD, RI 02879**

Customer ID: LSGI50
Customer PO: MPA194
Received: 06/04/10 9:10 AM
EMSL Order: 041011752

EMSL Proj:
Analysis Date: 6/5/2010

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
69 *041011752-0001*	ROOM 236	Brown/Silver Fibrous Heterogeneous	80%	Cellulose	20%	Non-fibrous (other)	**None Detected**
70 *041011752-0002*	ROOM 236	Brown/Silver Fibrous Heterogeneous	80%	Cellulose	20%	Non-fibrous (other)	**None Detected**
75 *041011752-0007*	ROOM 236	Beige Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
76 *041011752-0008*	ROOM 227	White/Beige Fibrous Heterogeneous	50% 40%	Cellulose Min. Wool	10%	Non-fibrous (other)	**None Detected**
77 *041011752-0009*	ROOM 227	White/Beige Fibrous Heterogeneous	50% 40%	Cellulose Min. Wool	10%	Non-fibrous (other)	**None Detected**

Analyst(s)

Jerry Cherian (5)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. The limit of detection as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. The test results meet all NELAC requirements unless otherwise specified.
Samples analyzed by EMSL Analytical, Inc. 200 Route 130 North, CinnaminsonNJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036

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EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 858-4800 Fax: (856) 786-5974 Email: westmontasblab@EMSL.com

Attn: **Ken Davis**
LSG, Inc.
PO Box 40593
Providence, RI 02940-0593

Fax: Phone: (401) 751-6131

Project: **STEDMAN BLDG, 4808 TOWER HILL RD, WAKEFIELD, RI 02879**

Customer ID: LSGI50
Customer PO: MPA194
Received: 06/04/10 9:10 AM
EMSL Order: 041011752

EMSL Proj:
Analysis Date: 6/5/2010

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
71 *041011752-0003*	ROOM 232	Brown Non-Fibrous Homogeneous	100.0	None	No Asbestos Detected
72 *041011752-0004*	ROOM 232	Brown Non-Fibrous Homogeneous	100.0	None	No Asbestos Detected
73 *041011752-0005*	ROOM 232	Gray Non-Fibrous Homogeneous	99.2	None	<0.8% Chrysotile
74 *041011752-0006*	ROOM 232	Gray Non-Fibrous Homogeneous	99.2	None	<0.8% Chrysotile

Analyst(s)
Jerry Cherian (4)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. This report contains data that is (are) not covered by the NVLAP accreditation. Samples received in good condition unless otherwise noted.
Samples analyzed by EMSL Analytical, Inc. 200 Route 130 North, CinnaminsonNJ NYS ELAP 10872

THIS IS THE LAST PAGE OF THE REPORT.

041011752

041011752

LSG, Inc.

PO Box 40593, Providence, RI 02940
Telephone: (401) 751-6131 Fax: (401) 454-0059

SAMPLE DATA SHEET

PROJECT: Stedman Building, 4808 Tower Hill Rd, Wakefield, RI 02879 — PO #: MPA194

Lerner, Ladd + Bartels, Inc. — RI STATE CONTRACT

SAMPLED BY: K. Davis — PROJECT #:

DATE: 6.3.10 — PAGE 1 OF 1

Line	Sample #	Description	Location	Notes	Homog # / Pos. Stop #	
1	69	BROWN PAPER ON INT SIDE OF EXT SILVER FOIL	Room 236	PLM	AE	1
2	70	(SAME #69)		PLM	AE	1
3	71	BROWN 9" WIDE, THICK GLUE UNDER CHALK BOARD	Room 232	PLM EPA NOB	AF	2
4	72	(SAME #71)			AF	2
5	73	GRAY GLUE DABS UNDER CHALK BOARD ON Sh.			AG	3
6	74	(SAME #73)			AG	3
7	75	(SAME #24) 12x12 VT (LT + DARK BEIGE PLUS)	Room 236	PLM	R	
8	76	2x4 SAT CEILING PANEL (LARGE HOLE PATT)	Room 227	PLM	AH	4
9	77	(SAME #76)		PLM	AH	4
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30						

SAMPLES ACCEPTED FOR ANALYSIS BY EMSL ANALYTICAL INC

10 JUN -4 AM 10:07 RECEIVED EMSL ANALYTICAL INC

COMMENTS: (1) Type of Analysis = PLM for Asbestos (EPA/600/R-93/116) 69,70,75,76,77 ; PLM EPA NOB #71,72,73,74
(2) TAT = 24 hours; (3) EMSL LabConnect posting only.
(4) Total number of samples submitted = 9 - POSITIVE STOP #4 SHOWN

RELINQUISHED BY: (SIGNATURE)	DATE	RECEIVED BY: (SIGNATURE)	DATE
	6/3/10		6.4.10

bsamplog-plm

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 858-4800 Fax: (856) 786-5974 Email: westmontasblab@EMSL.com

Attn: **Ken Davis**
LSG, Inc.
PO Box 40593
Providence, RI 02940-0593

Fax: Phone: (401) 751-6131

Project: **STEDMAN BUILDING, 4808 TOWER HILL RD, WAKEFIELD, RI**

Customer ID: LSGI50
Customer PO:
Received: 05/25/10 9:00 AM
EMSL Order: 041010910

EMSL Proj:
Analysis Date: 6/6/2010

Test Report: Asbestos Analysis of Bulk Material via EPA 600/R-93/116. Quantitation using 400 Point Count Procedure.

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
6 *041010910-0008*	GROUND FLOOR-LOBBY	White Non-Fibrous Homogeneous		98.50% Non-fibrous (other)	**1.50% Chrysotile**
50 *041010910-0052*	2ND FLR-230	Beige Non-Fibrous Homogeneous		98.75% Non-fibrous (other)	**1.25% Chrysotile**

Report Amended: 6/7/2010 12:28:22 PM Replaces the Inital Report . Reason Code: Data Entry-Sample IDs corrected

Analyst(s)
Steve Grise (2)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

Disclaimer:Some samples may contain asbestos fibers present in dimensions below PLM resolution limits. The limit of detection as stated in the method is 0.25%. EMSL Analytical Inc suggests that samples reported as <0.25% or none detected undergo additional analysis via TEM. The above test report relates only to the items tested. This report may not be reproduced, except in full, without written approval of EMSL Analytical Inc. This test report must not be used by the client to claim product endorsement by NVLAP or any agency of the United States Government. EMSL Analytical Inc., bears no responsibility for sample collection activities, analytical method limitations, or the accuracy of results when requested to separate layered samples. EMSL Analytical Inc., liability is limited to the cost of sample analysis.The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.
Samples analyzed by EMSL Analytical, Inc. 7 Constitution Way, Suite 107, WoburnMA

THIS IS THE LAST PAGE OF THE REPORT.

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 858-4800 Fax: (856) 786-5974 Email: westmontasblab@EMSL.com

Attn: **Ken Davis**
LSG, Inc.
PO Box 40593
Providence, RI 02940-0593

Fax: Phone: (401) 751-6131

Project: **STEDMAN BUILDING, 4808 TOWER HILL RD, WAKEFIELD, RI**

Customer ID: LSGI50
Customer PO:
Received: 05/25/10 9:00 AM
EMSL Order: 041010910

EMSL Proj:
Analysis Date: 5/28/2010

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1 *041010910-0001*	GROUND FLOOR-LOBBY	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
2 *041010910-0002*	GROUND FLOOR-LOBBY	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
2A *041010910-0003*	GROUND FLOOR-LOBBY	Black Non-Fibrous Homogeneous		95% Non-fibrous (other)	**5% Chrysotile**
3 *041010910-0004*	GROUND FLOOR-LOBBY	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
4 *041010910-0005*	GROUND FLOOR-LOBBY	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
5 *041010910-0006*	GROUND FLOOR-LOBBY	Brown Non-Fibrous Homogeneous		98% Non-fibrous (other)	**2% Chrysotile**
5A *041010910-0007*	GROUND FLOOR-LOBBY				**Stop Positive (Not Analyzed)**

Analyst(s)

Steve Grise (52)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. The limit of detection as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. The test results meet all NELAC requirements unless otherwise specified.
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EMSL Analytical, Inc.
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Attn: **Ken Davis**
LSG, Inc.
PO Box 40593
Providence, RI 02940-0593

Fax: Phone: (401) 751-6131

Project: **STEDMAN BUILDING, 4808 TOWER HILL RD, WAKEFIELD, RI**

Customer ID: LSGI50
Customer PO:
Received: 05/25/10 9:00 AM
EMSL Order: 041010910

EMSL Proj:
Analysis Date: 5/28/2010

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
6 *041010910-0008*	GROUND FLOOR-LOBBY	White Non-Fibrous Homogeneous			98%	Non-fibrous (other)	**2% Chrysotile**
7 *041010910-0009*	GROUND FLOOR-LOBBY	Gray Fibrous Heterogeneous	15% 5%	Cellulose Glass	80%	Non-fibrous (other)	**None Detected**
8 *041010910-0010*	GROUND FLOOR-LOBBY	Yellow Fibrous Homogeneous	85%	Cellulose	15%	Non-fibrous (other)	**None Detected**
9 *041010910-0011*	GROUND FLOOR-LOBBY	Yellow Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
10 *041010910-0012*	GROUND FLOOR-LOBBY						**Stop Positive (Not Analyzed)**
11 *041010910-0013*	2ND FLR-233A	Blue Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
12 *041010910-0014*	2ND FLR-233A	Tan Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**

Analyst(s)

Steve Grise (52)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 858-4800 Fax: (856) 786-5974 Email: westmontasblab@EMSL.com

Attn: **Ken Davis**
LSG, Inc.
PO Box 40593
Providence, RI 02940-0593

Fax: Phone: (401) 751-6131

Project: **STEDMAN BUILDING, 4808 TOWER HILL RD, WAKEFIELD, RI**

Customer ID: LSGI50
Customer PO:
Received: 05/25/10 9:00 AM
EMSL Order: 041010910

EMSL Proj:
Analysis Date: 5/28/2010

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
13 *041010910-0015*	2ND FLR-201A	Gray Non-Fibrous Homogeneous			90%	Non-fibrous (other)	**10% Chrysotile**
14 *041010910-0016*	GROUND FLOOR CORRIDOR-WEST OF 229D	Brown Non-Fibrous Homogeneous			97%	Non-fibrous (other)	**3% Chrysotile**
15 *041010910-0017*	GROUND FLOOR CORRIDOR-WEST OF 229D	Tan Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
16 *041010910-0018*	GROUND FLOOR CORRIDOR-WEST OF 229D						**Stop Positive (Not Analyzed)**
17 *041010910-0019*	GROUND FLOOR CORRIDOR-WEST OF 229D-ABOVE ELEC PANE						**Stop Positive (Not Analyzed)**
18 *041010910-0020*	GROUND FLOOR CORRIDOR-WEST OF 229D-ABOVE ELEC PANE	Gray Fibrous Heterogeneous	15% 5%	Cellulose Glass	80%	Non-fibrous (other)	**None Detected**

Analyst(s)

Steve Grise (52)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 858-4800 Fax: (856) 786-5974 Email: westmontasblab@EMSL.com

Attn: **Ken Davis**
LSG, Inc.
PO Box 40593
Providence, RI 02940-0593

Fax: Phone: (401) 751-6131

Project: **STEDMAN BUILDING, 4808 TOWER HILL RD, WAKEFIELD, RI**

Customer ID: LSGI50
Customer PO:
Received: 05/25/10 9:00 AM
EMSL Order: 041010910

EMSL Proj:
Analysis Date: 5/28/2010

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
19 *041010910-0021*	GROUND FLOOR CORRIDOR-WEST OF 229D-ABOVE ELEC PANE	White Fibrous Heterogeneous	65%	Min. Wool	35%	Non-fibrous (other)	**None Detected**
20 *041010910-0022*	GROUND FLOOR CORRIDOR-WEST OF 229D-ABOVE ELEC PANE	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
21 *041010910-0023*	GROUND FLOOR CORRIDOR-WEST OF 229D @ DOOR TO LOBBY	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
22 *041010910-0024*	GROUND FLOOR CORRIDOR-WEST OF 229D @ DOOR TO LOBBY	Yellow Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
23 *041010910-0025*	GROUND FLOOR CORRIDOR-WEST OF 229D @ DOOR TO LOBBY						**Stop Positive (Not Analyzed)**

Analyst(s)

Steve Grise (52)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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Customer ID: LSGI50
Customer PO:
Received: 05/25/10 9:00 AM
EMSL Order: 041010910

EMSL Proj:
Analysis Date: 5/28/2010

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
24 *041010910-0026*	2ND FLR-216	Beige Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
25 *041010910-0027*	2ND FLR-216	Yellow Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
26 *041010910-0028*	2ND FLR-216	Beige Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
27 *041010910-0029*	2ND FLR-216	Beige Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
28 *041010910-0030*	2ND FLR-216						**Stop Positive (Not Analyzed)**
29 *041010910-0031*	2ND FLR-216						**Stop Positive (Not Analyzed)**
30 *041010910-0032*	2ND FLR-216	White Fibrous Homogeneous	65%	Min. Wool	35%	Non-fibrous (other)	**None Detected**

Analyst(s)

Steve Grise (52)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 858-4800 Fax: (856) 786-5974 Email: westmontasblab@EMSL.com

Attn: **Ken Davis**
LSG, Inc.
PO Box 40593
Providence, RI 02940-0593

Fax: Phone: (401) 751-6131

Project: **STEDMAN BUILDING, 4808 TOWER HILL RD, WAKEFIELD, RI**

Customer ID: LSGI50
Customer PO:
Received: 05/25/10 9:00 AM
EMSL Order: 041010910

EMSL Proj:
Analysis Date: 5/28/2010

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
31 *041010910-0033*	2ND FLR-216						**Stop Positive (Not Analyzed)**
32 *041010910-0034*	2ND FLR-216	Gray Fibrous Heterogeneous	15% 5%	Cellulose Glass	80%	Non-fibrous (other)	**None Detected**
33 *041010910-0035*	2ND FLR-238A	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
34 *041010910-0036*	2ND FLR-238A	Yellow Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
35 *041010910-0037*	2ND FLR-238A	Black Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
36 *041010910-0038*	2ND FLR-238A						**Stop Positive (Not Analyzed)**
37 *041010910-0039*	2ND FLR-238A	Brown Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**

Analyst(s)

Steve Grise (52)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 858-4800 Fax: (856) 786-5974 Email: westmontasblab@EMSL.com

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LSG, Inc.
PO Box 40593
Providence, RI 02940-0593

Fax: Phone: (401) 751-6131

Project: **STEDMAN BUILDING, 4808 TOWER HILL RD, WAKEFIELD, RI**

Customer ID: LSGI50
Customer PO:
Received: 05/25/10 9:00 AM
EMSL Order: 041010910

EMSL Proj:
Analysis Date: 5/28/2010

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
38 *041010910-0040*	2ND FLR-219	Brown Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
39 *041010910-0041*	2ND FLR-229D	Gray/White Fibrous Heterogeneous	60%	Min. Wool	40%	Non-fibrous (other)	**None Detected**
40 *041010910-0042*	2ND FLR-229A	Gray/White Fibrous Heterogeneous	60%	Min. Wool	40%	Non-fibrous (other)	**None Detected**
41 *041010910-0043*	2ND FLR-229A	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
42 *041010910-0044*	2ND FLR-224	Tan Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
43 *041010910-0045*	2ND FLR-208						**Stop Positive (Not Analyzed)**
44 *041010910-0046*	2ND FLR-208	Gray Fibrous Heterogeneous	15% 5%	Cellulose Glass	80%	Non-fibrous (other)	**None Detected**

Analyst(s)

Steve Grise (52)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 858-4800 Fax: (856) 786-5974 Email: westmontasblab@EMSL.com

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Providence, RI 02940-0593

Fax: Phone: (401) 751-6131

Project: **STEDMAN BUILDING, 4808 TOWER HILL RD, WAKEFIELD, RI**

Customer ID: LSGI50
Customer PO:
Received: 05/25/10 9:00 AM
EMSL Order: 041010910

EMSL Proj:
Analysis Date: 5/28/2010

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
45 *041010910-0047*	2ND FLR-230						**Stop Positive (Not Analyzed)**
46 *041010910-0048*	2ND FLR-230	Gray Fibrous Heterogeneous	15% 5%	Cellulose Glass	80%	Non-fibrous (other)	**None Detected**
47 *041010910-0049*	2ND FLR-230	Red Fibrous Homogeneous	35%	Cellulose	50%	Non-fibrous (other)	**15% Chrysotile**
48 *041010910-0050*	2ND FLR-230						**Stop Positive (Not Analyzed)**
49 *041010910-0051*	2ND FLR-230						**Stop Positive (Not Analyzed)**
50 *041010910-0052*	2ND FLR-230	Beige Non-Fibrous Homogeneous			98%	Non-fibrous (other)	**2% Chrysotile**
51 *041010910-0053*	2ND FLR-230	Brown/Gray Fibrous Heterogeneous	15%	Cellulose	85%	Non-fibrous (other)	**None Detected**

Analyst(s)

Steve Grise (52)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. The limit of detection as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. The test results meet all NELAC requirements unless otherwise specified.
Samples analyzed by EMSL Analytical, Inc. 7 Constitution Way, Suite 107, WoburnMA

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 858-4800 Fax: (856) 786-5974 Email: westmontasblab@EMSL.com

Attn: **Ken Davis**
LSG, Inc.
PO Box 40593
Providence, RI 02940-0593

Fax: Phone: (401) 751-6131

Project: **STEDMAN BUILDING, 4808 TOWER HILL RD, WAKEFIELD, RI**

Customer ID: LSGI50
Customer PO:
Received: 05/25/10 9:00 AM
EMSL Order: 041010910

EMSL Proj:
Analysis Date: 5/28/2010

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
52 *041010910-0054*	2ND FLR-232						**Stop Positive (Not Analyzed)**
53 *041010910-0055*	2ND FLR-232	Brown/Gray Fibrous Heterogeneous	15%	Cellulose	85%	Non-fibrous (other)	**None Detected**
54 *041010910-0056*	2ND FLR-234						**Stop Positive (Not Analyzed)**
55 *041010910-0057*	2ND FLR-236						**Stop Positive (Not Analyzed)**
56 *041010910-0058*	2ND FLR-236	Tan Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
57 *041010910-0059*	2ND FLR-236	Brown Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
58 *041010910-0060*	2ND FLR-236	Beige Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**

Analyst(s)

Steve Grise (52)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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Providence, RI 02940-0593

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Project: **STEDMAN BUILDING, 4808 TOWER HILL RD, WAKEFIELD, RI**

Customer ID: LSGI50
Customer PO:
Received: 05/25/10 9:00 AM
EMSL Order: 041010910

EMSL Proj:
Analysis Date: 5/28/2010

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
59 *041010910-0061*	2ND FLR-236						**Stop Positive (Not Analyzed)**
60 *041010910-0062*	2ND FLR-236						**Stop Positive (Not Analyzed)**
61 *041010910-0063*	2ND FLR-236	Gray Fibrous Heterogeneous	15%	Cellulose	85%	Non-fibrous (other)	**None Detected**
62 *041010910-0064*	2ND FLR 237B	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
63 *041010910-0065*	2ND FLR 237B	Tan Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
64 *041010910-0066*	2ND FLR 237B	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
65 *041010910-0067*	2ND FLR JANITOR ROOM IN EAST-WEST CORRIDOR	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**

Analyst(s)

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Providence, RI 02940-0593

Fax: Phone: (401) 751-6131

Project: **STEDMAN BUILDING, 4808 TOWER HILL RD, WAKEFIELD, RI**

Customer ID: LSGI50
Customer PO:
Received: 05/25/10 9:00 AM
EMSL Order: 041010910

EMSL Proj:
Analysis Date: 5/28/2010

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
66 *041010910-0068*	2ND FLR JANITOR ROOM IN EAST-WEST CORRIDOR	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**<1% Chrysotile**
67 *041010910-0069*	2ND FLR JANITOR ROOM IN EAST-WEST CORRIDOR	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
68 *041010910-0070*	2ND FLR JANITOR ROOM IN EAST-WEST CORRIDOR	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**<1% Chrysotile**

Analyst(s)

Steve Grise (52)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. 7 Constitution Way, Suite 107, WobumMA

THIS IS THE LAST PAGE OF THE REPORT.

04101091O

LSG, Inc.

PO Box 40593, Providence, RI 02940
Telephone: (401) 751-6131 Fax: (401) 454-0059

SAMPLE DATA SHEET

PROJECT: Stedman Building, 4808 Tower Hill Rd, Wakefield, RI 02879 — PO #: MPA194
Lerner, Ladd + Bartels, Inc. — RI STATE CONTRACT
SAMPLED BY: K. Davis — PROJECT #:
DATE: 5/21/10 – 5/24/10 — PAGE OF 3

Line	Sample #	Description	Location	Notes	A,B,C... Positive Stop ↓
1	1	VT 12x12 (Wh w/Blue+Pur flecks)	Ground Floor - Lobby		A
2	2	Glue (Yellow) under #1			B
3	2A	Mastic (Black) — #2 on concrete			C
4	3	VC (Black) 4"			D
5	4	Glue (Yellow) under #3			E
6	5	Glue (Brown) Residue under #4 on Sh. (Sh) under #4			F
7	5A	(Same #5) on Sh.			F
8	6	Joint Compound (JC) on Sh. wall joint under #5.			G
9	7	Sh. under #6			H
10	8	Cloth wrap on F.G. steam pipe insulat^n			I
11	9	(Same #4)			E
12	10	(— #5) under #9			F
13	11	VC (Blue) 4"	2nd Flr - 233A		J
14	12	Glue (Cream) on painted Sh. (no skimcoat)			K
15	13	Gray coating underside of steel sink	201A		L
16	14	Glue (Dark Brown) under Fir. pin-up metal-edge frame on Sh. wall	Corridor, West of 229D		M
17	15	Glue (Beige) Sacks — on Sh. wall			N.
18	16	(Same #6) @ Sh. wall joint			G
19	17	(— #6) — N/C	(Above elec. panels)		G
20	18	(— #7) under #17.	( )		H
21	19	12"x12" splined SAT ceiling panel	( )		O
22	20	Debris from roof panels (off-wh) on top of tape #19	( )		P
23	21	VC (Gray) 4"	@ Door to Lobby		Q
24	22	(Same #12) under #21 on painted Sh. (no skim)			K
25	23	(— #5) — #22			F
26	24	VT 12x12 (Dark Brick Flecks)	216		R
27	25	Glue (Yellow) under #24 (Same #4) on concrete (no black mastic)	216		E
28	26	VC (Beige) 4"			S
29	27	Glue (Beige) under #26			L K
30	28	(Same #5) on Sh. and wood grain under #27.			F

COMMENTS: (1) Type of Analysis = PLM for Asbestos (EPA/600/R-93/116)
(2) TAT = 96 hours; (3) EMSL LabConnect posting only.
(4) Total number of samples submitted = 70 (Seventy) - See Positive Stop.

RELINQUISHED BY: (SIGNATURE)	DATE	RECEIVED BY: (SIGNATURE)	DATE
	5/24/10	FX Pam	

bsamplog-plm

041010910

LSG, Inc.

PO Box 40593, Providence, RI 02940
Telephone: (401) 751-6131 Fax: (401) 454-0059

SAMPLE DATA SHEET

PROJECT: Stedman Building, 4808 Tower Hill Rd, Wakefield, RI 02879 — PO #: MPA194
Lerner, Ladd + Bartels, Inc.

SAMPLED BY: K. Davis — PROJECT #:

DATE: 5/24/10 — PAGE 2 OF 3

Line	Sample #	Description	Location	Notes	
1	29	Joint Cmp^d on Wall Heads + Sh. (unpainted) (in wood) Cases	2nd Flr - 216		G?
2	30	(Same as #19)	— . —		O
3	31	(— #6) @ Sh. wall joint A/C	— . —		G
4	32	(— #7) under #31	— . —		H
5	33	(— #1)	— . 238A		A
6	34	(— #2) under #33 on conc [no black mastic]	— . —		B
7	35	VC (black) 4"	— . —		D
8	36	Glue (brown) under #35 [Same #5] on Sh. wall	— . —		F
9	37	Glue under carpet on concrete.	— . —		T
10	38	(Same #37)	— . 219		T
11	39	2x4 SAT ceiling panel (small hole pattern)	— . 229D		U
12	40	(Same #39)	— . 229A		U
13	41	(— #20)	— —		P
14	42	(— #15) wood studs & wood panels on painted Sh. wall under	— . 224		N
15	43	(— #6)	— . 208		G
16	44	(— #7) under #43	— . 208		H
17	45	(— #6)	— . 230		G
18	46	(— #7) — #45	— . 230		H
19	47	Electrical wire insulation material (red) - floor, light fixture - ceiling	— . —	V	Whitlock wires from junction box A/C
20	48	(Same #47) - white	— . —	V	
21	49	(— —) - black	— . —	V	Elec. Thru interior
22	50	Joint Compound at Sh. ceiling soffit (small)	— . —	W	
23	51	Sh. under #50	— . —	X	
24	52	(Same #50)	— . 232	W	
25	53	(— #51) under #52	— . —	X	
26	54	(— #50)	— . 234	W	
27	55	(— #14)	— . 236	M	
28	56	(— #15)	— . 236	N	
29	57	VC (brown) 4"	— . —	Y	
30	58	(Same #12) under #57.	— . —	K	

COMMENTS: (1) Type of Analysis = PLM for Asbestos (EPA/600/R-93/116)
(2) TAT = ____ hours; (3) EMSL LabConnect posting only.
(4) Total number of samples submitted =

SEE PAGE 1

RELINQUISHED BY: (SIGNATURE)	DATE	RECEIVED BY: (SIGNATURE)	DATE
	5.24.10		

bsamplog-plm

$1010910

041010910

LSG, Inc.

PO Box 40593, Providence, RI 02940
Telephone: (401) 751-6131 Fax: (401) 454-0059

SAMPLE DATA SHEET

PROJECT: Stedman Building, 4808 Tower Hill Rd, Wakefield, RI 02879 PO #: MPA194
Lerner, Ladd + Bartels, Inc.

SAMPLED BY: K. Davis PROJECT #:

DATE: 5/24/10 PAGE 3 OF 3

Line	Sample #	Description	Location	Notes	
1	59	(SAME #5) under 57/58 on Sh. wall (@ 40 JC)	2nd Flr 236		F
2	60	(— #6)	— · —		G
3	61	(— #7)	— · —		H
4	62	GROUT (Wh) BETWEEN CWT (BLUE)	— · 237B.		Z
5	63	GLUE (ORANGE) under CWT (—) on Sh. wall	— · —		AA
6	64	CAULK (Wh) BETW/ CWT + COUNTER TOP	— · —		AB
7	65	Wh. skimcoat plaster - WALL - Above ceiling	— · JANITOR ROOM IN East-West Corridor		AC
8	66	GRAY PLASTER under #65 ON METAL LATHE	— · —		AD
9	67	(SAME #65)	— · —		AC
10	68	(— #66)	— · —		AD
11					
12					
13					
14					
15					
16					
17					
18					
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20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

COMMENTS: (1) Type of Analysis = PLM for Asbestos (EPA/600/R-93/116)
(2) TAT = _____ hours; (3) EMSL LabConnect posting only.
(4) Total number of samples submitted =

SEE PAGE 1

RELINQUISHED BY: (SIGNATURE)	DATE	RECEIVED BY: (SIGNATURE)	DATE
	5/24/10		

bsamplog-plm

EMSL Analytical, Inc.
3 Cooper St., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-9551 Email: westmontleadlab@emsl.com

Attn: **Ken Davis**
LSG, Inc.
PO Box 40593
Providence, RI 02940-0593

Fax: Phone: (401) 751-6131

Project: **Stedman Building, 4808 Tower Hill Rd. Wakefield,RI 02879**

Customer ID: LSGI50
Customer PO: MPA194
Received: 05/25/10 10:53 AM
EMSL Order: 201006750

EMSL Proj: MPA 194 RI State Contract

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B*/7000B)

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
1	*0001*		5/28/2010	0.067 % wt
	White paint on steel-U/V cover			
2	*0002*		5/28/2010	0.083 % wt
	White paint on sheetrock wall			
3	*0003*		5/28/2010	0.64 % wt
	Black paint on top of red paint			
4	*0004*		5/28/2010	0.095 % wt
	Varnish(brown) on wood door			
5	*0005*		5/28/2010	<0.010 % wt
	White paint on Sh.wall			
6	*0006*		5/28/2010	0.011 % wt
	Gray paint on wood U/V casing			
7	*0007*		5/28/2010	0.015 % wt
	Cream paint on Sh.wall(no JC)former Pin-Bd			
8	*0008*		5/28/2010	0.036 % wt
	Lt.beige on Sh.wall(no JC)next to steel door frame			
9	*0009*		5/28/2010	0.14 % wt
	Lt. beige on top of red paint undercoat			
10	*0010*		5/28/2010	0.015 % wt
	Green paint on Sh.wall(no JC)(on top of Wh)			
11	*0011*		5/28/2010	<0.039 % wt
	White paint on metal ceiling tile grid at Sh wall			

Shannon Kauffman, Lead Lab Supervisor
or other approved signatory

Reporting limit is 0.01 % wt. The QC data associated with these sample results included in this report meet the method quality control requirements, unless specifically indicated otherwise. Unless noted, results in this report are not blank corrected . This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities.

* slight modifications to methods applied Samples received in good condition unless otherwise noted. Quality Control Data associated with this sample set is within acceptable limits, unless otherwise noted

Samples analyzed by EMSL Analytical, Inc. 3 Cooper St., WestmontNJ NJ-NELAP: 04653, AIHA-LAP, LLC. ELLAP Accreditation 100194

EMSL Analytical, Inc.
3 Cooper St., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-9551 Email: westmontleadlab@emsl.com

Attn: **Ken Davis**
LSG, Inc.
PO Box 40593
Providence, RI 02940-0593

Fax: Phone: (401) 751-6131

Project: **Stedman Building, 4808 Tower Hill Rd. Wakefield,RI 02879**

Customer ID: LSGI50
Customer PO: MPA194
Received: 05/25/10 10:53 AM
EMSL Order: 201006750

EMSL Proj: MPA 194 RI State Contract

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B*/7000B)

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
12	*0012*		5/28/2010	0.27 % wt
	Varnish(brown)on wood cupboards			
13	*0013*		5/28/2010	0.18 % wt
	Off white/lt.beige(same#9)on red paint undercoat			
14	*0014*		5/28/2010	<0.029 % wt
	White paint on metal ceiling Fluorescent light fix			
15	*0015*		5/28/2010	0.042 % wt
	Ble paint on Sh.wall(no JC)(on top of wh)			
16	*0016*		5/28/2010	0.077 % wt
	Wh/off-Wh.paint on metal radiator cover			
17	*0017*		5/28/2010	<0.011 % wt
	Wh/off-Wh.paint on metal folding cupboard door			
18	*0018*		5/28/2010	0.020 % wt
	(Similar #7or8)paint on SH.wall(no JC)			
19	*0019*		5/28/2010	<0.010 % wt
	Off wh paint on metal cover to left of U/V			
20	*0020*		5/28/2010	<0.011 % wt
	Blue paint(peeling)ceiling duct soffit on Sh			
21	*0021*		5/27/2010	0.030 % wt
	Yellow paint on Sh.wall (no JC)			

Shannon Kauffman, Lead Lab Supervisor
or other approved signatory

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Attn: **Ken Davis**
LSG, Inc.
PO Box 40593
Providence, RI 02940-0593

Fax: Phone: (401) 751-6131

Project: **Stedman Building, 4808 Tower Hill Rd. Wakefield,RI 02879**

Customer ID:	LSGI50
Customer PO:	MPA194
Received:	05/25/10 10:53 AM
EMSL Order:	201006750
EMSL Proj:	MPA 194 RI State Contract

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B*/7000B)

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
22	*0022*		5/27/2010	0.053 % wt
	Wh.peeling ceiling(+wall)paint on conc.			

Shannon Kauffman, Lead Lab Supervisor
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. 3 Cooper St., WestmontNJ NJ-NELAP: 04653, AIHA-LAP, LLC. ELLAP Accreditation 100194

01006750

2010067 5

LSG, Inc.

PO Box 40593, Providence, RI 02940
Telephone: (401) 751-6131 Fax: (401) 454-0059

SAMPLE DATA SHEET

PROJECT: Stedman Building, 4808 Tower Hill Rd, Wakefield, RI 02879 — PO #: MPA194
Lerner, Ladd + Bartels, Inc. — RI STATE CONTRACT
SAMPLED BY: K. Davis — PROJECT #:
DATE: 5/21/10 - 5/24/10 — PAGE | OF

Line	Sample #	Description	Location	Type Analysis
1	1	White Paint on steel - W/Y cover	GROUND FLOOR - LOBBY	
2	2	— — — Sheetrock wall (@ NO J.C.)	— — —	
3	3	Black Paint on top of red paint undercoat on steel stair components	— —	Blk & Re together
4	4	VARNISH (BROWN) on wood door	2ND FLR - 229D	
5	5	White Paint on Sh. wall (@ NO J.C.)	— OUTSIDE 233A	
6	6	Gray Paint on wood W/Y CASING.	— 233A	
7	7	Cream Paint on Sh. wall (@ NO J.C.) - formal Pin-bd LOCATION	— CORRIDOR WEST OF 229D	
8	8	Lt Beige — — (— —) next to —	— —	
9	9	Lt Beige paint (SAME #8) on top of red paint undercoat on steel door frame	— CORRIDOR DOOR TO LOBBY.	
10	10	GREEN PAINT on Sh. WALL (@ NO JC) [ON TOP OF WL]	— 216	
11	11	White paint on METAL CEILING TILE GRID AT Sh. WALL	— —	scrape paint
12	12	VARNISH (BROWN) on WOOD CUPBOARD	— —	
13	13	Off-Wh/Lt Beige paint (SAME #9) on RED PAINT UNDERCOAT on STEEL DOOR FRAME	— —	
14	14	White Paint on metal - ceiling FLUORESCENT light fixture	— 219	scrape paint
15	15	Blue Paint on Sh. wall (@ NO J.C) [ON TOP OF WL].	— 214	
16	16	Wh/Off-Wh Paint on metal radiator cover	— 220	
17	17	— — — folding cupboard door	— 208	
18	18	(SIMILAR to #8) Paint on Sh. wall (@ NO JC)	— CORRIDOR OUTSIDE #215	
19	19	Off-Wh Paint on metal cover to RED PAINT UNDERCOAT & W/Y (SAME PAINT)	— 230	
20	20	Blue Paint (peeling) - ceiling duct soffit - on Sh.	— —	
21	21	Yellow Paint on Sh. wall (@ NO JC)	— 234	
22	22	Wh. peeling ceiling (+wall) paint on concrete	GENERATOR ROOM	
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS: (1) Analyze for Total Lead in paint – Flame AAS (Method SW846-7420);
(2) TAT = 96 -hour; (3) Results by EMSL LabConnect posting only
(4) Total number of samples submitted = 22 (TWENTY TWO)

RELINQUISHED BY: (SIGNATURE)	DATE	RECEIVED BY: (SIGNATURE)	DATE
[signature]	5/24/10	[signature]	5/25

GL A0-100 EXISTING / DEMOLITION GROUND FLOOR PLAN (ENLARGED)
1/8" = 1'-0"

- WINDOW A/C UNITS - WHEN POSSIBLE - NO PLASTER CHALK FOUND IN PERIMETER OF TUNNELS.
- ADDITIONAL SAMPLING REQUIRED - (1) PLASTER WALLS (2) CONCRETE (3) FIR INSULATION MATERIALS (SEEN IN F.C. WALL SECTION) (4) ROOF VENT PIPE BOOTS
- PACKA = PIPES JOINTS ON F.C. PIPE INSULATION + BOILER (AND) CONCRETE EXPANSION INSULATION.
- EQUIPMENT INTERIOR INSULATION (e.g. CONVECTORS) MAY HAVE CAULKED + SCRATCH STRATE ARE ACM.
- NO CHALK REGRESION MEDIA POOL PLASTER + HOUSEBLOCK WALLS NO PLASTER WALLS.
- PIPE INSULATION MATERIALS IN LATE LIGHT FIXTURES - POTENTIAL ACM. (SEE SPA & AHE 10-5 REPORT) + 230

A0 A0-100 EXISTING / DEMOLITION SECOND FLOOR PLAN
1/8" = 1'-0"

GENERAL DEMOLITION NOTES

1. Instructions to remove and legally dispose of any item in the work area in its entirety, including all of its associated parts, is noted by the use of any of the following language: "remove", "remove and dispose", "RAD", "demolish", "demo."
Unless otherwise stated, general notes apply to the entire work area on floor levels G and 2 and any subsequent required demolition that affects the ceiling and floors and walls of the levels directly below, above, and adjacent to the work area.

2. At new or modified masonry openings receiving new steel lintels, some existing masonry as required to properly install new work and seal new lintel, whether noted or not.

3. Refer to Mechanical/ Electrical/ Plumbing/ Fire Protection/ and Technical drawings for coordination and additional demolition information. Selective demolition for pipe, duct, and other MEP or structural penetrations are to be permitted and over-demolished as required to properly install new work. All holes in walls or floors resulting from demolition of any existing structural, mechanical, electrical, or plumbing equipment, and all holes resulting from over demolition of wall or floors in order to install new work, are to be patched with new material to match existing and finished to match surrounding finished construction.

4. Refer to the Project Manual for requirements pertaining to demolition activities. All items indicated on the drawings for demolition shall be disposed of in a safe, sanitary and legal manner off the property.

5. The General Contractor shall be fully responsible for removing all existing materials which would otherwise interfere with the proper installation or function of the new work; whether or not such existing materials or conditions have been indicated. This includes all abandoned furnishings, equipment, and finishes.

6. Contractor shall provide temporary shoring at all locations as required to complete the scope of work.

7. FLOORING: In work area on floor level 2, remove all finish flooring as indicated, including but not limited to associated mastics and fasteners. Remove all finishes down to subfloor layer. Note: existing conduit, pipes and elect. scheduled to be demolished are to be removed to below slab for proper installation of new flooring. All floors shall be brought to a smooth, level surface in order to receive new flooring. Architect is not responsible for unforeseen conditions such as pitting or uneven floors.

8. CEILINGS: In work area on floor level 2, remove and dispose of all acoustic ceiling tiles, grids, and associated hangers. Subsidiary R/D of existing ventilat and hangers of existing lighting and utilities to accommodate new work. Remove all existing lighting within work area, refer to electrical drawings for additional descriptions of lighting demolitions and removals.

9. CASEWORK, FURNISHINGS, SHELVING, EQUIPMENT: R/D all existing casework, equipment, furnishings, built-in worksurfaces, shelving, etc., whether specifically illustrated on existing drawings or not. Scope of demolition will include R/D storage units, benches, countertops, shelving, misc. furnishings, file cabinets, worksurfaces, bookshelves, abandoned equipment, etc. Finish any holes in walls to remain as a result of this demolition. Note: a large quantity of demolition casework contains thermo-radiant heating unit, shall be protected from demolition activities, as all fin-tube radiation is existing to remain.

10. SIGNAGE: Remove existing signage and all associated fasteners, patch and repair any resulting holes or damage in walls to remain as a result of demolition.

11. BASEBOARD HEAT: R/D all existing baseboard heat unit covers and fasteners. All associated, piping and fins are to remain and shall be protected during demolition in order to receive new covers. Coordinate with Mechanical Drawings for additional disposal.

12. DOORS: Remove and Salvage all Doors, Frames, and Hardware, etc. as indicated on the drawings. All Doors, Frames, and Hardware shall be stored in a safe and dry facility during all demolition and construction phases whether tagged for relocation or not. Coordinate with Door Schedule for relocations. Contractor shall coordinate with owner and architect during construction for direction on disposal of unused existing doors.

13. All existing dimensions given should be considered "V.I.F.". Field verify all dimensions and dimensions prior to work.

DEMOLITION KEYNOTES

- A R/D existing mechanical baseboard heating metal covers and fasteners U.O.N. all fin-tube shall be protected from demolition activities in order to receive new covers.(coordinate with Mechanical Drawings for additional information).
- B R/D existing millwork, including but not limited to all associated framing, fasteners, hinges, pulls, hardware, grills, etc.
- C R/D existing plumbing fixture, and all associated piping and components. Coordinate with ALL other trades, including Plumbing, Mechanical, and Electrical drawings for additional demolition direction of these items.
- D R/D existing electric panel. Refer to electrical drawings for additional locations of panel removals.
- E R/D existing light fixtures, including but not limited to all associated wiring, hangers, and fasteners. Refer to electrical drawings for additional information and demolition direction for these items.
- F R/D existing mechanical units, including but not limited to all overhead A/C units, unit ventilators, etc., U.O.N. (coordinate with Mechanical Drawings for additional information).
- G R/D existing tile wall finish including all grouts, backer boards, etc. return wall to a condition to receive new wall finish. All new finishes shall match adjacent existing finishes.
- H Remove and salvage existing door for the height of the new steel lintel for the new door openings. Maintain the existing transom above the new steel lintel to the underside of the existing floor above. Refer to door schedule for door size.
- I R/D existing finish flooring and associated mastics and fasteners. Remove all finishes down to subfloor layer. Patch and repair at unlevel flooring as uncovered via flooring demolitions.
- J Remove and Salvage existing Bathroom Accessories, including but not limited to mirrors, toilet paper dispensers, and grab bars as illustrated. Coordinate with Architect for relocations.
- K R/D existing [illegible] including but not limited to all associated hangers, and fasteners.

DEMOLITION LEGEND

DEMO KEY NOTE	X
LIMIT OF WORK (IF NOT ILLUSTRATED, ENTIRE FLOOR IS LIMIT OF WORK)	
APPROXIMATE AREA OF DEMOLITION	
MINIMAL WORK AREA, REFER TO SPECIFICATIONS FOR SCOPE OF WORK IN THIS AREA	
APPROXIMATE DIMENSION OF DEMOLITION	DIM.
DEMOLITION OF DOOR AND FRAME, UON. REFER TO PROPOSED PLANS FOR FURTHER COORDINATION. (NOTE: COORDINATE WITH DOOR SCHEDULE, AS SOME DOORS INDICATED FOR DEMOLITION ARE TO BE SALVAGED AND REINSTALLED)	
EXISTING TO REMAIN DOOR AND FRAME	
EXISTING TO REMAIN	

Renovations & Alterations to

Stedman Government Center

4806 Tower Hill Road
Wakefield, Rhode Island

Lerner | Ladds + Bartels; inc.
235 Page Street
Providence, Rhode Island 02905
Tel. 421-0100
Fax. 421-7718
J.L@architects.com
architecture | design

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DESIGN DEVELOPMENT
NOT FOR CONSTRUCTION

Revisions

Drawing Title
Second Floor Plan - Demolition.

Scale
As Noted

Date
17 May 2010

AD-1.02

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HAZARDOUS MATERIAL REPORT
&
ABATEMENT PLAN

Submitted by
Vortex

VORTEX

ASBESTOS ABATEMENT PLAN

OLIVER STEDMAN GOVERNMENT CENTER BLDG.
BATHROOM RENOVATION PROJECT
4800 Tower Hill Road, Wakefield, RI

March 7, 2018

Rhode Island Department of Health
Notarized Certification of Asbestos Abatement Plan

Facility: **OLIVER STEDMAN GOV. CENTER** Amend/Plan: **NEW**
Address: **4800 TOWER HILL ROAD**
City/Town: **WAKEFIELD, RI** Zip Code: **02879**

Abatement plan written by: **JOHN CARBONE** Certification No: **177 PD/IS**

Summary of specific waivers/variances being requested: **REQUEST A WAIVER OF FLOOR POLYETHYLENE IN THE FLOOR TILE/MASTIC ABATEMENT AREAS AND REQUEST AN ALTERNATE PROCEDURES OF THE INSTALLATION OF 1 LAYER OF 6 MIL THICK POLY FOR WALL PREPARATION INSTEAD OF THE STANDARD 2 LAYERS OF 4 MIL THICK POLYETHYLENE WITHIN THESE AREAS. WAIVER OF WALL POLYETHYLENE IN AREAS REQUIRING GYPSYM BOARD & JOINT COMPOUND ABATEMENT PRIOR TO DOOR/FRAME INSTALLATION.**

Type of Asbestos Abatement:

X Removal	Enclosure	Encapsulation	Other
Glovebag	Asphalt Roofing	Demolition	

Is this plan being submitted in response to a Notice of Violation and/or Notice of Requirement to Submit an Asbestos Abatement Plan?

YES **X** NO

If Yes, indicate Notice/Building Evaluation Number(s):

Contractor: **UNKNOWN** License #: LAC –
Estimated starting date: **APRIL 2018**

Pre-Abatement sampling information:

Bulk samples collected by: **JOHN CARBONE** Certification #: AAC- **177IS**
KEN DAVIS Certification #: AAC-
Bulk samples analyzed by: **SANAIR / EMSL** Certification #: AAL- **126 / 075T3**
Air samples analyzed by: **V-LAB** Certification #: AAL- **087A1**

Clearance air sampling information:

Air samples to be collected by: **VORTEX STAFF**
Air samples to be analyzed by: **V-LAB** Certification #: AAL- **087A1**

CERTIFICATION

I certify that: this asbestos abatement plan is prepared and submitted under the provisions of Section 23-24.5-6 of the RI Asbestos Control Act and Parts A and C of the RI Rules and Regulations for Asbestos Control; all abatement/management activities performed in conjunction with this plan must be in compliance with the specifications prescribed in this plan (when approved) and the most current revision of all applicable federal and state regulations; and the asbestos abatement/management activities described in this plan must be performed by a RI licensed asbestos abatement contractor.

Certified by: _____ Title: _____
(Signature of building owner or agent)

_____ Date:_____/_____/_____
(typed/printed name of Certifier)

Subscribed and sworn before me this _____ day of _____, 201___

_____ My Commission expires: _____
AFFIX NOTARY SEAL HERE

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
Department of Health
Division of Occupational and Radiological Health

APPLICATION FOR APPROVAL OF AN ASBESTOS ABATEMENT PLAN

1) Building Owner's name:

STATE OF RI

2) Application prepared by:

JOHN CARBONE
RI Cert. #: 177PD
(401) 738-7710

3) Building Owner's Mailing Address and Telephone Number:

DEPT. OF ADMINISTRATION
DIVISION OF CAPITAL ASSET MGMT. & MAINT.

Street: **1 CAPITOL HILL**
City, State: **PROVIDENCE, RI**
Zip code: **02908**
Tel. #: **401-222-6386**

4) Person to be contacted regarding this application:

Name: **LISA LAWLESS PE**
Tel. #: **401-222-6386**

---

5) Location where abatement work will be performed:

Name: **OLIVER STEDMAN GOV. CENTER**
VARIOUS BATH ROOM AREAS
Street: **4800 TOWER HILL ROAD**
City, State: **WAKEFIELD, RI** zip code: **02879**

---

6) is this application being submitted in response to a "Notice of Requirement to Submit and Asbestos Abatement Plan?

YES **X** NO

If yes, what is the due date for submittal of Asbestos Plan?

Evaluation Number on the notice:

---

7) Contractor who will be performing abatement work (if selected):

Name: **UNKNOWN AT TIME OF FILING PLAN** RI License #: LAC - - 000

---

8) Estimated starting date of abatement work: **APRIL 2018**

---

9) Estimated completion date of abatement work: **WITHIN 2 WEEKS**

---

10) Type of Asbestos Abatement (Check all that apply)

X Removal	Enclosure	Asphalt Roofing
Encapsulation	Demolition	Operations & Maintenance only
Other	Glovebag Removal	

---

11) Type of Building:

School Building
Privately owned building
X Publicly owned building
Residence
Other (specify)

---

12) Building Access:

Public Access (>25% of building area)
X Limited Public Access (<25% of building area)
No Public Access

---

13) Bulk Sample collection and analysis

A) Person collecting bulk samples

Name: **JOHN CARBONE**
KEN DAVIS

RI Certification #: **177IS**

B) Sampling Methodology:

EPA AHERA Sampling Requirements [40 CFR 763.86]

X EPA's Asbestos containing Material in Buildings: A Guidance Document (EPA-450/2-78-014) or Guidance for Controlling Asbestos Containing Materials – 1985 Edition (EPA-560-5-85-024).

Other (specify below)

C) Laboratory performing the analysis of the bulk samples.

Name: **SANAIR / EMSL**
RI Cert. #: **126 / 075T3**

D) Analytical Methodology

X EPA Interim Method for the determination of Asbestos in Bulk Insulation samples [PLM Method only]

Other (specify below)

---

14) Pre-abatement Air Sampling Collection and Analysis:

A) Person collecting pre-abatement air samples:
Name: **JOHN CARBONE** Affiliation: **VORTEX INC.**

B) Laboratory performing analysis of pre-abatement air samples:
Name: **V-LAB** RI Cert. No: AAL- **087A1**

C) Methodology used in the collection and analysis of pre-abatement samples:

X NIOSH Method 7400 [Most Current Revision]
OSHA 29 CFR 1926.1101 – Appendix A & B
Other (specify below)

---

15) A) Indicate how the asbestos containing material (ACM) will be removed from the abatement site. If a hauler or broker will be used to transport the ACM to the disposal site, they must be identified.

REMOVED IN A CLOSED DUMPSTER, NO HAULER SELECTED YET.

B) Provide the name and location of the authorized asbestos waste facility to which the removed material will be transferred for disposal (if known)

UNKNOWN

16) Person designated as compliance monitor for abatement work. (Not required)

Name: **N/A**

Affiliation:

---

17) In-process & clearance air sampling **REFER TO ATTACHMENT #1**

a) Describe on an attachment the type, number and location of air samples that will be collected outside the work area during the abatement project.

b) Describe on an attachment, the plan of action to be followed if the Indoor Non-Occupational Air Exposure Standard for Asbestos (<0.01 f/cc) is exceeded outside the work area during the abatement project.

c) Describe on an attachment the type, number and location of air samples that will be collected as part of the final clearance testing.

d) Describe on an attachment, the plan of action to be followed if the Indoor Non-Occupational Air Exposure Standard for Asbestos (<0.01 f/cc) is exceeded during final clearance testing.

---

18) A separate and fully completed Form ASB-16A must be submitted for each area to be abated. List below the entry in Item #1 from each attached ASB-16A.

AREA "A1"
AREA "A2"
AREA "B"
AREA "C"
AREA "D"
AREAS "E", "F", "G", "H", "K", "L"
AREA "I"
AREA "J"

---

19) I certify that this plan was prepared by me and I am responsible for its content:

Signature: _____ Date: 3/7/18

Name: **JOHN CARBONE**

Affiliation: **VORTEX INC.**

---

20) Asbestos Abatement Plan Application Fee:

Operations and Maintenance only	$75
Up to one (1) NESHAP Units	$75
Between one (1) and ten (10) NESHAP Units	$300
Between ten (10) and fifty (50) NESHAP Units	$600
Over fifty (50) NESHAP Units	$900
Amendment Fee	$150

X Waiver of Application Fee

Agency Use only

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
Department of Health
Division of Occupational and Radiological Health

APPLICATION FOR APPROVAL OF AN ASBESTOS ABATEMENT PLAN

Supplemental Information: Area Description and Proposed remedy

BUILDING LOCATION: **FIRST FLOOR**

Instructions: All items on this form must be addressed. All references to attachments must be clearly identified. All attachments must be marked with the specific item numbers on this form to which they pertain.

---

(1) Area Location/Identification (Room Name, Evaluation number, etc.)

AREA "A1"

---

(2) Attach a description of each type (e.g. pipe, ceiling, etc.) of regulated asbestos containing material (RACM) in this area, including condition, location, quantity and asbestos content. Attach a copy of the laboratory report(s) for all samples. (NOTE: All laboratory reports must include the name of the building(s) and the location(s) of the sample(s).

REFER TO ATTACHMENT #2

---

(3) Attach a current scale drawing of this area, showing direction of North and East, which has been clearly annotated to show the type, location and quantity of all RACM in this area. This drawing must include a legend which acts as a guide to the scale, symbols and nomenclature used in the drawing. If a master plan or multiple drawings are provided, indicate the specific location(s) and drawing number(s) which depict this area. The location of the decontamination chamber must also be so indicated on the appropriate drawing(s).

REFER TO ATTACHED DRAWING A1

---

(4) Proposed remedies:

A) Attach a description of the Operations and Maintenance Plan that will be implemented in accordance with C.1.2(b).

REFER TO ATTACHMENT #3

4) Proposed remedies [continued]

B) Will any portion of this area be abated by use of B.8 Work Procedures?

X YES NO

If yes, indicate below which ACM in this area will be abated by use of the following B.8 Work Procedures:

X B.8.2 & B.8.3 (REMOVAL) **45 S.F. FLOOR TILE/MASTIC 1 LAYER**

B.8.2 & B.8.4 (ENCAPSULATION)

B.8.2 & B.8.5 (ENCLOSURE)

B.8.6 (DEMOLITION)

B.8.7 (GLOVEBAG)

B.8.8 (ASPHALT ROOFING)

C) Are you proposing any waivers to the above selected B.8 procedures for any of the abatement activities in this area.

X YES NO

If yes, attach a detailed description of the waivers requested and/or the alternative procedures you are proposing to utilize. All items must be keyed to the specific section(s) of the regulations for which waivers are requested.

REFER TO ATTACHMENT #4

D) Are you proposing alternative procedures under B.11 for any of the abatement activities in this area?

X YES NO

If yes, attach a detailed description of the alternate procedures requested you are proposing to utilize. Alternate procedures must include a justification for not following specific section(s) of the regulations and be as protective of public health.

REFER TO ATTACHMENT #4

E) Will any RACM remain in this area after abatement?

X YES NO Beyond scope of inspection

If Yes, attach a description of the RACM that will remain and the details of the on-going Operations and Maintenance Plan that will be implemented in accordance with C.1.2(b).

REFER TO ATTACHMENT #3

AGENCY USE ONLY

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
Department of Health
Division of Occupational and Radiological Health

APPLICATION FOR APPROVAL OF AN ASBESTOS ABATEMENT PLAN

Supplemental Information: Area Description and Proposed remedy

BUILDING LOCATION: **FIRST FLOOR**

Instructions: All items on this form must be addressed. All references to attachments must be clearly identified. All attachments must be marked with the specific item numbers on this form to which they pertain.

---

1) Area Location/Identification (Room Name, Evaluation number, etc.)

AREA "A2"

---

2) Attach a description of each type (e.g. pipe, ceiling, etc.) of regulated asbestos containing material (RACM) in this area, including condition, location, quantity and asbestos content. Attach a copy of the laboratory report(s) for all samples. (NOTE: All laboratory reports must include the name of the building(s) and the location(s) of the sample(s).

REFER TO ATTACHMENT #2

---

3) Attach a current scale drawing of this area, showing direction of North and East, which has been clearly annotated to show the type, location and quantity of all RACM in this area. This drawing must include a legend which acts as a guide to the scale, symbols and nomenclature used in the drawing. If a master plan or multiple drawings are provided, indicate the specific location(s) and drawing number(s) which depict this area. The location of the decontamination chamber must also be so indicated on the appropriate drawing(s).

REFER TO ATTACHED DRAWING A1

---

4) Proposed remedies:

A) Attach a description of the Operations and Maintenance Plan that will be implemented in accordance with C.1.2(b).

REFER TO ATTACHMENT #3

4) Proposed remedies [continued]

B) Will any portion of this area be abated by use of B.8 Work Procedures?

X YES NO

If yes, indicate below which ACM in this area will be abated by use of the following B.8 Work Procedures:

X B.8.2 & B.8.3 (REMOVAL)
60 S.F. GYPSUM BD. & ACM JOINT COMPOUND

B.8.2 & B.8.4 (ENCAPSULATION)

B.8.2 & B.8.5 (ENCLOSURE)

B.8.6 (DEMOLITION)

B.8.7 (GLOVEBAG)

B.8.8 (ASPHALT ROOFING)

C) Are you proposing any waivers to the above selected B.8 procedures for any of the abatement activities in this area.

X YES NO

If yes, attach a detailed description of the waivers requested and/or the alternative procedures you are proposing to utilize. All items must be keyed to the specific section(s) of the regulations for which waivers are requested.

REFER TO ATTACHMENT #5

D) Are you proposing alternative procedures under B.11 for any of the abatement activities in this area?

YES **X** NO

If yes, attach a detailed description of the alternate procedures requested you are proposing to utilize. Alternate procedures must include a justification for not following specific section(s) of the regulations and be as protective of public health.

E) Will any RACM remain in this area after abatement?

X YES NO Beyond scope of inspection

If Yes, attach a description of the RACM that will remain and the details of the on-going Operations and Maintenance Plan that will be implemented in accordance with C.1.2(b).

REFER TO ATTACHMENT #3

AGENCY USE ONLY

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
Department of Health
Division of Occupational and Radiological Health

APPLICATION FOR APPROVAL OF AN ASBESTOS ABATEMENT PLAN

Supplemental Information: Area Description and Proposed remedy

BUILDING LOCATION: **FIRST FLOOR**

Instructions: All items on this form must be addressed. All references to attachments must be clearly identified. All attachments must be marked with the specific item numbers on this form to which they pertain.

---

1) Area Location/Identification (Room Name, Evaluation number, etc.)

AREA "B"

---

2) Attach a description of each type (e.g. pipe, ceiling, etc.) of regulated asbestos containing material (RACM) in this area, including condition, location, quantity and asbestos content. Attach a copy of the laboratory report(s) for all samples. (NOTE: All laboratory reports must include the name of the building(s) and the location(s) of the sample(s).

REFER TO ATTACHMENT #2

---

3) Attach a current scale drawing of this area, showing direction of North and East, which has been clearly annotated to show the type, location and quantity of all RACM in this area. This drawing must include a legend which acts as a guide to the scale, symbols and nomenclature used in the drawing. If a master plan or multiple drawings are provided, indicate the specific location(s) and drawing number(s) which depict this area. The location of the decontamination chamber must also be so indicated on the appropriate drawing(s).

REFER TO ATTACHED DRAWING A1

---

4) Proposed remedies:

A) Attach a description of the Operations and Maintenance Plan that will be implemented in accordance with C.1.2(b).

REFER TO ATTACHMENT #3

4) Proposed remedies [continued]

B) Will any portion of this area be abated by use of B.8 Work Procedures?

X YES NO

If yes, indicate below which ACM in this area will be abated by use of the following B.8 Work Procedures:

X B.8.2 & B.8.3 (REMOVAL)

45 S.F. 12" FLOOR TILE/ ACM MASTIC

C) Are you proposing any waivers to the above selected B.8 procedures for any of the abatement activities in this area.

X YES NO

If yes, attach a detailed description of the waivers requested and/or the alternative procedures you are proposing to utilize. All items must be keyed to the specific section(s) of the regulations for which waivers are requested.

REFER TO ATTACHMENT #4

D) Are you proposing alternative procedures under B.11 for any of the abatement activities in this area?

X YES NO

If yes, attach a detailed description of the alternate procedures requested you are proposing to utilize. Alternate procedures must include a justification for not following specific section(s) of the regulations and be as protective of public health.

REFER TO ATTACHMENT #4

E) Will any RACM remain in this area after abatement?

X YES NO Beyond scope of inspection

If Yes, attach a description of the RACM that will remain and the details of the on-going Operations and Maintenance Plan that will be implemented in accordance with C.1.2(b).

REFER TO ATTACHMENT #3

AGENCY USE ONLY

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
Department of Health
Division of Occupational and Radiological Health

APPLICATION FOR APPROVAL OF AN ASBESTOS ABATEMENT PLAN

Supplemental Information: Area Description and Proposed remedy

BUILDING LOCATION: **FIRST FLOOR**

Instructions: All items on this form must be addressed. All references to attachments must be clearly identified. All attachments must be marked with the specific item numbers on this form to which they pertain.

---

1) Area Location/Identification (Room Name, Evaluation number, etc.)

AREA "C"

---

2) Attach a description of each type (e.g. pipe, ceiling, etc.) of regulated asbestos containing material (RACM) in this area, including condition, location, quantity and asbestos content. Attach a copy of the laboratory report(s) for all samples. (NOTE: All laboratory reports must include the name of the building(s) and the location(s) of the sample(s).

REFER TO ATTACHMENT #2

---

3) Attach a current scale drawing of this area, showing direction of North and East, which has been clearly annotated to show the type, location and quantity of all RACM in this area. This drawing must include a legend which acts as a guide to the scale, symbols and nomenclature used in the drawing. If a master plan or multiple drawings are provided, indicate the specific location(s) and drawing number(s) which depict this area. The location of the decontamination chamber must also be so indicated on the appropriate drawing(s).

REFER TO ATTACHED DRAWING A1

---

4) Proposed remedies:

A) Attach a description of the Operations and Maintenance Plan that will be implemented in accordance with C.1.2(b).

REFER TO ATTACHMENT #3

4) Proposed remedies [continued]

B) Will any portion of this area be abated by use of B.8 Work Procedures?

X YES NO

If yes, indicate below which ACM in this area will be abated by use of the following B.8 Work Procedures:

X B.8.2 & B.8.3 (REMOVAL) **45 S.F. FLOOR TILE/MASTIC 2 LAYERS**

B.8.2 & B.8.4 (ENCAPSULATION)

B.8.2 & B.8.5 (ENCLOSURE)

B.8.6 (DEMOLITION)

B.8.7 (GLOVEBAG)

B.8.8 (ASPHALT ROOFING)

C) Are you proposing any waivers to the above selected B.8 procedures for any of the abatement activities in this area.

X YES NO

If yes, attach a detailed description of the waivers requested and/or the alternative procedures you are proposing to utilize. All items must be keyed to the specific section(s) of the regulations for which waivers are requested.

REFER TO ATTACHMENT #4

D) Are you proposing alternative procedures under B.11 for any of the abatement activities in this area?

X YES NO

If yes, attach a detailed description of the alternate procedures requested you are proposing to utilize. Alternate procedures must include a justification for not following specific section(s) of the regulations and be as protective of public health.

REFER TO ATTACHMENT #4

E) Will any RACM remain in this area after abatement?

X YES NO Beyond scope of inspection

If Yes, attach a description of the RACM that will remain and the details of the on-going Operations and Maintenance Plan that will be implemented in accordance with C.1.2(b).

REFER TO ATTACHMENT #3

AGENCY USE ONLY

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
Department of Health
Division of Occupational and Radiological Health

APPLICATION FOR APPROVAL OF AN ASBESTOS ABATEMENT PLAN

Supplemental Information: Area Description and Proposed remedy

BUILDING LOCATION: **SECOND FLOOR**

Instructions: All items on this form must be addressed. All references to attachments must be clearly identified. All attachments must be marked with the specific item numbers on this form to which they pertain.

---

1) Area Location/Identification (Room Name, Evaluation number, etc.)

AREA "D"

---

2) Attach a description of each type (e.g. pipe, ceiling, etc.) of regulated asbestos containing material (RACM) in this area, including condition, location, quantity and asbestos content. Attach a copy of the laboratory report(s) for all samples. (NOTE: All laboratory reports must include the name of the building(s) and the location(s) of the sample(s).

REFER TO ATTACHMENT #2

---

3) Attach a current scale drawing of this area, showing direction of North and East, which has been clearly annotated to show the type, location and quantity of all RACM in this area. This drawing must include a legend which acts as a guide to the scale, symbols and nomenclature used in the drawing. If a master plan or multiple drawings are provided, indicate the specific location(s) and drawing number(s) which depict this area. The location of the decontamination chamber must also be so indicated on the appropriate drawing(s).

REFER TO ATTACHED DRAWING A2

---

4) Proposed remedies:

A) Attach a description of the Operations and Maintenance Plan that will be implemented in accordance with C.1.2(b).

REFER TO ATTACHMENT #3

4) Proposed remedies [continued]

B) Will any portion of this area be abated by use of B.8 Work Procedures?

X YES NO

If yes, indicate below which ACM in this area will be abated by use of the following B.8 Work Procedures:

X B.8.2 & B.8.3 (REMOVAL) **50 S.F. FLOOR TILE/MASTIC 2 LAYERS**

B.8.2 & B.8.4 (ENCAPSULATION)

B.8.2 & B.8.5 (ENCLOSURE)

B.8.6 (DEMOLITION)

B.8.7 (GLOVEBAG)

B.8.8 (ASPHALT ROOFING)

C) Are you proposing any waivers to the above selected B.8 procedures for any of the abatement activities in this area.

X YES NO

If yes, attach a detailed description of the waivers requested and/or the alternative procedures you are proposing to utilize. All items must be keyed to the specific section(s) of the regulations for which waivers are requested.

REFER TO ATTACHMENT #4

D) Are you proposing alternative procedures under B.11 for any of the abatement activities in this area?

X YES NO

If yes, attach a detailed description of the alternate procedures requested you are proposing to utilize. Alternate procedures must include a justification for not following specific section(s) of the regulations and be as protective of public health.

REFER TO ATTACHMENT #4

E) Will any RACM remain in this area after abatement?

X YES NO Beyond scope of inspection

If Yes, attach a description of the RACM that will remain and the details of the on-going Operations and Maintenance Plan that will be implemented in accordance with C.1.2(b).

REFER TO ATTACHMENT #3

AGENCY USE ONLY

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
Department of Health
Division of Occupational and Radiological Health

APPLICATION FOR APPROVAL OF AN ASBESTOS ABATEMENT PLAN

Supplemental Information: Area Description and Proposed remedy

BUILDING LOCATION: **BASEMENT**

Instructions: All items on this form must be addressed. All references to attachments must be clearly identified. All attachments must be marked with the specific item numbers on this form to which they pertain.

---

1) Area Location/Identification (Room Name, Evaluation number, etc.)

AREAS "E", "F", "G", "H", "K", "L"

---

2) Attach a description of each type (e.g. pipe, ceiling, etc.) of regulated asbestos containing material (RACM) in this area, including condition, location, quantity and asbestos content. Attach a copy of the laboratory report(s) for all samples. (NOTE: All laboratory reports must include the name of the building(s) and the location(s) of the sample(s).

REFER TO ATTACHMENT #2

---

3) Attach a current scale drawing of this area, showing direction of North and East, which has been clearly annotated to show the type, location and quantity of all RACM in this area. This drawing must include a legend which acts as a guide to the scale, symbols and nomenclature used in the drawing. If a master plan or multiple drawings are provided, indicate the specific location(s) and drawing number(s) which depict this area. The location of the decontamination chamber must also be so indicated on the appropriate drawing(s).

REFER TO ATTACHED DRAWING A3

---

4) Proposed remedies:

A) Attach a description of the Operations and Maintenance Plan that will be implemented in accordance with C.1.2(b).

REFER TO ATTACHMENT #3

4) Proposed remedies [continued]

B) Will any portion of this area be abated by use of B.8 Work Procedures?

X YES NO

If yes, indicate below which ACM in this area will be abated by use of the following B.8 Work Procedures:

X B.8.2 & B.8.3 (REMOVAL)

TOTAL OF 422 S.F. FLOOR TILE/MASTIC

TOTAL OF 120 S.F. GYPSUM/ BD. & ACM JOINT COMPOUND

C) Are you proposing any waivers to the above selected B.8 procedures for any of the abatement activities in this area.

X YES NO

If yes, attach a detailed description of the waivers requested and/or the alternative procedures you are proposing to utilize. All items must be keyed to the specific section(s) of the regulations for which waivers are requested.

THE FLOORS WITHIN THIS CONTAINMENT AREA SHALL BE COVERED WITH 2 LATERS OF 6 MIL THICK POLYETHYLENE AND WALL COVERED WITH 2 LAYERS OF 6 MIL THICK POLYETHYLENE PER B.8.2 & B.8.3 PROCEDURES. ONCE THE INTERIOR BATHROOM PARTICAN GYPSUM WALLS ARE ABATED AND THE FLOORS ARE FINE CLEANED, THE FLOOR POLYETHYLENE WILL BE REMOVED/DISPOSED AS ACM WASTE AND THE FOLLOWING WAIVERS WOULD APPLY.

REFER TO ATTACHMENT #4 - FLOOR TILE/MASTIC AREAS
REFER TO ATTACHMENT #5 - GYPSUM WALL B.D / JOINT COMPOUND AREAS

D) Are you proposing alternative procedures under B.11 for any of the abatement activities in this area?

X YES **X** NO

If yes, attach a detailed description of the alternate procedures requested you are proposing to utilize. Alternate procedures must include a justification for not following specific section(s) of the regulations and be as protective of public health.

REFER TO ATTACHMENT #4

E) Will any RACM remain in this area after abatement?

X YES NO Beyond scope of inspection

If Yes, attach a description of the RACM that will remain and the details of the on-going Operations and Maintenance Plan that will be implemented in accordance with C.1.2(b).

REFER TO ATTACHMENT #3

AGENCY USE ONLY

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
Department of Health
Division of Occupational and Radiological Health

APPLICATION FOR APPROVAL OF AN ASBESTOS ABATEMENT PLAN

Supplemental Information: Area Description and Proposed remedy

BUILDING LOCATION: **BASEMENT**

Instructions: All items on this form must be addressed. All references to attachments must be clearly identified. All attachments must be marked with the specific item numbers on this form to which they pertain.

---

1) Area Location/Identification (Room Name, Evaluation number, etc.)

AREA "I"

---

2) Attach a description of each type (e.g. pipe, ceiling, etc.) of regulated asbestos containing material (RACM) in this area, including condition, location, quantity and asbestos content. Attach a copy of the laboratory report(s) for all samples. (NOTE: All laboratory reports must include the name of the building(s) and the location(s) of the sample(s).

REFER TO ATTACHMENT #2

---

3) Attach a current scale drawing of this area, showing direction of North and East, which has been clearly annotated to show the type, location and quantity of all RACM in this area. This drawing must include a legend which acts as a guide to the scale, symbols and nomenclature used in the drawing. If a master plan or multiple drawings are provided, indicate the specific location(s) and drawing number(s) which depict this area. The location of the decontamination chamber must also be so indicated on the appropriate drawing(s).

REFER TO ATTACHED DRAWING A3

---

4) Proposed remedies:

A) Attach a description of the Operations and Maintenance Plan that will be implemented in accordance with C.1.2(b).

REFER TO ATTACHMENT #3

4) Proposed remedies [continued]

B) Will any portion of this area be abated by use of B.8 Work Procedures?

X YES NO

If yes, indicate below which ACM in this area will be abated by use of the following B.8 Work Procedures:

X B.8.2 & B.8.3 (REMOVAL) **TOTAL OF 30 S.F. FLOOR TILE/MASTIC**

B.8.2 & B.8.4 (ENCAPSULATION)

B.8.2 & B.8.5 (ENCLOSURE)

B.8.6 (DEMOLITION)

B.8.7 (GLOVEBAG)

B.8.8 (ASPHALT ROOFING)

C) Are you proposing any waivers to the above selected B.8 procedures for any of the abatement activities in this area.

X YES NO

If yes, attach a detailed description of the waivers requested and/or the alternative procedures you are proposing to utilize. All items must be keyed to the specific section(s) of the regulations for which waivers are requested.

REFER TO ATTACHMENT #4

D) Are you proposing alternative procedures under B.11 for any of the abatement activities in this area?

X YES NO

If yes, attach a detailed description of the alternate procedures requested you are proposing to utilize. Alternate procedures must include a justification for not following specific section(s) of the regulations and be as protective of public health.

REFER TO ATTACHMENT #4

E) Will any RACM remain in this area after abatement?

X YES NO Beyond scope of inspection

If Yes, attach a description of the RACM that will remain and the details of the on-going Operations and Maintenance Plan that will be implemented in accordance with C.1.2(b).

REFER TO ATTACHMENT #3

AGENCY USE ONLY

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
Department of Health
Division of Occupational and Radiological Health

APPLICATION FOR APPROVAL OF AN ASBESTOS ABATEMENT PLAN

Supplemental Information: Area Description and Proposed remedy

BUILDING LOCATION: **BASEMENT**

Instructions: All items on this form must be addressed. All references to attachments must be clearly identified. All attachments must be marked with the specific item numbers on this form to which they pertain.

---

1) Area Location/Identification (Room Name, Evaluation number, etc.)

AREA "J"

---

2) Attach a description of each type (e.g. pipe, ceiling, etc.) of regulated asbestos containing material (RACM) in this area, including condition, location, quantity and asbestos content. Attach a copy of the laboratory report(s) for all samples. (NOTE: All laboratory reports must include the name of the building(s) and the location(s) of the sample(s).

REFER TO ATTACHMENT #2

---

3) Attach a current scale drawing of this area, showing direction of North and East, which has been clearly annotated to show the type, location and quantity of all RACM in this area. This drawing must include a legend which acts as a guide to the scale, symbols and nomenclature used in the drawing. If a master plan or multiple drawings are provided, indicate the specific location(s) and drawing number(s) which depict this area. The location of the decontamination chamber must also be so indicated on the appropriate drawing(s).

REFER TO ATTACHED DRAWING A3

---

4) Proposed remedies:

A) Attach a description of the Operations and Maintenance Plan that will be implemented in accordance with C.1.2(b).

REFER TO ATTACHMENT #3

4) Proposed remedies [continued]

B) Will any portion of this area be abated by use of B.8 Work Procedures?

X YES NO

If yes, indicate below which ACM in this area will be abated by use of the following B.8 Work Procedures:

X B.8.2 & B.8.3 (REMOVAL)

60 S.F. OF GYPSUM BD. & ACM JOINT COMPOUND

B.8.2 & B.8.4 (ENCAPSULATION)

B.8.2 & B.8.5 (ENCLOSURE)

B.8.6 (DEMOLITION)

B.8.7 (GLOVEBAG)

B.8.8 (ASPHALT ROOFING)

C) Are you proposing any waivers to the above selected B.8 procedures for any of the abatement activities in this area.

X YES NO

If yes, attach a detailed description of the waivers requested and/or the alternative procedures you are proposing to utilize. All items must be keyed to the specific section(s) of the regulations for which waivers are requested.

REFER TO ATTACHMENT #5

D) Are you proposing alternative procedures under B.11 for any of the abatement activities in this area?

YES **X** NO

If yes, attach a detailed description of the alternate procedures requested you are proposing to utilize. Alternate procedures must include a justification for not following specific section(s) of the regulations and be as protective of public health.

E) Will any RACM remain in this area after abatement?

X YES NO Beyond scope of inspection

If Yes, attach a description of the RACM that will remain and the details of the on-going Operations and Maintenance Plan that will be implemented in accordance with C.1.2(b).

REFER TO ATTACHMENT #3

AGENCY USE ONLY

ATTACHMENT # 1

In Progress and Clearance Air Sampling

A minimum of (1) compliance air sample will be collected outside of each containment area(s) each day for the duration of the asbestos removal project. The compliance air samples shall be collected at random locations adjacent to the work area

If there is a deviation in proper procedures on the part of the asbestos abatement contractor during set-up, removal, or final clean-up, the asbestos abatement workers shall be stopped, the problem rectified, and the building owner shall be notified immediately of the situation. These deviations include inadequate on-site paperwork, deviations in outlined work procedures, or if compliance air sampling outside the work area indicate fiber concentrations in excess of the non-occupational exposure limit 0.01 f/cc. If fiber concentrations are in excess of 0.01 f/cc, the asbestos abatement contractor and the on-site project monitor shall determine the source as well as the extent of the contamination, and the asbestos abatement contractor shall be responsible for extending the existing containment area to include the contaminated area and initiating the clean-up.

Clearance Air Sampling

A visual clearance inspection of each asbestos abatement work area shall be performed prior to clearance air sampling. The visual inspection will include an inspection of all vertical and horizontal surfaces within the containment area as well as all polyethylene sheeting. The on-site project monitor shall determine cleanliness of the work area. After the containment has passed the on-site project monitors visual clearance inspection, the asbestos abatement contractor shall encapsulate all surfaces within the containment area with an approved liquid encapsulant. After the liquid encapsulant has dried, the on-site project monitor shall collect the following number of clearance air samples.

REFER TO **ATTACHMENT 2A - ACM CHART** [LAST COLUMN] THAT LISTS THE QUANTITY OF P.C.M. AIR SAMPLES PER AREA.

Clearance air monitoring results in fiber concentrations in excess of the non-occupational exposure limit of less than 0.01 f/cc, the asbestos abatement contractor shall be responsible for the re-cleaning (i.e., wet-wiping, HEPA vacuuming...etc.) and re-encapsulating of the work area. A period of no less than 24 hours shall elapse prior to the collection of the next set of clearance air samples. This process shall be repeated until the air sample fiber concentrations are less than 0.01 f/cc collected inside the containment area.

ATTACHMENT #2

DESCRIPTION OF ACM

This project involves the abatement of ACM floor tile/ACM mastic (single or double layers) and Gypsum wall board / ACM joint compound as listed within the attached **ATTACHMENT 2A - ACM CHART.**

ATTACHMENT 2A - ACM CHART

DRAWING NUMBER	CONTAINMENT	USEAGE	TYPE OF ACM	QUANTITY OF ACM S.F. AREA	CONDITION	# OF P.C.M. AIR SAMPLES
A1	A1	BATHROOM	9" FLOOR TILE AND MASTIC 1 LAYER	45	GOOD	1 INSIDE / 2 BLANKS
	A2	BATHROOM & CORRIDOR	GYPSUM / J.C. - BOTH SIDES OF WALL TO CEILING HEIGHT	30 S.F./SIDE TOTAL OF 60 S.F.	GOOD	1 INSIDE / 2 BLANKS
	B	BATHROOM	12" FLOOR TILE AND MASTIC 1 LAYER	45	GOOD	1 INSIDE / 2 BLANKS
	C	BATHROOM	12" TILE OVER 9" TILE & MASTIC - 2 LAYERS	45	GOOD	1 INSIDE / 2 BLANKS
A2	D	BATHROOM	12" TILE OVER 9" TILE & MASTIC - 2 LAYERS	50	GOOD	1 INSIDE / 2 BLANKS
A3	E, F, G, H	BATHROOM	9" & 12" SQ. FLOOR TILE	422	FAIR	5 INSIDE / 2 BLANKS
		BATHROOM	GYPSUM/J.C. WALLS BETWEEN SMALL BATH- ROOMS AND AREAS "H" & "F"	650 S.F. TOTAL INCLUDES BOTH SIDES OF WALLS	FAIR	
	K	STORAGE AREA & HALLWAY	GYPSUM / J.C. - BOTH SIDES OF WALL TO CEILING HEIGHT	30 S.F./SIDE TOTAL OF 60 S.F.	GOOD	
	L	BATHROOM & HALLWAY	GYPSUM / J.C. - BOTH SIDES OF WALL TO CEILING HEIGHT	30 S.F./SIDE TOTAL OF 60 S.F.	GOOD	
	I	BATHROOM	9" FLOOR TILE AND MASTIC 1 LAYER	30	POOR	1 INSIDE / 2 BLANKS
	J	BATHROOM & CORRIDOR	GYPSUM / J.C. - BOTH SIDES OF WALL	30 S.F./SIDE TOTAL OF 60 S.F.	GOOD	1 INSIDE / 2 BLANKS

KEY - J.C. = ACM JOINT COMPOUND

ATTACHMENT #3

Interim and On-Going Operations and Maintenance Program - The building occupants are aware of the **ACM** within these areas. These people have been or will be educated and advised not to disturb the asbestos-containing materials due to the potential health effects if asbestos fibers become airborne. Any outside contractor will sign a document stating that he has been made aware of the presence and location of the asbestos-containing materials within these areas. Also, the building owner representative(s) are responsible for presenting information to the building occupants of any asbestos abatement activities being conducted. This will be accomplished by posting memo's and/or posting of caution/warning signs at the all entrances to the building during such activities.

Accidental Disturbance of Asbestos-Containing Materials - At the time of the inspection, they were all aware of the potential presence of ACBM within the areas of concern. The information below outlines the procedures that will be followed in an event of an accidental asbestos fiber release within the building. If an asbestos-containing material becomes disturbed within the criteria of a minor fiber release (less than10 linear feet or 25 square feet of ACBM), a trained "R.I. Competent Person" may perform the clean-up, removal, encapsulation, or enclosure abatement activities utilizing spot repair/removal techniques. During these spot abatement techniques, access to the area shall be restricted to only those trained individuals, signs shall be posted, and HVAC (if applicable) shall be shut down and locked out. If a major fiber release occurs (greater than 10 linear feet or 25 square feet of ACBM), the clean-up, removal, encapsulation, or enclosure abatement activities must be completed by a R.I. Department of Health (R.I. DOH) certified asbestos abatement contractor. Regardless of the amount of asbestos to be abated, the effected area must be isolated and entry to the area restricted to only those trained/certified personnel.

Employee Training - Any employee of the company, firm, agency, or other organization as well as any outside contractor employed by the building owner who, as a consequence of their work activities, disturbs asbestos-containing building materials must be properly trained and certified by the R.I. Department of Health as a "R.I. Competent Person" in accordance with the R.I. Rules and Regulations for Asbestos Control.

Remaining ACM - Each area requiring abatement also contains GYPSUM BOARD & ACM JOINT COMPOUND. There areas will be monitored monthly and any changes in conditions shall be documented and corrected immediately.

ATTACHMENT #4
WAIVER & ALTERNATE PROCEDURES

WAIVER REQUEST - We are requesting a *waiver* of floor polyethylene [B.8.2 (C)], due to removal of the floor tile/mastic and request an.....

ALTERNATE PROCEDURE REQUEST - request an *alternate procedure* for the installation of one (1) layer of 6 mil thick polyethylene for wall preparation instead of the standard 2 layers of 4 mil polyethylene [B8.2(d)].

ATTACHMENT #5
WAIVER REQUEST

WAIVER REQUEST - We are requesting a *waiver* of WALL polyethylene [B.8.2 d)], over wall areas which will be abated due to GYPSUM BOARD & ACM JOINT COMPOUND abatement prior to installation of a new door/frame.

V Lab
3670 West Shore Road - Suite #1 • Warwick, RI 02886 401-738-7710 Fax: 401-738-7869

Date Received: **2/28/2018** Project # *2018-02-021*
Date Analyzed: **2/28/2018**

The following shows fiber concentrations for submitted air samples:

VORTEX INC.
PO BOX 6060
WARWICK, RI

Air Sample results are within the acceptable Indoor Non-occupational Air Standards of <0.01 f/cc

Samples Submitted by: **JOHN CARBONE**

Presented below are the results of air sample(s) analyzed for fiber concentration utilizing PCM Analytical methods.
Phase Contrast Microscopy, NIOSH Manual of Analytical Methods, U.S. Department of Health and Human Services 3rd, as revised May 15, 1989. Method 7400, Counting Rule A. RI DOH certification # AAL-087A1
If there are any questions regarding this report, please contact our V Lab representative.

LOCATION: **PRE-ABATEMENT AIR SAMPLING**
OLIVER STEDMAN BLDG
WAKEFIELD, RI

Analyst
John Carbone

Sample Number	AREA ON PLAN BATHROOMS	V Lab sample#	REPORTED VOLUME (L)	FIBER COUNT	FIELD COUNT	FIBER DENSITY FIBER/MM^2	Q.L. F/CC	F/CC
PA1	**A1**	171326	1206	**11.5**	100	14.375	0.004	**0.005**
PA2	**A2**	171327	1213	**7**	100	8.75	0.004	**0.003**
PA3	**B**	171328	1219	**5.5**	100	6.875	0.004	**0.002**
PA4	**C**	171329	1206	**13**	100	16.25	0.004	**0.005**
PA5	**D**	171330	1233	**8**	100	10	0.004	**0.003**
PA6	**F**	171331	1226	**13**	100	16.25	0.004	**0.005**
PA7	**H**	171332	1221	**15**	100	18.75	0.004	**0.006**
PA8	**I**	171333	1222	**12.5**	100	15.625	0.004	**0.005**
PA9	**J**	171334	1239	**8**	100	10	0.004	**0.003**
	BLANK 1	171335		**0.5**	100			WITHIN ALLOWABLE LIMITS
	BLANK 2	171336		**1**	100			WITHIN ALLOWABLE LIMITS

SanAir Technologies Laboratory

The Identification Specialists

Analysis Report
prepared for
Vortex Inc. Enviro. Management Consulting Training

Report Date: 3/6/2018

Project Name: Stedman

Project #: 18-112

SanAir ID#: 18009004

NVLAP® TESTING

NVLAP LAB CODE 200870-0

1551 Oakbridge Dr. Suite B | Powhatan, Virginia 23139-8061
888.895.1177 | 804.897.1177 | fax: 804.897.0070 | IAQ@SanAir.com | SanAir.com

SanAir ID Number
18009004
FINAL REPORT
3/6/2018 1:55:16 PM

Name: Vortex Inc. Enviro. Management Consulting Training
Address: PO Box 6060
Warwick, RI 02887
Phone: 401-738-7710

Project Number: 18-112
P.O. Number:
Project Name: Stedman
Collected Date: 2/27/2018
Received Date: 3/5/2018 8:00:00 AM

Dear John Carbone,

We at SanAir would like to thank you for the work you recently submitted. The 27 sample(s) were received on Monday, March 05, 2018 via FedEx. The final report(s) is enclosed for the following sample(s): 1, 2, 3, 74, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:
- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

Sample conditions:
- 27 samples in Good condition.

SanAir Technologies Laboratory

SanAir ID Number
18009004
FINAL REPORT
3/6/2018 1:55:16 PM

Name: Vortex Inc. Enviro. Management Consulting Training
Address: PO Box 6060
Warwick, RI 02887
Phone: 401-738-7710

Project Number: 18-112
P.O. Number:
Project Name: Stedman
Collected Date: 2/27/2018
Received Date: 3/5/2018 8:00:00 AM

Analyst: Childress, Susan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non Fiberous	Asbestos Fibers
1 / 18009004-001 F.T.	Beige Non-Fibrous Homogeneous		97% Other	3% Chrysotile
2 / 18009004-002 Mastic For #1	Black Non-Fibrous Homogeneous		97% Other	3% Chrysotile
3 / 18009004-003 F.T. - Bottom Layer	White Non-Fibrous Homogeneous		100% Other	None Detected
74 / 18009004-004 Mastic For #3	Black Non-Fibrous Homogeneous		100% Other	None Detected
5 / 18009004-005 F.T. - Top Layer	Beige Non-Fibrous Homogeneous		100% Other	None Detected
6 / 18009004-006 Mastic For #5	Brown Non-Fibrous Homogeneous		100% Other	None Detected
7 / 18009004-007 F.T.	Various Non-Fibrous Homogeneous		100% Other	None Detected
8 / 18009004-008 Mastic For #7	Black Non-Fibrous Homogeneous		96% Other	4% Chrysotile
9 / 18009004-009 Sheet Floor - Top	Cream Non-Fibrous Homogeneous	20% Cellulose	80% Other	None Detected
10 / 18009004-010 Mastic For #9, Mastic	Cream Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Susan L. Childress Approved Signatory: Johnathan Wilson

Analysis Date: 3/6/2018 Date: 3/6/2018

SanAir Technologies Laboratory

SanAir ID Number
18009004
FINAL REPORT
3/6/2018 1:55:16 PM

Name: Vortex Inc. Enviro. Management Consulting Training
Address: PO Box 6060
Warwick, RI 02887
Phone: 401-738-7710

Project Number: 18-112
P.O. Number:
Project Name: Stedman
Collected Date: 2/27/2018
Received Date: 3/5/2018 8:00:00 AM

Analyst: Childress, Susan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non Fiberous	Asbestos Fibers
10 / 18009004-010 Mastic For #9, Mastic	Yellow Non-Fibrous Homogeneous		100% Other	None Detected
11 / 18009004-011 F.T. - Bottom Layer Under Sheet	Grey Non-Fibrous Homogeneous		97% Other	3% Chrysotile
12 / 18009004-012 Mastic For #11	Black Non-Fibrous Homogeneous		98% Other	2% Chrysotile
13 / 18009004-013 F.T. - Bottom Layer	Beige Non-Fibrous Homogeneous		96% Other	4% Chrysotile
14 / 18009004-014 Mastic For #13	Black Non-Fibrous Homogeneous		97% Other	3% Chrysotile
15 / 18009004-015 F.T. - Top Layer	Beige Non-Fibrous Homogeneous		100% Other	None Detected
16 / 18009004-016 Mastic For #15	Yellow Non-Fibrous Homogeneous		100% Other	None Detected
17 / 18009004-017 F.T. - 9"	Beige Non-Fibrous Homogeneous		97% Other	3% Chrysotile
18 / 18009004-018 Mastic For #17	Black Non-Fibrous Homogeneous		97% Other	3% Chrysotile
19 / 18009004-019 F.T. - 12"	Beige Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Susan P. Childress Approved Signatory: Johnathan Wilson

Analysis Date: 3/6/2018 Date: 3/6/2018

SanAir Technologies Laboratory

SanAir ID Number
18009004
FINAL REPORT
3/6/2018 1:55:16 PM

Name: Vortex Inc. Enviro. Management Consulting Training
Address: PO Box 6060
Warwick, RI 02887
Phone: 401-738-7710

Project Number: 18-112
P.O. Number:
Project Name: Stedman
Collected Date: 2/27/2018
Received Date: 3/5/2018 8:00:00 AM

Analyst: Childress, Susan

Asbestos Bulk PLM EPA 600/R-93/116

	Stereoscopic	Components		
SanAir ID / Description	Appearance	% Fibrous	% Non Fiberous	Asbestos Fibers
20 / 18009004-020 Mastic For #19	Black Non-Fibrous Homogeneous		96% Other	4% Chrysotile
21 / 18009004-021 F.T.	Green Non-Fibrous Homogeneous		100% Other	None Detected
22 / 18009004-022 Mastic For #21	Black Non-Fibrous Homogeneous		97% Other	3% Chrysotile
23 / 18009004-023 F.T.	Beige Non-Fibrous Homogeneous		100% Other	None Detected
24 / 18009004-024 Mastic For #23	Black Non-Fibrous Homogeneous		97% Other	3% Chrysotile
25 / 18009004-025 F.T. - 9"	Beige Non-Fibrous Homogeneous		97% Other	3% Chrysotile
26 / 18009004-026 Mastic For #25	Black Non-Fibrous Homogeneous		96% Other	4% Chrysotile
27 / 18009004-027 Level Material Under #25/ 26	Grey Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Susan P. Childress Approved Signatory: Johnathan Wilson

Analysis Date: 3/6/2018 Date: 3/6/2018

Disclaimer

The final report cannot be reproduced, except in full, without written authorization from SanAir. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations. The accuracy of the results is dependent upon the client's sampling procedure and information provided to the laboratory by the client. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample and information provided by the client. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Samples are held for a period of 60 days.

For NY state samples, method EPA 600/M4-82-020 is performed.

Polarized- light microscopy is not consistently reliable in detecting asbestos in floor covering and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

Asbestos Certifications
NVLAP lab code 200870
City of Philadelphia: ALL-460
PA Department of Environmental Protection Number: 68-05397
California License Number: 2915
Colorado License Number: AL-23143
Connecticut License Number: PH-0105
Massachusetts License Number: AA000222
Maine License Number: LB-0075
New York ELAP lab ID: 11983
Rhode Island License Number: AAL-126
Texas Department of State Health Services License Number: 300440
Commonwealth of Virginia 3333000323
Washington State License Number: C989
West Virginia License Number: LT000566
Vermont License: AL166318

Revision Date: 11/30/2017

SanAir Technologies Laboratory

1551 Oakbridge Dr. STE B
Powhatan, VA 23139
804.897.1177 / 888.895.1177
Fax 804.897.0070
sanair.com

Asbestos Chain of Custody
Form 140, Rev 1, 1/20/2017

SanAirID Number: 18009064

Company:	Vortex Inc. Enviro. Management Consulting Training	Project #: 18-112	Collect by: CARBONE
Address:	PO Box 6060	Project Name: STEDMAN	Phone #: 401-738-7710
City, St., Zip:	Warwick, RI 02887	Date Collected: 2/27/18	Fax #: 401-738-7869
State of Collection: RI	Account#: 3042	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	X
	Positive Stop	☐
ABEPA	PLM EPA 400 Point Count	☐
ABB1K	PLM EPA 1000 Point Count	☐
ABBEN	PLM EPA NOB**	☐
ABBCH	TEM Chatfield**	☐
ABBTM	TEM EPA NOB**	☐
ABQ	PLM Qualitative	☐

** Available on 24-hr. to 5-day TAT

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐
Other:		☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐

Vermiculite & Soil

ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Water

ABHE	EPA 100.2	☐

Matrix	Other	
		☐

Turn Around Times	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR X
	☐ 2 Days	☐ 3 Days	☐ 4 Days	☐ 5 Days

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Date	Flow Rate*	Start – Stop Time*	
1	F.T.					
2	MASTIC FOR #1 (BL)					
3	F.T. – BOTTOM LAYER					
4	MASTIC FOR #3 (BLACK ONLY)					
5	F.T. – TOP LAYER					
6	MASTIC FOR #5 (BROWN)					
7	F.T.					
8	MASTIC FOR #7 (BL)					
9	SHEET FLOOR – TOP					
10	MASTIC FOR #9					
11	F.T. – BOTTOM LAYER UNDER SHEET (GREY)					
12	MASTIC FOR #11 (BL)					

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	2/28/18	4PM	CT	3/5/18	8:05 AM

If no technician is provided, then the primary contact for your account will be selected. Unless scheduled, the turnaround time for all samples received after 3 pm EST Friday will begin at 8 am Monday morning. Weekend or holiday work must be scheduled ahead of time and is charged for rush turnaround time. SanAir covers Standard Overnight FedEx shipping. Shipments billed to SanAir with a faster shipping rate will result in additional charges.

Page 1 of 2

18009004

Form 140, Revision 1, 1/20/2017

Sample #	Sample Identification/Location	Volume or Area	Sample Date	Flow Rate*	Start – Stop Time*	
13	F.T. – BOTTOM LAYER					
14	MASTIC FOR #13 (BLACK ONLY)					
15	F.T. – TOP LAYER					
16	MASTIC FOR #15 (Y)					
17	F.T. – 9"					
18	MASTIC FOR #17 (BL)					
19	F.T. – 12"					
20	MASTIC FOR #19 (BL)					
21	F.T. – GREEN					
22	MASTIC FOR #21 (BL)					
23	F.T.					
24	MASTIC FOR #23 (BL)					
25	F.T. – 9"					
26	MASTIC FOR #25 (BL)					
27	LEVEL MATERIAL UNDER #25/26					

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
			CT	3/5/18	6:05 AM

If no technician is provided, then the primary contact for your account will be selected. Unless scheduled, the turnaround time for all samples received after 3 pm EST Friday will begin at 8 am Monday morning. Weekend or holiday work must be scheduled ahead of time and is charged for rush turnaround time. SanAir covers Standard Overnight FedEx shipping. Shipments billed to SanAir with a faster shipping rate will result in additional charges.

Page ___ of _____

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 858-4800 Fax: (856) 786-5974 Email: westmontasblab@EMSL.com

Attn: **Ken Davis**
LSG, Inc.
PO Box 40593
Providence, RI 02940-0593

Fax: Phone: (401) 751-6131

Project: **STEDMAN BUILDING, 4808 TOWER HILL RD, WAKEFIELD, RI**

Customer ID: LSGI50
Customer PO:
Received: 05/25/10 9:00 AM
EMSL Order: 041010910
EMSL Proj:
Analysis Date: 5/28/2010

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos %	Fibrous	Non-Asbestos %	Non-Fibrous	Asbestos %	Type
6 *041010910-0008*	GROUND FLOOR-LOBBY	White Non-Fibrous Homogeneous			98%	Non-fibrous (other)	2%	Chrysotile
7 *041010910-0009*	GROUND FLOOR-LOBBY	Gray Fibrous Heterogeneous	15% 5%	Cellulose Glass	80%	Non-fibrous (other)	None Detected	
8 *041010910-0010*	GROUND FLOOR-LOBBY	Yellow Fibrous Homogeneous	85%	Cellulose	15%	Non-fibrous (other)	None Detected	
9 *041010910-0011*	GROUND FLOOR-LOBBY	Yellow Non-Fibrous Homogeneous			100%	Non-fibrous (other)	None Detected	
10 *041010910-0012*	GROUND FLOOR-LOBBY						Stop Positive (Not Analyzed)	
11 *041010910-0013*	2ND FLR-233A	Blue Non-Fibrous Homogeneous			100%	Non-fibrous (other)	None Detected	
12 *041010910-0014*	2ND FLR-233A	Tan Non-Fibrous Homogeneous			100%	Non-fibrous (other)	None Detected	

Analyst(s)

Steve Grise (52)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. The limit of detection as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. The test results meet all NELAC requirements unless otherwise specified.

Samples analyzed by EMSL Analytical, Inc. 7 Constitution Way, Suite 107, WoburnMA

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 858-4800 Fax: (856) 786-5974 Email: westmontasblab@EMSL.com

Attn: **Ken Davis**
LSG, Inc.
PO Box 40593
Providence, RI 02940-0593

Fax: Phone: (401) 751-6131

Project: STEDMAN BUILDING, 4808 TOWER HILL RD, WAKEFIELD, RI

Customer ID: LSGI50
Customer PO:
Received: 05/25/10 9:00 AM
EMSL Order: 041010910

EMSL Proj:
Analysis Date: 6/6/2010

Test Report: Asbestos Analysis of Bulk Material via EPA 600/R-93/116. Quantitation using 400 Point Count Procedure.

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	Asbestos % Type
6 041010910-0008	GROUND FLOOR-LOBBY	White Non-Fibrous Homogeneous		98.50% Non-fibrous (other)	1.50% Chrysotile
50 041010910-0052	2ND FLR-230	Beige Non-Fibrous Homogeneous		98.75% Non-fibrous (other)	1.25% Chrysotile

Report Amended: 6/7/2010 12:28:22 PM Replaces the Inital Report . Reason Code: Data Entry-Sample IDs corrected

Analyst(s)
Steve Grise (2)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

Disclaimer:Some samples may contain asbestos fibers present in dimensions below PLM resolution limits. The limit of detection as stated in the method is 0.25%. EMSL Analytical Inc suggests that samples reported as <0.25% or none detected undergo additional analysis via TEM. The above test report relates only to the items tested. This report may not be reproduced, except in full, without written approval of EMSL Analytical Inc. This test report must not be used by the client to claim product endorsement by NVLAP or any agency of the United States Government. EMSL Analytical Inc., bears no responsibility for sample collection activities, analytical method limitations, or the accuracy of results when requested to separate layered samples. EMSL Analytical Inc., liability is limited to the cost of sample analysis.The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.
Samples analyzed by EMSL Analytical, Inc. 7 Constitution Way, Suite 107, WoburnMA

THIS IS THE LAST PAGE OF THE REPORT.

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (866) 858-4800 Fax: (856) 786-5974 Email: westmontasblab@EMSL.com

Attn: **Ken Davis**
LSG, Inc.
PO Box 40593
Providence, RI 02940-0593

Fax: Phone: (401) 751-6131

Project: STEDMAN BUILDING, 4808 TOWER HILL RD, WAKEFIELD, RI

Customer ID: LSGI50
Customer PO:
Received: 05/25/10 9:00 AM
EMSL Order: 041010910

EMSL Proj:
Analysis Date: 5/28/2010

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos %	Fibrous	Non-Asbestos %	Non-Fibrous	Asbestos % Type
45 *041010910-0047*	2ND FLR-230						Stop Positive (Not Analyzed)
46 *041010910-0048*	2ND FLR-230	Gray Fibrous Heterogeneous	15% 5%	Cellulose Glass	80%	Non-fibrous (other)	None Detected
47 *041010910-0049*	2ND FLR-230	Red Fibrous Homogeneous	35%	Cellulose	50%	Non-fibrous (other)	15% Chrysotile
48 *041010910-0050*	2ND FLR-230						Stop Positive (Not Analyzed)
49 *041010910-0051*	2ND FLR-230						Stop Positive (Not Analyzed)
50 *041010910-0052*	2ND FLR-230	Beige Non-Fibrous Homogeneous			98%	Non-fibrous (other)	2% Chrysotile
51 *041010910-0053*	2ND FLR-230	Brown/Gray Fibrous Heterogeneous	15%	Cellulose	85%	Non-fibrous (other)	None Detected

Analyst(s)
Steve Grise (52)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. The limit of detection as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. The test results meet all NELAC requirements unless otherwise specified.
Samples analyzed by EMSL Analytical, Inc. 7 Constitution Way, Suite 107, Woburn MA

041010910

LSG, Inc.

PO Box 40593, Providence, RI 02940
Telephone: (401) 751-6131 Fax: (401) 454-0059

SAMPLE DATA SHEET

PROJECT: Stedman Building, 4808 Tower Hill Rd, Wakefield, RI 02879 — PO #: MPA194
Lerner, Ladd + Bartels, Inc. — RI STATE CONTRACT
SAMPLED BY: K. Davis — PROJECT #:
DATE: 5/21/10 – 5/24/10 — PAGE OF 3

Line	Sample #	Description	Location	Notes
1	1	VT 12x12 (Wh w/ Blue + Pur flecks)	Ground Floor - Lobby	
2	2	Glue (Yellow) under #1	— · —	
3	2A	Mastic (Black) — #2 on concrete	— · —	
4	3	VC (Black) 4"	— · —	
5	4	Glue (Yellow) under #3	— · —	
6	5	Glue (Brown) residue under #4 on Sh. (Sh. on wall)	— · —	
7	5A	(Same #5) on Sh.	— · —	
8	6	Joint Compound (JC) on Sh. wall joint under #5.	— · —	
9	7	Sh. under #6	— · —	
10	8	Cloth wrap on F.G. steam pipe insulat^n	— · —	
11	9	(Same #4)	— · —	
12	10	(— #5) under #9	— · —	
13	11	VC (Blue) 4"	2nd Flr - 233A	
14	12	Glue (Cream) on painted Sh. (no skimcoat)	— · —	
15	13	Gray coating underside of steel sing	— · 201A	
16	14	Glue (Dark Brown) under Flr, in-# metal edge frame on Sh. wall	— · corridor, west of 229D	
17	15	Glue (Beige) sample — on Sh. wall	— · —	
18	16	(Same #6) @ Sh. wall joint	— · —	
19	17	(— #6) — A/C	— · — (above elec. panels)	
20	18	(— #7) under #17.	— · —	
21	19	12"x12" splined SAT ceiling panel	— · —	
22	20	Debris from roof panels (off-wh) on top of tile #19	— · —	
23	21	VC (Gray) 4"	— · — @ Door to Lobby	
24	22	(Same #12) under #21 on painted Sh. (no skim)	— · —	
25	23	(— #5) — #22	— · —	
26	24	VT 12x12 (Off-wh Brick flecks)	— · 216	
27	25	Glue (Yellow) under #24 (Same #4) on concrete (no black mastic)	— · 216	
28	26	VC (Beige) 4"	— · —	
29	27	Glue (Beige) under #26	— · —	
30	28	(Same #5) on Sh. and wood cabs under #27.	— · —	

Positive Stop: A, B, C, D, E, F, F, G, H, I, E, F, J, K, L, M, N, G, G, H, O, P, Q, K, F, R, E, S, L, K, F

MALES ACCEPTED FOR ANALYSIS BY PLM

COMMENTS: (1) Type of Analysis – PLM for Asbestos (EPA/600/R-93/116)
(2) TAT = 96 hours; (3) EMSL LabConnect posting only.
(4) Total number of samples submitted = 70 (Seventy) – SEE POSITIVE STOP

RELINQUISHED BY: (SIGNATURE)	DATE	RECEIVED BY: (SIGNATURE)	DATE
[signature]	5/24/10	[signature]	

bsamplog-plm

041010910

LSG, Inc.

PO Box 40593, Providence, RI 02940
Telephone: (401) 751-6131 Fax: (401) 454-0059

SAMPLE DATA SHEET

PROJECT: Stedman Building, 4808 Tower Hill Rd, Wakefield, RI 02879 — PO #: MPA194
Lerner, Ladd + Bartels, Inc.

SAMPLED BY: K. Davis — PROJECT #:

DATE: 5/24/10 — PAGE 2 OF 3

Line	Sample #	Description	Location	Notes
1	29	JOINT COMP^D AT NAIL HEADS + SH (UNPAINTED) (IN WOOD) CABS	2ND FLR - 216	G?
2	30	(SAME AS #29)	— . —	O
3	31	(— #6) @ Sh. wall joint A/C	— . —	G
4	32	(— #7) UNDER #31	— . —	H
5	33	(— #1)	— . 238A	A
6	34	(— #2) UNDER #33 ON CONC [NO BLACK MASTIC]	— . —	B
7	35	VC (BLACK) 4"	— . —	D
8	36	GLUE (BROWN) UNDER #35 [SAME #5] ON Sh. WALL	— . —	F
9	37	GLUE UNDER CARPET ON CONCRETE.	— . —	T
10	38	(SAME #37)	— . 219	T
11	39	2x4 SAT CEILING PANEL (SMALL HOLE PATT^N)	— . 229D	U
12	40	(SAME #39)	— . 229A	U
13	41	(— #20)	— —	P
14	42	(— #15) WOOD STRIPS & WOOD FIBER PANELS ON PAINTED Sh. WALL UNDER	— . 224	N
15	43	(— #6)	— . 208	G
16	44	(— #7) UNDER #43	— . 208	H
17	45	(— #6)	— . 230	G
18	46	(— #7) — #45	— . 230	H
19	47	ELECTRICAL WIRE INSULATION MATERIAL (RED) FLOOR. LIGHT FIXTURES CEILING	— . —	V — WRAPPED WIRES & JUNCTION BOX A/C
20	48	(SAME #47) - WHITE	— . —	V
21	49	(— . —) - BLACK	— . —	V — ELEC TRAY INTERIOR
22	50	JOINT COMPOUND AT SH CEILING SOFFIT (SMOT)	— . —	W
23	51	Sh. under #50	— . —	X
24	52	(SAME #50)	— . 232	W
25	53	(— #51) UNDER #52	— . —	X
26	54	(— #50)	— . 234	W
27	55	(— #14)	— . 236	M
28	56	(— #15)	— . 236	N
29	57	VC (BROWN) 4"	— . —	Y
30	58	(SAME #12) UNDER #57.	— . —	K

COMMENTS: (1) Type of Analysis = PLM for Asbestos (EPA/600/R-93/116)
(2) TAT = ____ hours; (3) EMSL LabConnect posting only.
(4) Total number of samples submitted =

SEE PAGE 1

RELINQUISHED BY: (SIGNATURE)	DATE	RECEIVED BY: (SIGNATURE)	DATE
	5.24.10		

bsamplog-plm

PARTIAL FIRST FLOOR DEMOLITION PLAN - PUBLIC RESTROOMS

1 AD1.1 1/4" = 1'-0"

PARTIAL FIRST FLOOR DEMOLITION PLAN - PRIVATE RESTROOMS

2 AD1.1 1/4" = 1'-0"

DRAWING A1

PARTIAL SECOND FLOOR DEMOLITION PLAN - RESTROOMS

1
AD1.2
1/4" = 1'-0"

DRAWING A2

PARTIAL BASEMENT DEMOLITION PLAN - RESTROOMS

1 / AD1.0

1/4" = 1'-0"

PARTIAL BASEMENT DEMOLITION PLAN - LOCKERS

2 / AD1.0

1/4" = 1'-0"

DRAWING A3

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DOCUMENT 00 45 13

CONTRACTOR'S QUALIFICATION STATEMENT

AIA Document A305, Contractor's Qualification Statement - Electronic Format, 1986 Edition, is included, following this page, as an integral part of the Bid documents, for use in evaluating the qualifications of Contractors.

The numerical low bidder will be required to complete and submit this form for evaluation.

END OF DOCUMENT

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AIA® Document A305™ – 1986

Contractor's Qualification Statement

The Undersigned certifies under oath that the information provided herein is true and sufficiently complete so as not to be misleading.

SUBMITTED TO:

ADDRESS:

SUBMITTED BY:

NAME:

ADDRESS:

PRINCIPAL OFFICE:

[ ] Corporation

[ ] Partnership

[ ] Individual

[ ] Joint Venture

[ ] Other

NAME OF PROJECT: *(if applicable)*

TYPE OF WORK: *(file separate form for each Classification of Work)*

[ ] General Construction

[ ] HVAC

[ ] Electrical

[ ] Plumbing

[ ] Other: *(Specify)*

§ 1. ORGANIZATION

§ 1.1 How many years has your organization been in business as a Contractor?

§ 1.2 How many years has your organization been in business under its present business name?

§ 1.2.1 Under what other or former names has your organization operated?

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

This form is approved and recommended by the American Institute of Architects (AIA) and The Associated General Contractors of America (AGC) for use in evaluating the qualifications of contractors. No endorsement of the submitting party or verification of the information is made by AIA or AGC.

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User Notes: (1967934515)

§ **1.3** If your organization is a corporation, answer the following:

§ **1.3.1** Date of incorporation:

§ **1.3.2** State of incorporation:

§ **1.3.3** President's name:

§ **1.3.4** Vice-president's name(s)

§ **1.3.5** Secretary's name:

§ **1.3.6** Treasurer's name:

§ **1.4** If your organization is a partnership, answer the following:

§ **1.4.1** Date of organization:

§ **1.4.2** Type of partnership (if applicable):

§ **1.4.3** Name(s) of general partner(s)

§ **1.5** If your organization is individually owned, answer the following:

§ **1.5.1** Date of organization:

§ **1.5.2** Name of owner:

§ **1.6** If the form of your organization is other than those listed above, describe it and name the principals:

§ 2. LICENSING

§ **2.1** List jurisdictions and trade categories in which your organization is legally qualified to do business, and indicate registration or license numbers, if applicable.

§ **2.2** List jurisdictions in which your organization's partnership or trade name is filed.

§ 3. EXPERIENCE

§ **3.1** List the categories of work that your organization normally performs with its own forces.

§ **3.2** Claims and Suits. (If the answer to any of the questions below is yes, please attach details.)

§ **3.2.1** Has your organization ever failed to complete any work awarded to it?

§ **3.2.2** Are there any judgments, claims, arbitration proceedings or suits pending or outstanding against your organization or its officers?

§ **3.2.3** Has your organization filed any law suits or requested arbitration with regard to construction contracts within the last five years?

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User Notes: (1967934515)

§ **3.3** Within the last five years, has any officer or principal of your organization ever been an officer or principal of another organization when it failed to complete a construction contract? (If the answer is yes, please attach details.)

§ **3.4** On a separate sheet, list major construction projects your organization has in progress, giving the name of project, owner, architect, contract amount, percent complete and scheduled completion date.

§ **3.4.1** State total worth of work in progress and under contract:

§ **3.5** On a separate sheet, list the major projects your organization has completed in the past five years, giving the name of project, owner, architect, contract amount, date of completion and percentage of the cost of the work performed with your own forces.

§ **3.5.1** State average annual amount of construction work performed during the past five years:

§ **3.6** On a separate sheet, list the construction experience and present commitments of the key individuals of your organization.

§ 4. REFERENCES

§ **4.1** Trade References:

§ **4.2** Bank References:

§ **4.3** Surety:

§ **4.3.1** Name of bonding company:

§ **4.3.2** Name and address of agent:

§ 5. FINANCING

§ **5.1** Financial Statement.

§ **5.1.1** Attach a financial statement, preferably audited, including your organization's latest balance sheet and income statement showing the following items:

Current Assets (e.g., cash, joint venture accounts, accounts receivable, notes receivable, accrued income, deposits, materials inventory and prepaid expenses);

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Net Fixed Assets;

Other Assets;

Current Liabilities (e.g., accounts payable, notes payable, accrued expenses, provision for income taxes, advances, accrued salaries and accrued payroll taxes);

Other Liabilities (e.g., capital, capital stock, authorized and outstanding shares par values, earned surplus and retained earnings).

§ **5.1.2** Name and address of firm preparing attached financial statement, and date thereof:

§ **5.1.3** Is the attached financial statement for the identical organization named on page one?

§ **5.1.4** If not, explain the relationship and financial responsibility of the organization whose financial statement is provided (e.g., parent-subsidiary).

§ **5.2** Will the organization whose financial statement is attached act as guarantor of the contract for construction?

§ **6. SIGNATURE**

§ **6.1** Dated at this day of

Name of Organization:

By:

Title:

§ **6.2**

M being duly sworn deposes and says that the information provided herein is true and sufficiently complete so as not to be misleading.

Subscribed and sworn before me this day of

Notary Public:

My Commission Expires:

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DOCUMENT 00 52 13

AGREEMENT FORM

AIA Document A101 Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum - 2017 Edition, and as amended, forms the basis of Contract between the Owner and Contractor, and is included, following this page, as an integral part of the Bid documents. Provisions that are not amended or supplemented remain in full force and effect.

END OF DOCUMENT

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AIA® Document A101™ – 2017 Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

The parties should complete A101™–2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201™–2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

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AGREEMENT made as of the « » day of « » in the year « »
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address, telephone and facsimile numbers, and website)

«State of Rhode Island, acting by and through the Department of Administration, Division of Purchases, on behalf of the User Agency»
«One Capitol Hill, Second Floor»
«Providence, Rhode Island 02908-5855»
«401.578.8100 (telephone); 401.574.8387 (facsimile)»
«www.ridop.ri.gov»

on behalf of the User Agency:
(Name, legal status, address, telephone and facsimile numbers, and website)

« »
« »
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and the Contractor:
(Name, legal status, address, telephone and facsimile numbers, and website)

« »
« »
« »
« »
« »

for the following Project:
(Name, location and detailed description)

« »
« »
« »

The Design Agent:
(Name, legal status, address, telephone and facsimile numbers, and website)

« »
« »
« »

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« »
« »

The Owner and Contractor agree as follows.

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TABLE OF ARTICLES

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9 ENUMERATION OF CONTRACT DOCUMENTS

EXHIBIT A INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General Conditions, Supplementary Conditions (if any), and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others. No part of the Work shall be performed by Subcontractors without the Owner's prior written consent.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be the later of: (i) the issuance of the Purchase Order by the Owner; and (ii) the date set forth in a notice to proceed issued by the User Agency.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:
(Check one of the following boxes and complete the necessary information.)

[« »] Not later than « » (« ») calendar days from the date of commencement of the Work.

[« »] By the following date: « »

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

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Portion of Work	Substantial Completion Date
« »	

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. Subject to additions and deductions as provided in the Contract Documents, the Contract Sum shall be: $_____.

§ 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price
« »	

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.
(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance
« »		

§ 4.3 Allowances, if any, are specified in the Bid Proposal Form and are included in the Contract Sum.

§ 4.4 Unit prices, if any, are specified in the Bid Proposal Form and include all costs, including without limitation, labor, materials, services, regulatory compliance, overhead, and profit necessary for the completion of the Work. Unit prices shall be used for both additions to, and deletions from the Work.

§ 4.5 Liquidated damages, if any:
(Insert terms and conditions for liquidated damages, if any.)

«**.1** In the event that there is one date for Substantial Completion of the Work, the Contractor shall pay the Owner the sum stipulated in this Section 4.5.1 as liquidated damages, and not as a penalty, for each calendar day of delay until the Work is substantially complete: $_____.

.2 In the event that the Project is scheduled to be completed in phases, and there is more than one date for Substantial Completion of the Work, the Contractor shall pay the Owner an aggregate amount equal to the sums stipulated in this Section 4.5.2 as liquidated damages, and not as a penalty, for each calendar day of delay until the Work for each phase is substantially complete:

Phase	Liquidated Damages Sum

.3 The Owner and the Contractor have reasonably determined the sums set forth in this Section 4.5 to be a fair estimate of the Owner' actual damages which are difficult to ascertain in the event of delay.»

§ 4.6 Other:

The Owner shall not be liable to the Contractor or any Subcontractor for claims or damages of any nature caused by or arising out of any delays. The sole remedy against the Owner for delays shall be the allowance of additional time for completion of the Work.

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ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Design Agent by the Contractor and Certificates for Payment issued by the Design Agent and approved by the Owner in writing, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month.

§ 5.1.3 The Owner shall make payment of the certified amount, less retainage, to the Contractor not later than the 30th working day following written approval by the Owner.

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor and approved by the Design Agent and the Owner in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Design Agent and the Owner may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 In accordance with AIA Document A201™–2007, General Conditions of the Contract for Construction as modified by the Owner, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows: _____.

§ 5.1.6.1 The amount of each progress payment shall first include:

- **.1** That portion of the Contract Sum properly allocable to completed Work;
- **.2** That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and
- **.3** That portion of Construction Change Directives that the Design Agent determines, in the Design Agent's professional judgment, to be reasonably justified.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

- **.1** The aggregate of any amounts previously paid by the Owner;
- **.2** The amount, if any, for Work that remains uncorrected and for which the Design Agent has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201–2007 as modified by the Owner;
- **.3** For Work performed or defects discovered since the last payment application, any amount for which the Design Agent may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2007 as modified by the Owner; and
- **.4** Retainage withheld pursuant to Section 5.1.7.

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due: five (5%) percent.

§ 5.1.7.1.1 Deleted.

§ 5.1.7.2 Deleted.

§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:

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The amount of five (5%) percent shall be retained by the Owner through the date of Substantial Completion of the Work and then after the date of Substantial Completion of the Work in accordance with R.I. Gen. Laws § 37-12-10.1.

§ 5.1.8 If Final Completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201–2007 as modified by the Owner.

§ 5.1.9 Except with the Owner's prior written approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.1.10 Aside from payments that a Contractor is required to make to a Subcontractor in accordance with 220-RICR-70-00-3 (the "MBE Capital Payment Pilot Program" regulation) , the Contractor must pay its Subcontractors the full amount included for each such Subcontractor within the Contractor's Application for Payment within 10 working days of receipt of progress payment from the Owner and in accordance with the provisions of AIA A201 – 2007, General Conditions of the Contract for Construction as modified by the Owner. Payment to MBE Subcontractors shall be made in accordance with the MBE Capital Payment Pilot Program regulation, 220-RICR-70-00-3.

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, less the amount withheld pursuant to § 5.1.7.3, shall be made by the Owner to the Contractor when:

- **.1** the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201–2007 as modified by the Owner, and to satisfy other requirements, if any, which extend beyond final payment; and
- **.2** a final Certificate for Payment has been issued by the Design Agent and approved in writing by the Owner;
- **.3** the Contractor has submitted its final release and final releases from all of its Subcontractors and suppliers in a form acceptable to the Owner; and
- **4** the Contractor has submitted to the Owner all close-out documents, including without limitation, all as-built plans, warranties, manuals, and other materials set forth in the Contract Documents.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 working days after the issuance of the Design Agent's final Certificate for Payment and written approval by the Owner.

§ 5.3 Interest

Payments due and unpaid under the Contract shall bear interest from the date payment is due in accordance with the provisions of "Prompt Payment by Department of Administration," R.I. Gen. Laws §§ 42-11.1-1 et seq.

§ 5.4 Owner's Rights

§ 5.4.1 The Owner shall have the right to deduct from any payments due to the Contractor the amount of any unpaid obligations owed to the State of Rhode Island by the Contractor, including without limitation, any and all unpaid taxes, the amount of any claim against the Contractor arising out of this Agreement, or any amount on account of any other reason permitted by applicable law.

§ 5.5 Pursuant to R.I. Gen. Laws § 44-1-6, the Owner shall withhold payment from the Contractor if the Contractor does not maintain a regular place of business in Rhode Island in the amount of three (3%) percent of the Contract Sum until 30 calendar days after Final Completion and compliance by the Contractor with the requirements of such section. The three (3%) percent withheld pursuant to R.I. Gen. Laws § 44-1-6 is not considered retainage which is held pursuant to § 5.1.7.

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

Claims shall be referred to the Initial Decision Maker for initial decision. The Purchasing Agent appointed pursuant to the provisions of the "State Purchases Act," R.I. Gen. Laws § 37-2-1 et seq., will serve as the Initial Decision Maker in accordance with the provisions of the State Purchases Act, State of Rhode Island Procurement

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Regulations, and this Section 6.1. An initial decision shall be required as a condition precedent to binding dispute resolution pursuant to Section 6.3 of any Claim arising prior to the date final payment is due.

§ 6.2 Mediation
For any Claim not resolved by the Initial Decision Maker procedures set forth in Section 6.1, and prior to the implementation of the binding dispute resolution procedures set forth in Section 6.3, the Contractor shall have the option to pursue mediation, exercisable by written notice to the Owner within 30 calendar days of an Initial Decision. In the event of the exercise of such option by the Contractor, the Owner and the Contractor shall attempt to select a mediator, and in the event that the Owner and the Contractor cannot agree on a mediator, either party may apply in writing to the Presiding Justice of the Providence County Superior Court, with a copy to the other, with a request for the court to appoint a mediator, and the costs of the mediator shall be borne equally by both parties.

§ 6.3 Binding Dispute Resolution
For any Claim not resolved by the Initial Decision Maker procedures set forth in Section 6.1, or mediation at the option of the Contractor pursuant to Section 6.2, the method of binding dispute resolution shall be determined in accordance with the provisions of the "Public Works Arbitration Act," R.I. Gen. Laws §§ 37-16-1 et seq.

ARTICLE 7 TERMINATION OR SUSPENSION
§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2007, as modified by the Owner. The Contract may also be terminated by the Owner: (i) in the event of the unavailability of appropriated funds; (ii) in the absence of a determination of continued need; or (iii) as otherwise provided in the State of Rhode Island Procurement Regulations General Conditions of Purchase or other applicable law.

§ 7.1.1 Deleted.

§ 7.2 The Work may be suspended by the Owner as provided in: (i) the State of Rhode Island General Conditions of Purchase Regulation or other applicable law; or (ii) Article 14 of AIA Document A201–2007 as modified by the Owner.

ARTICLE 8 MISCELLANEOUS PROVISIONS
§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2007 or another Contract Document, the reference refers to: (i) the AIA Document A201 – 2007 or other Contract Document as modified by the Owner; and (ii) that provision in the AIA Document A201 – 2007 as modified by the Owner or other Contract Document as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 Representatives for the Owner
§ 8.2.1 The Owner's representative:
(Name, title, address, email address, and other information for the preferred methods of contact)

« »
« »
« »
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§ 8.2.2 The User Agency's representative:
(Name, title, address, email address, and other information for the preferred methods of contact)

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§ 8.2.3 The Design Agent's representative:

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(Name, title, address, email address, and other information for the preferred methods of contact)

« »
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§ 8.3 The Contractor's representative:
(Name, title, address, email address, and other information for the preferred methods of contact)

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§ 8.4 Neither the Owner's nor the Contractor's representative nor the Design Agent's representative shall be changed without 10 working days' prior notice to the other party.

§ 8.5 Insurance and Bonds
§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in the Solicitation and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in the Solicitation and elsewhere in the Contract Documents.

§ 8.6 Deleted.

§ 8.7 Other provisions:
§ 8.7.1 The Contractor represents and warrants to the Owner, in addition to any other representations and warranties of the Contractor elsewhere in the Contract Documents:

.1 The Contractor and its Subcontractors are each financially solvent, able to pay their debts as they mature, and possess sufficient working capital to perform their obligations under the Contract Documents.
.2 The Contractor and its Subcontractors are each able to furnish the tools, materials, equipment, and labor required to complete the Project as required under the Contract Documents.
.3 The Contractor and each Subcontractor are authorized to do business in the State of Rhode Island and are properly licensed by all necessary governmental authorities having jurisdiction over them and over the Work and the Project.
.4 The execution of this Agreement and its performance is within its duly authorized powers.
.5 The Contractor has visited the site of the Project, familiarized itself with the local and special conditions under which the Work is to be performed, and correlated its observations with the requirements of the Contract Documents.
.6 The Contractor possesses the requisite level of experience and expertise in the business administration, construction, and superintendence of projects of the size, complexity, and nature of the Project, and it will perform the Work with the care, skill, and diligence of a contractor possessing such experience and expertise.

§ 8.7.2 The representations and warranties of the Contractor in this Section 8.7 and elsewhere in the Contract Documents will survive the execution and delivery of this Agreement, any termination of this Agreement, and the Final Completion of the Work.

§ 8.7.3 Any Change Orders or other Modifications must be approved in writing by the Owner.

§ 8.7.4 The Owner is the State of Rhode Island, acting by and through its Department of Administration, Division of Purchases, and therefore, pursuant to the provisions of R.I. Gen. Laws § 34-28-31, mechanics liens may not be placed against the Project.

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ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

.1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor, as modified by the Owner

.2 **Deleted.**

.3 AIA Document A201™–2007, General Conditions of the Contract for Construction, as modified by the Owner.

.4 **Deleted.**

.5 Drawings

The Drawings are included in the Solicitation and are available on the Division of Purchases website at www.ridop.ri.gov.

.6 Specifications

The Specifications are included in the Solicitation and are available on the Division of Purchases website at www.ridop.ri.gov.

.7 Addenda, if any, issued pursuant to the Solicitation form a part of the Solicitation and are available on the Division of Purchases website at www.ridop.ri.gov.

.8 Supplementary and other Conditions of the Contract, including without limitation, the State of Rhode Island General Conditions of Purchase Regulation.

.9 Other documents listed below:

.1 The Solicitation, issued by the Owner, including without limitation, the Invitation to Bid, the Instructions to Bidders, the Specifications and Drawings, any Addenda, and the Bid Checklist.

.2 The Bid Proposal, including without limitation, the Bid Form and the Bidder Certification Cover Form.

.3 The Purchase Order issued by the Owner.

§ 9.2 This Agreement and the Contract Documents are subject to, and governed by, the laws of the State of Rhode Island, including all procurement statutes and regulations (available at www.ridop.ri.gov), and applicable federal and local law, all of which are fully incorporated into this Agreement by this reference.

§ 9.3 In the event of any conflict between or among the Contract Documents, or any Contract Documents and any provision of the State of Rhode Island Procurement Regulations and/or any other provision of the Rhode Island General Laws, the State of Rhode Island Procurement Regulations and the Rhode Island General Laws shall control.

ARTICLE 10 BENEFITS OF AGREEMENT

§ 10.1 The User Agency is a disclosed third-party beneficiary of this Agreement and shall have all of the rights and benefits hereunder to which such a party is entitled. Nothing contained in this Agreement shall create a contractual relationship with, or a cause of action in favor of, any other third party against the Owner or the User Agency.

§ 10.2 This Agreement shall be binding on the Contractor and its successors and assigns; provided, however, that the Contractor may not assign its rights nor delegate its responsibilities under this Agreement without the Owner's prior written consent.

This Agreement is entered into as of the day and year first written above; provided, however, that this Agreement shall not become a valid, binding, and enforceable contract unless and until the Owner shall have issued a Purchase Order.

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User Notes: (3B9ADA24)

«THE STATE OF RHODE ISLAND, acting by and through its Department of Administration, Division of Purchases»	« »
OWNER *(Signature)*	**CONTRACTOR** *(Signature)*
« »« »	« »« »
(Printed name and title)	*(Printed name and title)*

DRAFT

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DOCUMENT 00 65 19.16

WAIVER OF LIEN FORM

The Waiver of Lien Form is included, following this page, as an integral part of the Contract documents. A copy with completed information must be submitted with the second and each succeeding Application for Payment.

WAIVER OF LIEN FORM
Material or Labor

Construction Project Title: _____

General Contractor: _____

Subcontractor/Supplier: _____

General Contractor's previous Application No: _____
General Contractor's previous Application Date: _____

Schedule of Values Line Item No.: _____

DESCRIPTION OF WORK Heading: _____

Total payment Received to Date:
$ _____

The undersigned Representative of the above Subcontractor/Supplier has been contracted by the above General Contractor to furnish materials, or labor, or both, as included in the approved Schedule of Values under the Line Item No., and DESCRIPTION OF WORK heading indicated above, for the Construction Project listed above.

The undersigned acknowledges receipt of payment, under this Line Item No., and DESCRIPTION OF WORK heading, and hereby waives and releases any and all lien, or claim or right to lien, on the Construction Project listed above, and premises, under the statutes of the State of Rhode Island, relating to Mechanics Liens, on account of materials, or labor, or both, furnished, or which may be furnished, by the undersigned to, or on account of, the above numbered and dated Application and Certificate for Payment.

Signed this month of _____ day of _____, 20___.

_____
(signature)

_____
(company/firm name)

END OF DOCUMENT

DOCUMENT 00 65 19.18

AFFIDAVIT OF GENERAL CONTRACTOR THAT ALL SUBCONTRACTORS. SUPPLIERS AND LABORERS HAVE BEEN PAID AND HOLD HARMLESS CLAUSE

The affidavit is included, following this page, as an integral part of the bid documents, for submittal with all applications for payment.

DOCUMENT 00815

AFFIDAVIT OF GENERAL CONTRACTOR
THAT ALL SUBCONTRACTORS. SUPPLIERS AND LABORERS
HAVE BEEN PAID: AND HOLD HARMLESS CLAUSE

To:

The undersigned hereby deposes, says and makes affidavit under oath that he/she is _____ of _____ and further certifies that as of today's date all monies previously advanced pursuant to requisitions of the Contractor in connection with the Project known as Restroom Renovations at the Oliver Stedman Government Center have been paid to or are being held for and will be paid to the subcontractors, laborers, or suppliers: that there are no further amounts owing to the knowledge of the undersigned other than as set forth in the current requisition, a copy of which is attached hereto, and that only materials, fixtures, and equipment to which undersigned has absolute title have been used in the project. Further, the undersigned HEREBY HOLDS HARMLESS THE STATE OF RHODE ISLAND, AND ALL COMMITTEES, BOARDS, DEPARTMENTS AND AGENCIES THEREUNDER, AND AGREES TO INDEMNIFY SAME FOR ANY ACTION OR SUIT BROUGHT BY ANY SUBCONTRACTOR, LABORER, OR SUPPLIER FOR THE PAYMENT OF ANY SUMS DUE RELATIVE TO The AFORESAID PROJECT. Said Hold Harmless Clause and Indemnification shall cause the undersigned to shield the State of Rhode Island and all committees boards, departments and agencies from all attachments, chattel mortgages, and all liens, whatsoever, sought by subcontractors, laborers and/or suppliers for collection of monies allegedly due said parties for work performed on the aforesaid Project.

On the _____ day of _____, 20___, before me appeared_____, where upon oath said property executed the foregoing Affidavit as their free act and deed.

NOTARY

My commission expires:

DOCUMENT 00 72 13

GENERAL CONDITIONS

AIA Document A201, General Conditions of the Contract for Construction - 2007 Edition, is included, following this page, as an integral part of the Bidding and Contract Documents. Provisions which are not amended or supplement remain in full force and effect.

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AIA® Document A201™ – 2007

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

Oliver Stedman Government Center
4800 Tower Hill Road
Wakefield, Rhode Island
Restroom Renovations

THE OWNER:
(Name, legal status and address)
The State of Rhode Island, acting by and through the Department of Administration
Division of Purchases, on behalf of the User Agency
One Capitol Hill, Second Floor
Providence, Rhode Island 02908-5855
(401) 574-8100 (telephone)
(401 574-8387 (facsimile)
www.ridop.ri.gov

THE USER AGENCY

(Name, address, telephone and facsimile numbers, and web address)

The State of Rhode Island
Department of Administration
Division of Capital Asset Management and Maintenance
One Capitol Hill
Providence, Rhode Island 02908

THE Design Agent:
(Name, legal status, address, telephone and facsimile numbers, and web address)

Saccoccio & Associates Architects»
1085 Park Avenue »
Cranston, RI 02910»
Tel: (401) 942-7970 »
Fax: (401) 942-7975»
www.sa-architects.com

TABLE OF ARTICLES

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ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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User Notes: A201- 2007 template revision date 6/13/2019 (1870164535)

7 CHANGES IN THE WORK

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (the Agreement) and consist of the Agreement (and the documents enumerated therein), Conditions of the Contract (General Conditions, Supplementary Conditions, if any, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Design Agent.

§ 1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Design Agent or the Design Agent's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Design Agent or the Design Agent's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Design Agent shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Design Agent's duties.

§ 1.1.3 THE WORK

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

§ 1.1.5 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location, and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 INSTRUMENTS OF SERVICE

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Design Agent and the Design Agent's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 INITIAL DECISION MAKER

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

§ 1.2.1 The intent of the Contract Documents is to include all items and services necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; the Contractor shall perform all work reasonably inferable from the Contract Documents as being necessary to produce the indicated results.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

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§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.2.4 In the event of any conflicts or discrepancies among the Contract Documents, the provisions of the Contract Documents will be interpreted in the order of priority set forth in Rhode Island Procurement Regulation 220-RICR-30-00-13.4(B).

§ 1.2.5 In the event of any conflicts or discrepancies between the Contract Documents and the State of Rhode Island Procurement Regulations or any provision of the Rhode Island General Laws, the State of Rhode Island Procurement Regulations and the Rhode Island General Laws will control.

§ 1.2.6 In the event of any inconsistency between the Drawings and Specifications, the better quality or greater quantity of Work shall be provided.

§ 1.2.7 The Owner will be the final decision maker for any and all interpretations.

§ 1.3 CAPITALIZATION

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 INTERPRETATION

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

§ 1.5.1 The Owner and the User Agency shall have a perpetual license to utilize the Drawings, Specifications, and other documents, including electronic or digital documents, prepared by the Design Agent and the Design Agent's consultants, for the execution of the Project and shall have and retain all rights to use them and reproduce them for the production and maintenance of the Work described therein. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Design Agent's or Design Agent's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Design Agent and the Design Agent's consultants.

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 GENERAL

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Design Agent does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 Deleted.

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§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 Deleted.

§ 2.2.2 The Contractor shall secure and pay for permits and fees, necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.2.3 If required for the Work in the discretion of the Owner, the Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of any information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.4 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.2.5 Deleted.

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a 10 working-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Design Agent's additional services made necessary by such default, neglect, or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Design Agent. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

ARTICLE 3 CONTRACTOR

§ 3.1 GENERAL

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Design Agent, or by tests, inspections, or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

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§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Owner and the Design Agent any errors, inconsistencies, or omissions discovered by or made known to the Contractor or additional Drawings, Specifications, or instructions required to define the Work in greater detail to permit the proper progress of the Work as a request for information in such form as the Design Agent may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Design Agent and the Owner any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Design Agent or Owner may require.

§ 3.2.3.1 Omissions from the Drawings and Specifications of items obviously needed to perform the Work properly, such as attachments, bolts, hangers, and other fastening devices, shall not relieve the Contractor from the obligation to furnish and install such items.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Design Agent issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2, 3.2.3, or 3.2.3.1, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Design Agent for damages resulting from errors, inconsistencies, or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.2.4.1 The Contractor shall not make any changes without prior written authorization from the Design Agent and the Owner.

§ 3.2.5 The Owner is entitled to reimbursement from the Contractor for amounts paid to the Design Agent for evaluating and responding to the Contractor's requests for information that are not prepared in accordance with the Contract Documents or where the requested information is available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, or prior Project correspondence or documentation.

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor 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. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Design Agent and shall not proceed with that portion of the Work without further written instructions from the Design Agent. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

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§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. Whenever the Contractor has an obligation to provide labor and materials under the Agreement, the Contractor, at a minimum, shall provide the labor for, and furnish and install and place in operation all items, including without limitation, all proper connections.

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Design Agent in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Design Agent and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 WARRANTY

The Contractor warrants to the Owner and the Design Agent that materials and equipment furnished under the Contract will be of first quality, prime manufacture, and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements, including substitutions not properly authorized, may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Design Agent, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.6 TAXES

§ 3.6.1 The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.6.2 The State of Rhode Island is exempt from payment of any federal or state excise, transportation, or sales tax. The Rhode Island Department of Administration Division of Purchases will furnish Exemption Certificates upon request.

§ 3.7 PERMITS, FEES, NOTICES AND COMPLIANCE WITH LAWS

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections required by the Rhode Island State Building Code necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded. The Contractor shall be responsible for obtaining the Certificate of Occupancy from the appropriate governmental authorities.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 The Contractor shall promptly notify the Design Agent and the Owner if the Contractor becomes aware that the Contract Documents are not in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities. If the Contractor performs Work knowing it to be contrary to

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applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions. If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Design Agent before conditions are disturbed and in no event later than 21 working days after first observance of the conditions. The Design Agent will promptly investigate such conditions and, if the Design Agent determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Design Agent determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Design Agent shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Design Agent's determination or recommendation, that party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Design Agent. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 ALLOWANCES

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- **.1** Allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- **.2** Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- **.3** Whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 SUPERINTENDENT

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Design Agent the name and qualifications of a proposed superintendent. The Design Agent may reply within 14 working days to the Contractor in writing stating (1) whether the Owner or the Design Agent has reasonable objection to the proposed superintendent or (2) that the Design Agent requires additional time to review. Failure of the Design Agent to reply within the 14 working-day period shall constitute notice of no reasonable objection.

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§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Design Agent has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, within 20 working days after the issuance of the Purchase Order, shall prepare and submit for the Owner's and Design Agent's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals, not less frequently than monthly, as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work. The Contractor shall certify on the initial schedule and all revised schedules that they comply with the Contract Documents.

§ 3.10.2 The Contractor shall prepare a submittal schedule, within 20 working days after the issuance of the Purchase Order, and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Owner's and the Design Agent's approval. The Owner's and the Design Agent's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Owner and the Design Agent reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Design Agent.

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Design Agent and shall be delivered to the Design Agent for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Design Agent is subject to the limitations of Section 4.2.7. Informational submittals upon which the Design Agent is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Design Agent without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Design Agent Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Owner and the Design Agent or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors.

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§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Design Agent that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Design Agent.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Design Agent's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Design Agent in writing of such deviation at the time of submittal and (1) the Design Agent has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Design Agent's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Design Agent on previous submittals. In the absence of such written notice, the Design Agent's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Design Agent will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Design Agent. The Owner and the Design Agent shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Design Agent have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Design Agent will review, approve, or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.12.11 The Owner shall be entitled to reimbursement from the Contractor for amounts paid to the Design Agent for evaluation of resubmittals.

§ 3.13 USE OF SITE

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, and any restrictions imposed by the User Agency or the Owner, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 CUTTING AND PATCHING

§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

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§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

§ 3.15 CLEANING UP

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 ACCESS TO WORK

The Contractor shall provide the Owner and Design Agent access to the Work in preparation and progress wherever located.

§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Design Agent harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Design Agent. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Design Agent and the Owner.

§ 3.18 INDEMNIFICATION

§ 3.18.1 To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, the User Agency, and the State of Rhode Island in accordance with Rhode Island Procurement Regulation 220-RICR-30-00-13.21.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

§ 3.18.3 Without limiting the generality of the foregoing, the defense and indemnity set forth in this Section 3.18 includes, without limitation, all liabilities, damages, losses, claims, demands, and actions on account of bodily injury, death, or property loss to a person or entity indemnified hereunder or any other persons or entities, whether based upon statutory (including, without limitation, workers compensation), contractual, tort, or other liability of any person or entity so indemnified.

§ 3.18.4 The remedies set forth herein shall not deprive any person indemnified hereunder of any other indemnity action, right, or remedy otherwise available to any such person or entity at common law or otherwise.

§ 3.18.5 The Contractor will include the indemnity set forth in this Section 3.18, without modification, in each Subcontract with any Subcontractor.

§ 3.18.6 Notwithstanding any other language in the Contract Documents to the contrary, the indemnity hereunder shall survive Final Completion of the Work and final payment under the Agreement and shall survive any termination of the Agreement.

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ARTICLE 4 DESIGN AGENT

§ 4.1 GENERAL

§ 4.1.1 The Design Agent is the person lawfully licensed to practice his or her profession in the State of Rhode Island or an entity lawfully practicing its profession in the State of Rhode Island and identified in the Contract Documents as the Design Agent. The term "Design Agent" means the Design Agent or the Design Agent's authorized representative.

§ 4.1.2 Duties, responsibilities and limitations of authority of the Design Agent as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Design Agent. Consent shall not be unreasonably withheld.

§ 4.1.3 If the employment of the Design Agent is terminated, the Owner shall employ a successor Design Agent as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Design Agent.

§ 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Owner with assistance from the Design Agent will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction through the date the Design Agent issues the final Certificate for Payment and continuing until the expiration of the one-year period following Final Completion. The Design Agent will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Design Agent will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Design Agent will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Design Agent will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.2.1 The Owner is entitled to reimbursement from the Contractor for amounts paid to the Design Agent for site visits made necessary by the fault of the Contractor or by defects and deficiencies in the Work.

§ 4.2.3 On the basis of the site visits, the Design Agent will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Design Agent will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Design Agent will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Design Agent about matters arising out of or relating to the Contract. Communications by and with the Design Agent's consultants shall be through the Design Agent. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 4.2.5 Based on the Design Agent's evaluations of the Contractor's Applications for Payment, the Design Agent will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Design Agent has authority to reject Work that does not conform to the Contract Documents. Whenever the Design Agent considers it necessary or advisable, the Design Agent will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Design Agent nor a decision made in good faith either to

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exercise or not to exercise such authority shall give rise to a duty or responsibility of the Design Agent to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Design Agent will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Design Agent's action will be taken in accordance with the submittal schedule approved by the Design Agent or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Design Agent's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Design Agent's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Design Agent's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Design Agent, of any construction means, methods, techniques, sequences or procedures. The Design Agent's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Design Agent will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7.4. The Design Agent will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Design Agent will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Design Agent agree, the Design Agent will provide one or more project representatives to assist in carrying out the Design Agent's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.11 The Design Agent will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Design Agent's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Design Agent will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Design Agent will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Design Agent's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents and approved by the Owner.

§ 4.2.14 The Design Agent will review and respond to requests for information about the Contract Documents. The Design Agent's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Design Agent will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

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§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.1.3 Contractor shall participate in the MBE Capital Payment Pilot Program and fully comply with the MBE Capital Pilot Program regulation, 220-RICR-70-00-03.

§ 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

§ 5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner and the Design Agent the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each portion of the Work. The Owner may reply within 14 working days to the Contractor in writing stating (1) whether the Owner or the Design Agent has reasonable objection to any such proposed person or entity or (2) that the Owner or Design Agent requires additional time for review.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Design Agent has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Design Agent has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Design Agent has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Design Agent makes reasonable objection to such substitution.

§ 5.2.5 MANUFACTURERS AND FABRICATORS

§ 5.2.5.1 Not later than 10 working days after the date of commencement of the Work, the Contractor shall furnish in writing to the Owner and the Design Agent the names of the manufacturers or fabricators for certain products, equipment, and systems identified in the Specifications and, where applicable, the name of the installing Subcontractor. The Owner may reply within 14 working days to the Contractor in writing, stating: (i) whether the Owner or the Design Agent has reasonable objection to any such proposed person manufacturer or fabricator; or (ii) whether the Owner or Design Agent requires additional time to review.

§ 5.2.5.2 The Contractor shall not contract with a proposed manufacturer, fabricator, or Subcontractor to whom the Owner or Design Agent has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.5.3 If the Owner or Design Agent has an objection to a manufacturer, fabricator, or Subcontractor proposed by the Contractor, the Contractor shall propose another to whom the Owner or Design Agent has no objection.

§ 5.2.5.4 The Contractor shall not substitute a manufacturer, fabricator, or Subcontractor previously selected if the Owner or Design Agent makes reasonable objection to such substitution.

§ 5.3 SUBCONTRACTUAL RELATIONS

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Design Agent. Upon the request of the User Agency and/or the Owner, the Contractor shall provide the User Agency and/or the

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Owner with copies of each subcontract agreement. Each subcontract agreement shall preserve and protect the rights of the Owner and Design Agent under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- **.1** assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and
- **.2** assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 working days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6 and Articles 10, 11 and 12.

§ 6.2 MUTUAL RESPONSIBILITY

§ 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly

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report to the Design Agent apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a separate contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a separate contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement between the Owner and the Contractor; a Construction Change Directive requires agreement by the Owner and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Design Agent alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

§ 7.2 CHANGE ORDERS

§ 7.2.1 A Change Order is a written instrument prepared by the Contractor and signed by the Owner, Contractor and Design Agent stating their agreement upon all of the following:

- **.1** The change in the Work;
- **.2** The amount of the adjustment, if any, in the Contract Sum; and
- **.3** The extent of the adjustment, if any, in the Contract Time.

§ 7.2.2 Subsequent to the approval of a Change Order as provided in § 7.1.2, whether such Change Order changes the Contract Sum or Contract Time or both, no additional claim related to such Change Order will be considered by the Owner. Any change, once incorporated into a Change Order, is all inclusive, and includes all factors that could have been considered at the time of the Change Order such as Project impact or schedule "ripple" effect.

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Design Agent and signed by the Owner, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

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§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- **.1** Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- **.2** Unit prices stated in the Contract Documents or subsequently agreed upon;
- **.3** Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- **.4** As provided in Section 7.3.7.

§ 7.3.4 Deleted.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Design Agent of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Design Agent shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in Section 7.3.1. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Design Agent may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

- **.1** Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- **.2** Costs of materials, supplies and equipment, including cost of delivery;
- **.3** Rental costs of machinery and equipment, exclusive of hand tools; or
- **.4** Costs of premiums for all bonds and insurance and permit fees related to the Work..

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Design Agent. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Design Agent will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Design Agent determines, in the Design Agent's professional judgment, to be reasonably justified. The Design Agent's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Design Agent concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Contractor will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.3.11 The combined overhead and profit included in the total cost to the Owner for a change in the Work shall be based on the following schedule:

.1 For the Contractor, for work performed by the Contractor's own forces, an amount not to exceed ten (10%) percent of the cost.

.2 For the Contractor, for work performed by the Contractor's Subcontractors, an amount not to exceed five (5%) of the amount due to the Subcontractors.

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.3 For each Subcontractor, for work performed by the Subcontractor's own forces, an amount not to exceed ten (10%) percent of the cost.
.4 Where the Work represents both additions and deletions and results in a net increase, the allowable overhead and profit shall be in accordance with this Section 7.3.11, but in no event shall the amount exceed fifteen (15%) percent of the net increase in the cost of the Work.

§ 7.3.12 All proposals with an aggregate cost equal to or in excess of $500.00 shall be accompanied by a detailed itemization of costs, including labor, materials (quantities and prices), and Subcontracts, in a form acceptable to the Owner. In no event will a change order request reflecting an aggregate cost equal to or in excess of $500.00 be approved without such itemization.

§ 7.4 MINOR CHANGES IN THE WORK

The Design Agent with the prior written approval of the Owner has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be affected by written order signed by the Design Agent and shall be binding on the Owner and Contractor.

ARTICLE 8 TIME

§ 8.1 DEFINITIONS

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

The date of commencement of the Work is the date established in Section 3.1 of the Agreement..

§ 8.1.3 The date of Substantial Completion is the date certified by the Design Agent in accordance with Section 9.8.

§ 8.1.4 Deleted.

§ 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Design Agent, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control, then the Contract Time shall be extended by Change Order for such reasonable time as the Owner may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 CONTRACT SUM

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

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§ 9.2 SCHEDULE OF VALUES
Within 20 working days of the issuance of the Purchase Order, and promptly if revision is necessary from time to time as a result of a Change Order, the Contractor shall submit to the Owner, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Design Agent and the Owner may require. This schedule, if and when approved by the Design Agent and the Owner in writing, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 9.3 APPLICATIONS FOR PAYMENT
§ 9.3.1 At least 10 working days before the date established for each progress payment, the Contractor shall submit to the Design Agent and the Owner for approval an itemized Application for Payment prepared in accordance with the schedule of values for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or the Design Agent may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 All Applications for Payment for Change Orders must be accompanied by a Notice of Change in Purchase Order issued by the Owner, and if directed by the Owner, by the User Agency.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.1.3 The form of Application for Payment shall be AIA Document G702, Application and Certification for Payment, supported by AIA Document G702A, Continuation Sheet.

§ 9.3.1.4 Until Substantial Completion, the Owner shall pay ninety-five (95%) percent of the amount due the Contract on account of progress payments.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work. The Contractor shall immediately satisfy any lien, claim, or encumbrance against the site where the Project is located and indemnify the Owner from and against all resulting costs and expenses, including without limitation, attorneys' fees.

§ 9.4 CERTIFICATES FOR PAYMENT
§ 9.4.1 The Design Agent will, within 7 working days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Design Agent determines is properly due, or notify the Contractor and Owner in writing of the Design Agent's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Design Agent to the Owner, based on the Design Agent's evaluation of the Work and the data comprising the Application for Payment, that, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of

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minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Design Agent. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Design Agent has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.4.3 The Contractor must submit all product literature, material and color samples with each Application for Payment, or as otherwise required by the Owner.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 The Design Agent will withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Design Agent's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Design Agent is unable to certify payment in the amount of the Application, the Design Agent will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Design Agent cannot agree on a revised amount, the Design Agent will promptly issue a Certificate for Payment for the amount for which the Design Agent is able to make such representations to the Owner. The Design Agent may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Design Agent's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of:

- **.1** defective Work not remedied;
- **.2** third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- **.3** failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- **.4** reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- **.5** damage to the Owner or a separate contractor;
- **.6** reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;
- **.7** failure to carry out the Work in accordance with the Contract Documents; or
- **.8** any other failure to comply with the obligations of the Contractor under the Contract Documents.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 The Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Design Agent and the Design Agent will reflect such payment on the next Certificate for Payment.

§ 9.6 PROGRESS PAYMENTS

§ 9.6.1 After the Design Agent has issued a Certificate for Payment and the Owner has approved the Certificate for Payment in writing, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Design Agent.

§ 9.6.2 Aside from payments that a Contractor is required to make to a Subcontractor in accordance with 220-RICR-70-00-3 (the "MBE Capital Payment Pilot Program" regulation), the Contractor must pay each Subcontractor no later than 10 working days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner. Payment to MBE Subcontractors shall be made in accordance with the MBE Capital Payment Pilot Program regulation, 220-RICR-70-00-3.

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§ 9.6.3 The Design Agent will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Design Agent and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within 7 working days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. The Owner shall have the right to withhold payment(s) to the Contractor in the event that any Subcontractors or material and equipment suppliers have not been properly paid. Neither the Owner nor Design Agent shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.7 FAILURE OF PAYMENT

If the Design Agent does not issue a Certificate for Payment, through no fault of the Contractor, within 7 working days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within 7 working days after the date established in the Contract Documents the amount certified by the Design Agent or awarded by binding dispute resolution, then the Contractor may, upon 7 additional working days' written notice to the Owner and Design Agent, make a claim for payment as provided under the provisions of applicable law.

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§ 9.8 SUBSTANTIAL COMPLETION

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Design Agent a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Design Agent will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Design Agent's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Design Agent. In such case, the Contractor shall then submit a request for another inspection by the Design Agent to determine Substantial Completion. The Design Agent will perform no more than 2 inspections to determine whether the Work or a designated portion thereof has attained Substantial Completion in accordance with the Contract Documents. The Owner is entitled to reimbursement from the Contractor for amounts paid to the Design Agent for any additional inspections.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Design Agent will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and

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insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment less the amount of five (5%) percent to be retained by the Owner in accordance with R.I. Gen. Laws § 37-12-10.1. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Design Agent as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Design Agent.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Design Agent shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Design Agent will promptly make such inspection and, when the Design Agent finds the Work acceptable under the Contract Documents and the Contract fully performed, the Design Agent will promptly issue a final Certificate for Payment stating that to the best of the Design Agent's knowledge, information and belief, and on the basis of the Design Agent's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Design Agent's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled. The Design Agent will perform no more than 2 inspections to determine whether the Work or a designated portion thereof has attained Final Completion in accordance with the Contract Documents. The Owner is entitled to reimbursement from the Contractor for amounts paid to the Design Agent for any additional inspections.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Design Agent (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 working days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner, and (6) all other close-out documents required by the Owner, including without limitation, all as-built plans, warranties, manuals, and other materials set forth in the Contract Documents. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments

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are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, Final Completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting Final Completion, and the Design Agent so confirms, the Owner shall, upon application by the Contractor and certification by the Design Agent, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Design Agent prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from:

- **.1** liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- **.2** failure of the Work to comply with the requirements of the Contract Documents;
- **.3** terms of special warranties required by the Contract Documents; or
- **.4** claims permitted under the State of Rhode Island General Conditions of Purchase Regulation.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

§ 9.11 The Contractor and the Contractor's surety shall be liable for and shall pay the Owner as liquidated damages the sums specified in the Solicitation and Bid Form, or if completed, the amount set forth in Section 3.4 of the Agreement.

§ 9.12 Warranties required by the Contract Documents shall commence on the date of Final Completion of the Work.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 SAFETY OF PERSONS AND PROPERTY

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to:

- **.1** employees on the Work and other persons who may be affected thereby;
- **.2** the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- **.3** other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel and in consultation with the appropriate governmental authorities.

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§ 10.2.4.1 When use or storage of explosives, or other hazardous materials, substances or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall give the User Agency and the Owner reasonable advance notice.

§ 10.2.4.2 If the Contract Documents require the Contractor to handle materials or substances that under certain circumstances may be designated as hazardous, the Contractor shall handle such materials in an appropriate manner.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Design Agent or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Design Agent.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY
If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 HAZARDOUS MATERIALS
§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Design Agent in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Design Agent the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Design Agent will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Design Agent has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Design Agent have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up.

§ 10.3.3 To the extent permitted by the provisions of R.I. Gen. Laws §§ 9-31-1 et seq., the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Design Agent, Design Agent's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered

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harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

§ 10.4 EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S LIABILITY INSURANCE

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as is specified in the Solicitation and as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- **.1** Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
- **.2** Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- **.3** Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- **.4** Claims for damages insured by usual personal injury liability coverage;
- **.5** Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- **.6** Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- **.7** Claims for bodily injury or property damage arising out of completed operations; and
- **.8** Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.1.2 The Contractor's liability insurance shall include all major coverages and be on a comprehensive general liability basis.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

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§ 11.1.3 Certificates of insurance as specified in the Solicitation and as otherwise acceptable to the Owner shall be filed with the Owner and the User Agency prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 working days' prior written notice has been given to the Owner and the User Agency. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the User Agency, and their elected and appointed officials, members, employees, and agents, the Design Agent and the Design Agent's consultants as additional insureds for claims caused in whole or in part by the Contractor's acts or omissions during the Contractor's operations; and (2) the Owner, the User Agency, and their elected and appointed officials, members, employees, and agents, as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.1.5 The Contractor shall be responsible for the prompt payment to the Owner of any deductible amounts under any insurance policies required under the Contract Documents for claims made pursuant to such policies.

§ 11.2 OWNER'S LIABILITY INSURANCE.

§ 11.2.1 The Contractor shall furnish the Owner and the User Agency, through the Design Agent, an insurance certificate providing Owner's Protective Liability extended to include the interests of the Design Agent, and to protect the Owner, User Agency, and Design Agent from any liability which might be incurred against any of them as a result of any operation of the Contractor or Subcontractors or their employees or anyone for whom either the Contractor or Subcontractors are responsible. Such insurance shall be written for the same limits as the Contractor's commercial general liability insurance and shall include the same coverage.

§ 11.2.2 If the Owner engages separate contractors to perform work for, or in or around, the Project, it shall require in its contracts with each separate contractor that Contractor and its officers, directors, partners, members, employees, and agents shall be: (i) named as additional insureds on a primary, noncontributory basis to any commercial general liability, pollution liability, and excess liability insurance policies; and (ii) provided a waiver of subrogation on all workers compensation and professional liability insurance policies.

§ 11.3 PROPERTY INSURANCE

§ 11.3.1 The Contractor shall purchase and maintain, in a company or companies lawfully authorized to do business in the state of Rhode Island, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the User Agency, the Contractor, Subcontractors and Sub-subcontractors in the Project. If the Owner and/or the User Agency incur any damages by failure of the Contractor to maintain such insurance, then the Contractor shall bear all reasonable cost resulting from such failure.

§ 11.3.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Design Agent's and Contractor's services and expenses required as a result of such insured loss.

§ 11.3.1.2 Deleted.

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§ 11.3.1.3 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

§ 11.3.1.5 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3.2 Deleted.

§ 11.3.3 Deleted.

§ 11.3.4 Deleted.

§ 11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

§ 11.3.6 Before an exposure to loss may occur, the Contractor shall file with the Owner a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 working days' prior written notice has been given to the Owner and the User Agency.

§ 11.3.7 WAIVERS OF SUBROGATION

The Contractor waives all rights against the Owner and the User Agency and any of their subcontractors, sub-subcontractors, agents and employees, and the Design Agent, Design Agent's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Design Agent, Design Agent's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.8 A loss insured under this property insurance shall be adjusted by the Contractor as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Contractor's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Contractor shall deposit in a separate account proceeds so received, which the Contractor shall distribute in accordance with such agreement as the parties in interest may reach, or as determined

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in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

§ 11.3.10 The Contractor as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within 5 working days after occurrence of loss to the Contractor's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement.

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in the Solicitation.

§ 11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 UNCOVERING OF WORK

§ 12.1.1 If a portion of the Work is covered contrary to the Design Agent's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Design Agent, be uncovered for the Design Agent's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Design Agent has not specifically requested to examine prior to its being covered, the Design Agent may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

The Contractor shall promptly correct Work rejected by the Design Agent or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Design Agent's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 AFTER SUBSTANTIAL COMPLETION

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Final Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. If the Contractor fails to correct nonconforming Work within a reasonable time after receipt of notice from the Owner or Design Agent, the Owner may correct it in accordance with Section 2.4.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

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§ 12.2.2.4 Upon request by the Owner and prior to the expiration of one year from the date of Final Completion, the Design Agent will conduct and the Contractor shall attend 2 meetings with the Owner to review the facility operations and performance.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 ACCEPTANCE OF NONCONFORMING WORK

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

The Contract shall be governed by the law of the State of Rhode Island.

§ 13.2 SUCCESSORS AND ASSIGNS

§ 13.2.1 The Owner and Contractor respectively bind themselves, their successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to any executive, legislative, judicial, regulatory, or administrative body of the state, or any political subdivision thereof, including without limitation, any department, division, agency, commission, board, office, bureau, authority, school, water, or fire district, or other agency of Rhode Island state or local government that exercises governmental functions, any other governmental authority, and any quasi-public corporation and/or body corporate and politic. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice, or when received, if manually delivered or transmitted by electronic mail or facsimile to the last such address known to the party giving notice.

§ 13.4 RIGHTS AND REMEDIES

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 No action or failure to act by the Owner, Design Agent or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

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§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Design Agent timely notice of when and where tests and inspections are to be made so that the Design Agent may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Design Agent, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Design Agent will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Design Agent of when and where tests and inspections are to be made so that the Design Agent may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Design Agent's services and expenses shall be at the Contractor's expense.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Design Agent.

§ 13.5.5 If the Design Agent is to observe tests, inspections or approvals required by the Contract Documents, the Design Agent will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.6 INTEREST

No interest shall be due or payable on account of any payment due or unpaid under the Contract Documents except in accordance with the provisions of "Prompt Payment by Department of Administration," R.I. Gen. Laws §§ 42-11.1-1 et seq.

§ 13.7 TIME LIMITS ON CLAIMS

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 TERMINATION BY THE CONTRACTOR

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 calendar days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- **.1** Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- **.2** An act of government, such as a declaration of national emergency that requires all Work to be stopped; or
- **.3** Because the Design Agent has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1

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§ 14.1.2 Deleted.

§ 14.1.3 If one of the reasons described in Section 14.1.1 exists, the Contractor may, upon 7 working days' written notice to the Owner and Design Agent, terminate the Contract and recover from the Owner payment for Work executed.

§ 14.1.4 If the Work is stopped for a period of 60 calendar days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon 7 additional days' written notice to the Owner and the Design Agent, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor:

- **.1** refuses or fails to supply enough properly skilled workers or proper materials;
- **.2** fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- **.3** disregards or fails to comply with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority;
- **.4** otherwise is guilty of breach of a provision of the Contract Documents; or
- **.5** cancels or the Contractor or the Owner receives notice of cancellation or nonrenewal of any insurance required under the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, 7 working days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- **.1** Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- **.2** Accept assignment of subcontracts pursuant to Section 5.4; and
- **.3** Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Design Agent's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Owner shall not be liable to the Contractor or any Subcontractor for claims or damages of any nature caused by or arising out of any delays. The sole remedy against the Owner for delays shall be the allowance of additional time for completion of the Work in accordance with the provisions of Section 8.3.1.

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

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§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall:

- **.1** cease operations as directed by the Owner in the notice;
- **.2** take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- **.3** except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 CLAIMS

§ 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must be initiated by written notice to the other party. Such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly serviced if delivered in person, by mail, by courier, or by electronic transmission. Claims by either party must be initiated within 21 working days after occurrence of the event giving rise to such Claim or within 21 working days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Design Agent will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

§ 15.1.5.3 Claims for increase in the Contract Time shall set forth in detail the circumstances that form the basis for the Claim, the date upon which each cause of delay began to affect the progress of the Work, the date upon which each cause of delay ceased to affect the progress of the Work and the number of days' increase in the Contract Time claimed as a consequence of each such cause of delay. The Contractor shall provide such supporting documentation as the Owner may require including, where appropriate, a revised construction schedule indicating all the activities affected by the circumstances forming the basis of the Claim.

§ 15.1.5.4 The Contractor shall not be entitled to a separate increase in the Contract Time for each one of the number of causes of delay which may have concurrent or interrelated effects on the progress of the Work, or for concurrent delays due to the fault of the Contractor.

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§ 15.1.6 The Contractor waives Claims against the Owner for consequential damages arising out of or relating to this Contract. This waiver includes damages incurred by the Contractor for principal office expenses, including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit. This waiver is applicable, without limitation, to all consequential damages due to the Contractor's termination in accordance with Article 14. Nothing in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 INITIAL DECISION

§ 15.2.1 Claims shall be referred to the Initial Decision Maker for initial decision. The Purchasing Agent appointed pursuant to the provisions of the "State Purchases Act," R.I. Gen. Laws § 37-2-1 et seq., will serve as the Initial Decision Maker in accordance with the provisions of the State Purchases Act, State of Rhode Island Procurement Regulations, and this Section 15.2.1. An initial decision shall be required as a condition precedent to binding dispute resolution pursuant to Section 15.3.1 of any Claim arising prior to the date final payment is due.

§ 15.2.2 Deleted.

§ 15.2.3 Deleted.

§ 15.2.4 Deleted.

§ 15.2.5 Deleted.

§ 15.2.6 Deleted.

§ 15.2.6.1 Deleted.

§ 15.2.7 Deleted.

§ 15.2.8 Deleted.

§ 15.3 MEDIATION

§ 15.3.1 For any Claim not resolved by the Initial Decision Maker procedures set forth in Section 15.2.1, and prior to the implementation of the binding dispute resolution procedures set forth in Section 15.4.1, the Contractor or the Design Agent shall have the option to pursue mediation, exercisable by written notice to the Owner within 30 calendar days of an Initial Decision. In the event of the exercise of such option by the Contractor or the Design Agent, the Owner and the Contractor or the Design Agent shall attempt to select a mediator, and in the event that the Owner and the Contractor or the Design Agent cannot agree on a mediator, either party may apply in writing to the Presiding Justice of the Providence County Superior Court, with a copy to the other, with a request for the court to appoint a mediator, and the costs of the mediator shall be borne equally by both parties.

§ 15.3.2 Deleted.

§ 15.3.3 Deleted.

§ 15.4 BINDING DISPUTE RESOLUTION

§ 15.4.1 For any Claim not resolved by the Initial Decision Maker procedures set forth in Section 15.2.1, or mediation at the option of the Contractor pursuant to Section 15.3.1, the method of binding dispute resolution shall be determined in accordance with the provisions of the "Public Works Arbitration Act," R.I. Gen. Laws §§ 37-16-1 et seq.

§ 15.4.4 Deleted.

§ 15.4.4.1 Deleted.

§ 15.4.4.2 Deleted.

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§ 15.4.4.3 Deleted.

§ 16 COMPLIANCE WITH APPLICABLE LAW

The Contractor and its Subcontractors shall comply with all applicable federal, state, and local laws.

DRAFT

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SECTION 01 11 00

SUMMARY OF WORK

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Contract description.

B. Owner supplied products.

C. Contractor's use of site and premises.

D. Work sequence.

E. Owner occupancy.

F. Hazardous Material Suspicion.

1.02 CONTRACT DESCRIPTION

A. Work of the Project includes the renovation to existing restrooms located at the Oliver Stedman Government Center, 4808 Tower Hill Road, Wakefield, Rhode Island.

B. Perform the Work of the Contract under a stipulated sum Contract with the Owner in accordance with the Conditions of Contract.

C. The Work of the Contract is identified in the Project Manual and on the Drawings.

1.03 OWNER SUPPLIED PRODUCTS

A. Owner's Responsibilities:
1. Arrange for and deliver Owner-reviewed Shop Drawings, Product Data, and Samples, to the Contractor.
2. Arrange and pay for delivery to the site.
3. On delivery, inspect products jointly with the Contractor.
4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
5. Arrange for manufacturers' warranties, inspections, and service.

B. Contractor's Responsibilities:
1. Review Owner-reviewed Shop Drawings, Product Data, and Samples.
2. Receive and unload products at the site; inspect for completeness or damage jointly with the Owner.
3. Handle, store, install and finish products.
4. Repair or replace items damaged after receipt.

C. Items furnished by the Owner for installation by the Contractor:
   1. Section 10 28 13 - Toilet Room Accessories: See the specification section for additional information as to which items the Owner will provide.

1.04 CONTRACTOR'S USE OF SITE AND PREMISES

A. Limit use of the site and premises to allow:
   1. Owner occupancy throughout construction.
   2. Use of the site and premises by the public.

B. Construction Operations: Limited to areas as agreed with the Owner.
Coordinate with Owner to insure completion of the project per the schedule.
Include all costs of this coordination, including all premium time wages that may be required to meet these requirements, in the Base bid.

C. Provide access to and from site as required by law and by Owner:
   1. Building Entrance and Emergency Exits During Construction:
   Keep the main entrance of the building open throughout the project. Allow all exits required by code to remain open during construction period; provide temporary exit signs if exit routes are temporarily altered.
   2. Do not obstruct roadways, sidewalks, or other public ways without permission from the Owner.

1.05 WORK SEQUENCE (PHASES OF CONSTRUCTION)

A. Construct the Work in phases to accommodate the Owner's occupancy requirements during the construction period, coordinate the construction schedule and operations with the Owner.
   1. Phase 1: All construction occurring on the first floor.
   2. Phase 2: All construction occurring on the second floor and basement level.

1.06 OWNER OCCUPANCY

A. The Owner and public will occupy the site and premises during the entire period of construction.

B. Cooperate with the Owner to minimize conflict, and to facilitate the Owner's operations.

C. Schedule the Work to accommodate Owner occupancy.

1.07 HAZARDOUS MATERIAL SUSPICION

A. Hazardous Material: Asbestos containing material has been detected in the construction area. See Specification Section 00 31 19 for additional information.

B. If, during the course of construction, the Contractor suspects a material to contain asbestos, all work involving the material is to be stopped and the Architect notified immediately of the suspicion. Until the material is confirmed to be safe or tested and determined to be an asbestos containing material, the Contractor is to assume it contains asbestos and is to avoid contact. Upon notification of its composition the Architect will determine the course of action and inform the Contractor accordingly.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

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SECTION 01 20 00

PRICE AND PAYMENT PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Schedule of values.

B. Applications for payment.

C. Sales Tax Exemption

D. Change procedures.

E. Defect assessment.

F. Unit Prices

1.02 SCHEDULE OF VALUES

A. Submit a printed schedule on AIA Form G703 - Application and Certificate for Payment Continuation Sheet

B. Submit Schedule of Values in duplicate, one copyrighted original and one copy, within fifteen (15) days after date of receipt of a Purchase Order from RI State Department of Administration, Division of Purchases.

C. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the major specification Section. Identify site mobilization, bonds and insurance.

D. Include in each line item, the amount of Allowances specified in Section 01 21 00 if occurring. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by the unit cost to achieve the total for the item.

E. Include separately from each line item, a direct proportional amount of Contractor's overhead and profit.

F. Revise schedule to list approved Change Orders, with each Application for Payment.

1.03 APPLICATIONS FOR PAYMENT

A. Submit each application on an original copyrighted AIA Form G702 - Application and Certificate for Payment and AIA G703 - Continuation Sheet, accompanied by three copies.
   1. Individually sign and notarize, and emboss with notary's official seal, the original and each of the three copies.
   2. Applications not including original copyrighted AIA G702, and G703 Forms, will be rejected, and returned for resubmittal.

3. Applications not properly signed and notarized will be rejected, and returned for resubmittal.

B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.

C. Provide one copy of the updated construction schedule with each Application for Payment submission.
   1. Provide a statement signed by the Contractor's firm principal certifying that there are no unidentified outstanding claims for delay.

D. Include with each monthly Application for Payment, following the first application, one copy of the Certified Monthly Payroll Record for the previous month's pay period.

E. Payment Period: Submit at intervals stipulated in the Agreement.

F. Submit with transmittal letter as specified for Submittals in Section 01 33 00.

G. Beginning with the second Application for Payment, Contractor's right to payment must be substantiated by documenting, on a copy of the Waiver of Lien Form included in Document 00 65 19.16 - Waiver of Lien Form in this Project Manual, that payment monies due, less retainage not exceeding ten percent, have been paid in full to subcontractor and suppliers for work, materials, or rental of equipment billed for under specific line item numbers in the immediately preceding application.

H. Substantiating Data: When the Architect requires substantiating information, submit data justifying dollar amounts in question. Include the following with the Application for Payment :
   1. Current construction photographs specified in Section 01 33 00.
   2. Record Documents as specified in Section 01 78 00, for review by the Owner which will be returned to the Contractor.
   3. Affidavits attesting to off-site stored products.
   4. Construction progress schedules, revised and current as specified in Section 01 33 00.

1.06 SALES TAX EXEMPTION

A. Owner is exempt from sales tax on products permanently incorporated in Work of the Project.
   1. Obtain sales tax exemption certificate number from Owner.
   2. Place exemption certificate number on invoice for materials incorporated in the Work of the Project.
   3. Furnish copies of invoices to Owner.
   4. Upon completion of Work, file a notarized statement with Owner that all purchases made under exemption certificate were entitled to be exempt.
   5. Pay legally assessed penalties for improper use of exemption certificate number.

1.04 CHANGE PROCEDURES

A. Submittals: Submit name of the individual authorized to receive change documents, and be responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.

B. The Architect will advise of minor changes in the Work not involving an adjustment to Contract Sum or Contract Time by issuing supplemental instructions on AIA Form G710

C. The Architect may issue a Proposal Request which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor will prepare and submit an estimate within fifteen (15) days.

D. The Contractor may propose changes by submitting a request for change to the Architect, describing the proposed change and its full effect on the Work. Include a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation, and a statement describing the effect on Work by separate or other Contractors. Document any requested substitutions in accordance with Section 01 60 00.

E. Stipulated Sum Change Order: Based on Proposal Request, and Contractor's fixed price quotation, or Contractor's request for a Change Order as approved by Architect.

F. Unit Price Change Order: For contract unit prices and quantities, the Change Order will be executed on a fixed unit price basis. For unit costs or quantities of units of work that are not pre-determined, execute the Work under a Construction Change Directive. Changes in the Contract Sum or Contract Time will be computed as specified for a Time and Material Change Order.

G. Construction Change Directive: Architect may issue a directive, on AIA Form G713 Construction Change Directive signed by the Owner, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in the Contract Sum or Contract Time. Promptly execute the change.

H. Time and Material Change Order: Submit an itemized account and supporting data after completion of the change, within the time limits indicated in the Conditions of the Contract. The Architect will determine the change allowable in the Contract Sum and Contract Time as provided in the Contract Documents.

I. Maintain detailed records of work done on a Time and Material basis. Provide full information required for an evaluation of the proposed changes, and to substantiate costs for the changes in the Work.

J. Document each quotation for a change in cost or time with sufficient data to allow an evaluation of the quotation. Provide detailed breakdown of costs and estimates for labor and materials including a detailed breakdown for subcontractor's or vendor's Work. Include copies of written quotations from subcontractors or vendors.

K. Change Order Forms: AIA G701 Change Order.

L. Execution of Change Orders: The Architect will issue Change Orders for signatures of the parties as provided in the Conditions of the Contract.

M. Correlation Of Contractor Submittals:
   1. Promptly revise the Schedule of Values and the Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.

2. Promptly revise progress schedules to reflect any change in the Contract Time, revise sub-schedules to adjust times for any other items of work affected by the change, and resubmit.
3. Promptly enter changes in the Project Record Documents.

N. Change Order Overhead and Profit

1. When determining the total cost for a Change Order, the Contractor, Subcontractor and Sub-subcontractor is allowed the following maximum amounts for the combined overhead and profit to be added to the sum amount.

   a. For the Contractor, for Work performed by the Contractor's own forces, 10 percent of the cost.

   b. For the Contractor, for Work performed by the Contractor's Subcontractor, 5 percent of the amount due the Subcontractor.

   c. For each Subcontractor or Sub-subcontractor involved, for Work performed by that Subcontractor's or Sub-subcontractor's own forces, 10 percent of the cost.

   d. For each Subcontractor, for Work performed by the Subcontractor's Sub-subcontractors,
   5 percent of the amount due the Sub-subcontractor.

   e. Overhead and profit is to include the Contractor’s project management and supervisory costs, all administrative expenses and personnel, change estimate preparation, mobilization, setup & break-down, meetings, all safety related costs, cleanup costs and storage costs pertaining to the changes in the work.

   f. In order to facilitate checking of quotations for extras or credits, all proposals shall be accompanied by a complete itemization of costs including labor, materials and Subcontracts. Where major cost items are Subcontracts, they shall be itemized also. In no case will a change involving over $500.00 be approved without such itemization.

1.05 DEFECT ASSESSMENT

A. Replace the Work, or portions of the Work, not conforming to specified requirements.

B. If, in the opinion of the Architect, it is not practical to remove and replace the Work, the Architect will direct an appropriate remedy or adjust payment.

C. The defective Work may remain, but the unit sum will be adjusted to a new sum at the discretion of the Architect.

D. The defective Work will be partially repaired to the instructions of the Architect, and the unit sum will be adjusted to a new sum at the discretion of the Architect.

E. The individual Specification Sections may modify these options or may identify a specific formula or percentage sum reduction.

F. The authority of the Architect to assess the defect and identify a payment adjustment is final.

G. Non-Payment for Rejected Products: Payment will not be made for rejected products for any of the following:
1. Products wasted or disposed of in a manner that is not acceptable.
2. Products determined as unacceptable before or after placement.
3. Products not completely unloaded from the transporting vehicle.
4. Products placed beyond the lines and levels of the required Work.
5. Products remaining on hand after completion of the Work.
6. Loading, hauling, and disposing of rejected products.

1.06 UNIT PRICES

A. Authority: Measurement methods are delineated in the individual specification Sections.

B. Measurement methods delineated in the individual specification Sections complement the criteria of this section. In case of conflict, the requirements of the individual specification Section govern.

C. Take measurements and compute quantities. The Architect will verify measurements and quantities.

D. Unit Quantities: The quantities and measurements indicated in the Bid Form are for contract purposes only. The quantities and measurements supplied or placed in the Work shall determine payment.
1. When the actual Work requires more or fewer quantities than those quantities indicated, provide the required quantities at the unit sum contracted.
2. When the actual Work requires a 25 percent or greater change in quantity than those quantities indicated, the Owner or Contractor may claim for a Contract Price adjustment.

E. Unit Price amount includes: Full compensation for required labor, products, tools, equipment, plant and facilities, transportation, services and incidentals; erection, application or installation of an item of the Work; overhead and profit.

F. Final payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities accepted by the Architect multiplied by the unit sum for Work which is incorporated in or made necessary by the Work.

G. Measurement of Quantities:
1. Weigh Scales: Inspected, tested and certified by the applicable state Weights and Measures department within the past year.
2. Platform Scales: Of sufficient size and capacity to accommodate the conveying vehicle.
3. Metering Devices: Inspected, tested and certified by the applicable State department within the past year.
4. Measurement by Weight: Concrete reinforcing steel, rolled or formed steel or other metal shapes will be measured by handbook weights. Welded assemblies will be measured by handbook or scale weight.
5. Measurement by Volume: Measured by cubic dimension using mean length, width and height or thickness.
6. Measurement by Area: Measured by square dimension using mean length and width or radius.

7. Linear Measurement: Measured by linear dimension, at the item centerline or mean chord.
8. Stipulated Sum Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as a completed item or unit of the Work.

H. See Bid Form for schedule of Unit Prices.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01 21 00

ALLOWANCES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Allowances.

B. Testing and inspection allowances.

1.02 ALLOWANCES

A. Costs Included in Cash Allowances: Cost of product to Contractor or Subcontractor, labor for installation and finishing, less applicable trade discounts; delivery to site, and applicable taxes

B. Costs Not Included in Cash Allowances But Included in the Contract Sum: Product delivery to site and handling at the site, including unloading, uncrating, and storage; protection of products from elements and from damage.

C. Architect Responsibilities:
1. Consult with Contractor for consideration and selection of products, suppliers, and installers.
2. Select products in consultation with Owner and transmit decision to Contractor.
3. Prepare Change Order.

D. Contractor Responsibilities:
1. Assist Architect in selection of products, suppliers and installers.
2. Obtain proposals from suppliers and installers and offer recommendations.
3. On notification of selection by Architect, execute purchase agreement with designated supplier and installer.
4. Arrange for and process shop drawings, product data, and samples. Arrange for delivery.
5. Promptly inspect products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.

E. Differences in costs will be adjusted by Change Order.

F. Allowances Schedule:

1. **Signage**: Include the sum of **five thousand dollars ($ 5,000.00)** for all work associated with the purchase and installation of signage.

2. **After-hours Work:**
Include the sum of **thirty thousand dollars ($ 30,000.00)** for work to be performed outside of the standard daily construction hours if requested by the Owner.

3. **Winter Conditions:**
   Include the sum of **twenty five thousand dollars ($ 25,000.00)** to cover all costs for winter conditions if deemed necessary by the Owner.

4. **Contamination Cleanup:**
   For demolition and disposal of any contaminated materials unexpectedly encountered during construction (contaminated materials not identified in the Hazardous Materials Reports) include the sum of
   five thousand dollars ($ 5,000.00).

5. **Plumbing Rough-in**
   Include the sum of **fifteen thousand dollars ($ 15,000.00)** for additional plumbing rough-in not included in the Bid Documents but required due to unforeseen conditions.

6. **Miscellaneous Additional Finishes**
   Include the sum of **ten thousand dollars ($ 10,000.00)** for additional finishes mandated by the Owner that are not included in the Bid Documents.

Total sum of the above noted Allowances is
One hundred ten thousand dollars ($ 90,000.00).

1.03 TESTING AND INSPECTION ALLOWANCES

A. Costs included in Testing and Inspecting Allowances: Cost of engaging a testing and inspecting agency; execution of tests and inspecting; and reporting results.

B. Costs not included in the Testing and Inspecting Allowance but included in the Contract Sum:
   1. Costs of incidental labor and facilities required to assist testing or inspecting agency.
   2. Costs of testing services used by Contractor separate from Contract Document requirements.
   3. Costs of retesting upon failure of previous tests as determined by Architect.

C. Payment Procedures:
   1. Submit one copy of the inspecting or testing firm's invoice with each copy of the next application for payment.
   2. Pay invoice on approval by Architect.

D. Testing and Inspecting Allowances Schedule:

   1. Include the sum of **two thousand dollars ($ 2,000.00)** for payment of testing, or inspecting, laboratory services for compacted soils and concrete as required by the pertinent specification sections.

E. Differences in cost will be adjusted by Change Order.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

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SECTION 01 22 00

ALTERNATES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Alternates.

1.02 ALTERNATES

A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in Owner-Contractor Agreement.

B. Coordinate related work and modify surrounding work as required.

C. Schedule of Alternates:

1. **Alternate No. 1: Delete work in Toilet Rooms 107, 110 & 114:**
This Alternate contemplates the deduction from the Base Bid all costs pertaining to the deletion of work associated with Toilet Rooms 107, 110 and 114 as identified and shown on the drawings.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

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SECTION 01 31 00

ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Coordination and project conditions.

B. Preconstruction meeting.

C. Site mobilization meeting.

D. Progress meetings.

E. Preinstallation meetings.

1.02 COORDINATION AND PROJECT CONDITIONS

A. Coordinate the scheduling, submittals, and the Work of the various Sections of the Project Manual to ensure an efficient and orderly sequence of the installation of interdependent construction elements with provisions for accommodating the items installed later.

B. Verify that the utility requirements and characteristics of the operating equipment are compatible with the building utilities. Coordinate the Work of the various Sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

C. Coordinate the space requirements, supports, and installation of the mechanical, plumbing and electrical Work, which are indicated diagrammatically on the Drawings. Follow the routing shown for the pipes, ducts, and conduit, as closely as practicable; place runs parallel with the lines of the building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

1. The Contractor is to provide coordination drawings indicating size and locations of all mechanical, plumbing, fire protection and electrical work to confirm conflicts do not exist between systems. Submit four hard copies to the Architect for review prior to purchasing and fabrication of materials.

D. In finished areas except as otherwise indicated, conceal the pipes, ducts, and wiring within the construction. Coordinate the locations of fixtures and outlets with the finish elements.

E. Coordinate the completion and clean up of the Work of the separate Sections in preparation for Substantial Completion.

F. After the Owner's occupancy of the premises, coordinate access to the site for correction of the defective Work and the Work not in accordance with the Contract Documents, to minimize disruption of the Owner's activities.

1.03 PRECONSTRUCTION MEETING

A. The Architect will schedule a meeting after a Purchase Order is issued to the Contractor by the RI State Department of Administration, Division of Purchases.

B. Attendance Required: Owner, Architect, and Contractor.

C. Agenda:
1. Execution of the Owner-Contractor Agreement.
2. Submission of the executed bonds and insurance certificates.
3. Distribution of the Contract Documents.
4. Submission of a list of Subcontractors, a list of products, schedule of values, and a progress schedule.
5. Designation of the personnel representing the parties in the Contract, and the Architect.
6. The procedures and processing of the field decisions, submittals, substitutions, applications for payments, proposal requests, Change Orders, and Contract closeout procedures.
7. Scheduling.

D. Record the minutes and distribute copies within two days after the meeting to the participants, with two copies to the Architect, the Owner, the participants, and those affected by the decisions made.

1.04 SITE MOBILIZATION MEETING

A. The Architect will schedule a meeting at the Project site prior to the Contractor's occupancy.

B. Attendance Required: The Owner, Architect, Special Consultants, and, Contractor, the Contractor's Superintendent, and major Subcontractors.

C. Agenda:
1. Use of the premises by the Owner and the Contractor.
2. The Owner's requirements and occupancy.
3. Construction facilities and controls provided by the Owner.
4. Temporary utilities provided by the Owner.
5. Survey and building layout.
6. Security and housekeeping procedures.
7. Schedules.
8. Application for payment procedures.
9. Procedures for testing.
10. Procedures for maintaining the record documents.
11. Requirements for start-up of the equipment.
12. Inspection and acceptance of the equipment put into service during the construction period.

D. Record the minutes and distribute the copies within two days after the meeting to the participants, with two copies to the Architect, Owner, participants, and those affected by the decisions made.

1.05 PROGRESS MEETINGS

A. Schedule and administer the meetings throughout the progress of the Work at maximum bi-weekly (14 day) intervals.

B. Make arrangements for the meetings, prepare the agenda with copies for the participants, and preside at the meetings.

C. Attendance Required: The job superintendent, major subcontractors and suppliers, the Owner, Architect, as appropriate to agenda topics for each meeting.

D. Agenda:
1. Review the minutes of previous meetings.
2. Review of the Work progress.
3. Field observations, problems, and decisions.
4. Identification of the problems which impede the planned progress.
5. Review of the submittals schedule and status of the submittals.
6. Review of the off-site fabrication and delivery schedules.
7. Maintenance of the progress schedule.
8. Corrective measures to regain the projected schedules.
9. Planned progress during the succeeding work period.
10. Coordination of the projected progress.
11. Maintenance of the quality and work standards.
12. Effect of the proposed changes on the progress schedule and coordination.
13. Other business relating to the Work.

E. Record the minutes and distribute the copies within two days after the meeting to the participants, with two copies to the Architect, Owner, participants, and those affected by the decisions made.

1.06 PREINSTALLATION MEETING

A. When required in the individual specification Sections, convene a preinstallation meeting at the site prior to commencing the Work of the Section.

B. Require attendance of the parties directly affecting, or affected by, the Work of the specific Section.

C. Notify the Architect four days in advance of the meeting date.

D. Prepare an agenda and preside at the meeting:
1. Review the conditions of installation, preparation and installation procedures.
2. Review coordination with the related work.

E. Record the minutes and distribute the copies within two days after the meeting to the participants, with two copies to the Architect, Owner, participants, and those affected by the decisions made.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Submittal procedures.

B. Construction progress schedules.

C. Proposed products list.

D. Method for Submission of Shop Drawings and Product Data

E. Product data.

F. Shop drawings.

G. Samples.

H. Design data.

I. Test reports.

J. Certificates.

K. Manufacturer's instructions.

L. Manufacturer's field reports.

M. Erection drawings.

1.02 SUBMITTAL PROCEDURES

A. Master List Submittal:
   1. Submit a master list of the required submittals with a proposed date for each item to be submitted.
   2. Show the date submittal was sent, days since submittal was sent, status of submittal, date submittal was received in return, and any date associated with resubmittals.
   3. Up date master list with each submission and response.
   4. Issue copy of master list at least monthly to the Architect.

B. Transmit each submittal with a transmittal form.

C. Sequentially number the transmittal form. Mark revised submittals with the original number and a sequential alphabetic suffix.

D. Identify the Project, Contractor, subcontractor and supplier; the pertinent drawing and detail number, and the specification Section number, appropriate to the submittal.

E. Apply a Contractor's stamp, signed or initialed, certifying that the review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of the information is in accordance with the requirements of the Work and the Contract Documents.

F. Schedule submittals to expedite the Project, and deliver to the Architect at their business address. Coordinate the submission of related items. Upon completion of the submittal's review, the Architect's office will notify the Contractor. The Contractor is then responsible to pick-up the submittals in a timely manner.

G. For each submittal for review, allow fifteen (15) days excluding the delivery time to and from the Contractor.

H. Identify the variations from the Contract Documents and the Product or system limitations that may be detrimental to a successful performance of the completed Work.

I. Allow space on the submittals for the Contractor's and the Architect's review stamps.

J. When revised for resubmission, identify the changes made since the previous submission.

K. Distribute copies of the reviewed submittals as appropriate. Instruct the parties to promptly report an inability to comply with the Contract requirements.

L. Submittals not requested will not be recognized or processed.

M. The Contractor will compensate the Architect and all consulting Engineers for services performed reviewing submittals beyond the original review and two follow-up reviews of the same product, material, sample or assembly. The compensation will be made through a credit change order that will reduce the total contract amount.

1.03 CONSTRUCTION PROGRESS SCHEDULES

A. Submit preliminary outline Schedules within fifteen (15) days after the date of receipt of a Notice to Proceed for coordination with the Owner's requirements. After a review, submit detailed schedules within fifteen (15) days modified to accommodate the revisions recommended by the Architect.

B. Submit revised Progress Schedules with each Application for Payment.

C. Distribute copies of the reviewed schedules to the Project site file, subcontractors, suppliers, and other concerned parties.

D. Instruct the recipients to promptly report, in writing, the problems anticipated by the projections indicated in the schedules.

E. Submit a computer generated horizontal bar chart with a separate line for each major portion of the Work or operation, or section of the Work, identifying the first workday of each week.

F. Show a complete sequence of construction by activity, identifying the Work of separate stages and other logically grouped activities. Indicate the early and late start, the early and late finish, float dates, and the duration.

G. Indicate an estimated percentage of completion for each item of the Work at each submission.

H. Provide a separate schedule of submittal dates for shop drawings, product data, and samples, including Owner furnished Products and Products identified under Allowances, if any, and the dates reviewed submittals will be required from the Architect. Indicate the decision dates for selection of the finishes.

I. Indicate the delivery dates for Owner furnished Products, and for Products identified under Allowances.

J. Revisions to Schedules:
   1. Indicate the progress of each activity to the date of submittal, and the projected completion date of each activity.
   2. Identify the activities modified since the previous submittal, major changes in the scope, and other identifiable changes.
   3. Provide a narrative report to define the problem areas, the anticipated delays, and impact on the Schedule. Report the corrective action taken, or proposed, and its effect including the effect of changes on the schedules of separate contractors.

1.04 PROPOSED PRODUCTS LIST

A. Within fifteen (15) days after the date of receipt of a Notice to Proceed, submit a list of major products proposed for use, with the name of the manufacturer, the trade name, and the model number of each product.

B. For the products specified only by reference standards, give the manufacturer, trade name, model or catalog designation, and reference standards.

C. With each product listed, indicate the submittal requirements specified to be adhered to, and an indication of relevant "long-lead-time" information, when appropriate.

1.05 METHOD FOR SUBMISSION OF SHOP DRAWING AND PRODUCT DATA

A. Method of electronic or hard copy delivery of shop drawing and data submittals is to be discussed with Architect at Preconstruction meeting.
   Use one of the three methods listed below:
   1. Use an internet-based system agreed upon by the Architect and Contractor.
      Comply with required transmittal and data formats using numbering system approved by Architect.

Assemble submittal package into a single indexed file incorporating submittal and cover sheet explaining project name, number, Architect, Contractor and submittal number.

2. Email an electronic format (PDF) copy to the Architect.
   Comply with required transmittal and data formats using numbering system approved by Architect.
   Assemble submittal package into a single indexed file incorporating submittal and cover sheet explaining project name, number, Architect, Contractor and submittal number.
3. Hard copies delivered to the Architect are to be submitted with the number of copies that the Contractor requires, plus three copies the Architect will retain.

B. All shop drawings 24” x 36” or larger are to be delivered to the Architect in hard copy format as noted in Method 3 above.

C. All submittals are to include a Contractor’s review stamp confirming approval prior to submission to the Architect.

D. The Architect will return the reviewed submittal to the Contractor for distribution to subcontractors, suppliers, fabricators, and others as necessary for proper performance of the Work.

E. Submit color samples on actual product material for final color selection by sending them via postal or delivery service directly to the Architect’s office.

1.06 PRODUCT DATA

A. Product Data: Submit to the Architect for review for the limited purpose of checking for conformance with the information given and the design concept expressed in the Contract Documents. Provide copies and distribute in accordance with the SUBMITTAL PROCEDURES article and for the record documents purposes described in Section 01 78 00.

D. Mark each copy to identify the applicable products, models, options, and other data. Supplement the manufacturers' standard data to provide the information specific to this Project.

E. Indicate the product utility and electrical characteristics, the utility connection requirements, and the location of utility outlets for service for functional equipment and appliances.

F. After receiving approved submittals, distribute in accordance with the Submittal Procedures article above and provide copies for record documents described in Section 01 78 00.

1.07 SHOP DRAWINGS

A. Shop Drawings: Submit to the Architect for review for the limited purpose of checking for conformance with the information given and the design concept expressed in the Contract Documents. Produce copies and distribute in accordance with the SUBMITTAL PROCEDURES article and for the record documents purposes described in Section 01 78 00.

B. Indicate the special utility and electrical characteristics, the utility connection requirements, and the location of utility outlets for service for functional equipment and appliances.

C. Submit the number of copies that the Contractor requires, plus three copies the Architect will retain.

1.08 SAMPLES

A. Samples: Submit to the Architect for review for the limited purpose of checking for conformance with the information given and the design concept expressed in the Contract Documents. Produce duplicates and distribute in accordance with the SUBMITTAL PROCEDURES article and for the record documents purposes described in Section 01 78 00.

B. Samples For Selection as Specified in Product Sections:
1. Submit to the Architect for aesthetic, color, or finish selection.
2. Submit samples of the finishes, indicating colors, texture, and patterns for the Architect's selection.
3. After review, produce duplicates and distribute in accordance with the SUBMITTAL PROCEDURES article and for the record documents purposes described in Section 01 78 00.

C. Submit samples to illustrate the functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate the sample submittals for interfacing Work.

D. Include identification on each sample, with the full Project information.

E. Submit the number of samples specified in the individual specification Sections; the Architect will retain one sample.

F. Reviewed samples, which may be used in the Work, are indicated in the individual specification Sections.

G. Samples will not be used for testing purposes unless they are specifically stated to be in the specification Section.

1.09 DESIGN DATA

A. Submit for the Architect's knowledge as contract administrator.

B. Submit for information for the limited purpose of assessing conformance with the information given and the design concept expressed in the Contract Documents.

1.10 TEST REPORTS

A. Submit for the Architect's knowledge as contract administrator.

B. Submit test reports for information for the limited purpose of assessing conformance with the information given and the design concept expressed in the Contract Documents.

1.11 CERTIFICATES

A. When specified in the individual specification Sections, submit certification by the manufacturer, installation/application subcontractor, or the Contractor to the Architect, in the quantities specified for the Product Data.

B. Indicate that the material or product conforms to or exceeds the specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

C. Certificates may be recent or previous test results on the material or product, but must be acceptable to the Architect.

1.12 MANUFACTURER'S INSTRUCTIONS

A. When specified in the individual specification Sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to the Architect for delivery to the Owner in the quantities specified for Product Data.

B. Indicate the special procedures, and the perimeter conditions requiring special attention, and the special environmental criteria required for application or installation.

1.13 MANUFACTURER'S FIELD REPORTS

A. Submit reports for the Architect's benefit as contract administrator.

B. Submit the report in duplicate within thirty (30) days of observation to the Architect for information.

C. Submit for information for the limited purpose of assessing conformance with the information given and the design concept expressed in the Contract Documents.

1.14 ERECTION DRAWINGS

A. Submit drawings for the Architect's benefit as contract administrator.

B. Submit for information for the limited purpose of assessing conformance with the information given and the design concept expressed in the Contract Documents.

C. Data indicating inappropriate or unacceptable Work may be subject to action by the Architect.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01 35 46

INDOOR AIR QUALITY REQUIREMENTS

PART 1- GENERAL

1.01 SUMMARY

A. IAQ Management during Construction
1. Develop and implement an Indoor Air Quality (IAQ) Management Plan for the construction and pre-occupancy phases of the building as follows:
a. During construction meet or exceed the recommended Control Measures of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guideline for Occupied Buildings under Construction, latest edition, Chapter 3.
b. Protect stored on-site or installed absorptive materials from moisture damage.
c. Replace all filtration media immediately prior to occupancy with MERV 8 filters or higher.

1.02 OVERVIEW

A. The intent of this IAQ Plan is to:
1. Minimize exposure of construction workers to air pollutants;
2. Prevent air pollutants from collecting in building systems and on building materials; and
3. Prevent air pollutants caused by construction from migrating into occupied spaces.

B. For the purposes of this plan, air pollutants are defined as: Particulates, Volatile organic compounds, Formaldehyde, Combustion emissions, Airborne bacteria and micro-organisms and Airborne inorganic compounds, such as ozone (from electric motors), metal fumes (from smoldering and welding), and ammonia and chlorine (from cleaning products).

PART 2- PRODUCTS

Not used

PART 3-EXECUTION

3.01 HVAC EQUIPMENT AND DUCT WORK

A. HVAC equipment and ductwork will be protected from dust and other pollutants via the following procedures:
1. Sealing Ductwork and Air Handling Equipment
a. Openings into installed or existing ductwork and air-handling equipment not in active use will be sealed using taped plastic, taped cardboard, or other reasonably air-tight coverings. Sealing will occur prior to, or immediately upon installation of the new ductwork or equipment. Regular walk-throughs will be conducted by the Contractor to check for damaged or displaced coverings. Repair or replacement of damaged or displaced coverings will occur immediately upon discovery, at the direction of the Contractor.
b. Construction work that generates air pollution will be avoided where ductwork or

air handling equipment is being installed. If visible air pollutants are present in a space where ductwork is to be installed, spot cleaning or other measures will be used to prevent ductwork or equipment contamination.

2. Use of Mechanical Systems during Construction
   a. Exhaust and makeup air supply systems:
      When a system is operated during construction, its filters will be replaced upon completion of construction with MERV 13 filters.
   b. Air handling systems will be subject to these provisions when operated during construction:
      1. The AHU will be protected with a temporary filter having a minimum rating of MERV 8, per ASHRAE 52.2.
      2. Distribution elements needing filters , including all return air ductwork, will be protected with temporary filters having a minimum rating of MERV 8 per ASHRAE 52.2 unless otherwise noted below.
   c. All components of the distribution on the return side will be protected, including but not limited to:
      1. The portion of the air handler upstream of the central fan;
      2. Return vents, ducts and shafts;
      3. VAV box intakes; and transfer ducts.
   d. Components of the distribution system on the supply side will typically not need protection except if portions of the supply system become contaminated, coarse filters will be applied to completely cover supply outlets, to prevent the distribution of particulates into building spaces.
3. Filter Replacement and Tracking
   a. MERV 8 filters used for ductwork protection will be replaced on an as-needed basis, as determined by the Contractor.
   b. Upon completion, the MERV 8 filters used for ductwork protection will be discarded. New filters will be installed by the Contractor at all involved air handlers.

3.02 TEMPORARY LOCAL EXHAUST

A. Where available, operable vents and windows will be opened to ventilate the building during application of interior finishes when weather conditions are suitable. Spaces with fixed glazing or no windows will be ventilated by localized temporary exhaust, as described below, or by using building mechanical systems (described above).
   1. Local temporary exhaust will be accomplished using fans, duct extensions, and filters.
   2. Local temporary exhaust will not discharge near air intakes or other openings that lead into the building.

3.03 COVERING OR SEALING SOURCES OF POLLUTION

A. The following are rules that apply to materials that emit air pollution or odors:
   1. Containers containing wet materials will be covered whenever they are not in active use.
   2. Waste materials will be covered or sealed and regularly removed from the building.
   3. Absorptive materials or materials with an odor will be covered while moved through the building.
   4. Whenever possible, material containers will be disposed of with the covers on.
   5. Materials that require a surface coating to control pollutants or odors will be coated promptly.

3.04 CONTROLLING POLLUTION AT ENTRANCES

A. Measures will be taken to prevent pollutants from being tracked into adjoining spaces by workers or equipment. These will include temporary walk-off mats and floor protection.

3.05 PROTECTION OF STORED MATERIALS

A. Measures will be taken to minimize dust accumulation on material surfaces and the absorption of other pollutants by absorbent materials. The measures will include the following:
1. Materials will be handled and stored according to the manufacturer's recommendations.
2. Unwrapped absorbent materials will be shrink-wrapped if necessary.
3. Highly absorbent materials like duct liner, acoustic tile, carpeting, or insulation will be stored indoors in the original packaging, or covered and sealed.
4. Moderately porous materials like gypsum board will be stored indoors, wrapped or away from dust and materials prone to off-gas VOC's.
5. Framing lumber will be stored indoors whenever possible. If stored outdoors, the lumber will be covered with a water proof covering, stored off the ground, and located away from standing water.
6. Dense material like glass, metal framing, ductwork and equipment will be covered and kept dry.
7. If condensation forms on cold material, care will be taken not to expose it to dust or other particles. If exposed to pollution, housekeeping measures will be used promptly to clean the material before installation.

3.06 PREVENTING CONTAMINATION OF COMPLETED AREAS FROM WORK UNDER CONSTRUCTION

A. When work is completed in an area, the area will be protected from pollutants generated in other parts of the building still under construction. One or more of the following methods of pathway interruption will be used:
1. Erecting barriers between completed areas and areas still under construction
2. Where present, doors and windows will be closed and locked between completed portions of the building and portions of the building still under construction.

3.07 HOUSEKEEPING

A. The following housekeeping measures will be employed throughout construction:
1. A regular housekeeping schedule will be instituted. Cleaning measures and frequency will be selected according to the pollutants generated in a space.
2. Low-odor cleaning agents will be used.
3. Spills of water or solvent will be cleaned up immediately.
4. Attention will be given to cleaning hidden or hard-to-reach surfaces, such as wall cavities, tops of door, ledges, and behind water closets.

3.08 SCHEDULING

A. Construction activities shall be scheduled such that construction and occupancy do not overlap in time. Provide adequate time for carpet, paint and other finishes time to off-gas prior to occupancy.

END OF SECTION

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SECTION 01 35 47

TESTING FOR INDOOR AIR QUALITY

PART 1- GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and general provisions of Contract, including General and Supplementary Conditions, other Division-1 Specification sections, and specifications of materials mentioned in this section, apply to this section.

1.2 WORK INCLUDED:

A. General: This section provides (1) requirements Baseline IAQ Testing for maximum indoor pollutant concentrations for acceptance of the facility, and (2) requirements for Independent Materials Testing of specific materials anticipated to have major impact on IAQ.

B. This section specifies procedures for testing specific construction materials for Indoor Air Quality (IAQ) performance to assure compliance with EPA's IAQ program. Materials have been identified for independent testing based on the following three criteria: (1) large volume of the material used in office space, (2) the space is occupied during normal working hours, and (3) materials are used in an area where there is recirculating air.

1.3 RELATED WORK:

A. Manufacturer's data shall be supplied for products, including content and outgassing of emissions as specified in Division 1 "Environmental Impact of Materials".

1.4 SUBMITTALS:

A. Baseline IAQ Testing: Submit a report for each test site specified for IAQ baseline testing. Report on air concentrations of targeted pollutants as identified in Table 3.1 of this section.

1.5 OUALITY ASSURANCE:

A. All material tests shall be performed in accordance with ASTM D 5116, "Standard Guide for Small Scale Environmental Chamber Determinations of Organic Emissions from Indoor Materials/Products" (1990). Report results in accordance with Section 11 of the referenced ASTM Guide.

PART 2- PRODUCTS (Not Used)

PART 3-EXECUTION

3.1 IAO TESTING:

A. NOTE: The Contractor is responsible to hire an independent contractor and cover all costs involved with the IAQ testing and reporting outlined in this specification section.

B. Existing building HVAC System Verification:

To assure compliance with recognized standards for indoor air quality including ASHRAE Standard 62 latest version, the Contractor's independent testing and balancing agency shall verify the performance of each HVAC system including space temperature and space humidity uniformity, outside air quantity, filter installation, drain pan operation, and any obvious contamination sources.

C. Indoor Air Quality Testing: Upon verification of HVAC system operation, the Contractor shall hire an independent contractor, subject to approval by the Architect, with a minimum of 5 years experience in performing the types of testing specified herein, to test levels of indoor air contaminants for compliance with specified requirements.

1. A test plan shall be submitted for the approval of the Architect. The plan shall specify procedures, times, instrumentation, and sampling methods that will be employed.

2. Testing will be conducted a maximum of four separate times.
   a. Prior to the start of any construction. This is to be used as a baseline test.
   b. Two separate times evenly spaced throughout the duration of construction.
   c. One week following the final completion of all construction.

3. Each test will be done in 6 different locations. Contaminant levels are to be measured in locations on each floor in areas agreed upon by the Architect. The Architect is the sole judge of areas exempt from testing.

3. Collect air samples during normal business hours (between the hours of 8:30 am and 4:00 pm) with building operating at normal HVAC rates. This will determine compliance or non- compliance of indoor air quality for each area tested.

4. Sample and record outside air levels of formaldehyde and TVOC contaminants at outside air intake of each respective airhandling unit simultaneously with indoor tests to establish basis of comparison for these contaminant levels. Indoor testing will be done in the breathing zone; between 4' and 7' from the floor.

5. Acceptance of respective portions of buildings by the Owner is subject to compliance with specified limits of indoor air quality contaminant levels.

D. Compliance Indoor air quality shall conform to the following standards and limits:

1. Carbon Monoxide: Note to exceed 9 ppm.

2. Carbon Dioxide: Not to exceed 800 ppm.

3. Maximum Air Concentration Standards: Indoor room air concentration levels, emission rates, and qualities of the listed contaminants shall not exceed the following limits specified in Table 3.1 below.

E. Test Reports: Prepare test reports showing the results and location of each test, a summary of the HVAC operating conditions, a listing of any discrepancies and recommendations for corrective actions, if required.

1. Include certification of test equipment calibration with each test report.

F. If any test fails the standard, the Contractor is responsible to ventilate the building with 100% outside air until the building passes both air quality tests and duct inspections. Retesting shall be performed at no additional expense to the Owner.

Table 3.1 MAXIMUM INDOOR AIR CONCENTRATION STANDARDS

Indoor Contaminants	Allowable Air Concentration Levels*
Formaldehyde	<20 micrograms per cubic meter**
Total Volatile Organic Compounds (TVOC)	<200 micrograms per cubic meter**
4-Phenylcyclohexene (4~PC)***	<3 micrograms per cubic meter
Total Particulates (PM)	<200 micrograms per cubic meter

- All levels must be achieved prior to acceptance of the building. The levels do not account for contributions from office furniture, occupants, and occupant activities.
- * * Above outside air concentrations.
- *** 4-phenylcyclohexene is an odorous contaminant constituent in carpets with styrene-butadienelatex rubber (SBR).
- TLV-TWA Threshold Limit Value - Time Weighted Average

END OF SECTION

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SECTION 01 35 63.01

ENVIRONMENTAL GOALS FOR THE PROJECT

PART 1 - GENERAL

1.01 ENVIRONMENTAL GOALS FOR THE PROJECT

A. This project, being a major facility of a Rhode Island public agency is required per Chapter 37-24 of the Rhode Island General Laws to meet the R.I. Green Building Act that states that a new building, addition or renovation is to be designed and constructed to at least the LEED certified or an equivalent high performance green building standard.
   Thus, the goal for this project is to meet the USGBC LEED Certified rating level.

B. Overall project goals: The Owner has established the following environmental goals for the Project. These goals are general in nature; refer to specific specification sections for more detailed requirements. Notify Owner and Architect if conflicts arise between performance of the work and environmental goals. This specification is not intended to limit alternative means of achieving these goals. Suggestions and input from the Contractor for implementing these goals are encouraged.
   1. Use resources efficiently—the construction, operation, and ultimately reuse or removal of the building should be optimized to eliminate unnecessary use of energy, water, and raw materials. As such, the building has been designed to:
      a. Require a minimum of nonrenewable energy.
      b. Require a minimum amount of water.
      c. Support occupant efforts to recycle and reuse materials.
      d. Be durable consistent with expected current and future uses.
      e. Utilize materials and construction methods that require a minimum of energy, water, and raw materials.
      f. Be reusable and/or recyclable in whole or in component parts.
   2. Provide a healthy and productive indoor environment—to the extent that the building can affect their experience, occupants should be enlivened, relaxed, and stimulated when they are in the building. To this end, the building has been designed to:
      a. Minimize the potential for water accumulation in conditions in which mold and mildew can flourish.
      b. Utilize daylight as a primary source of illumination, while minimizing glare and extreme contrast.
      c. Provide optimal amounts of clean, fresh air to occupied spaces.
      d. Release a minimum of unhealthy pollutants from building components, fixtures, and furnishings.
      e. Evacuate effectively any pollutants generated by occupant activities in the building.
      f. Provide views and experiences of nature.
      g. Provide an aural environment that is relaxing and supportive.
   3. Enhance, restore, and protect the site—the insertion of the building into the site should support and enhance the natural systems on and around the affected area. To this end, the building, infrastructure, and landscaping have been designed to:
      a. Support and utilize natural water flow patterns and minimize the need for intrusive stormwater management systems.
      b. Support native plants and the habitat they create for beneficial insects, birds, and animals.
      c. Minimize the release of harmful emissions into the soil, water, and air.
   4. Enhance, restore, and protect the global environment—the building is designed to minimize releases of pollutants that affect the global environment and to avoid the need for materials that are polluting to manufacture. These measures include:

a. Minimizing the release of carbon dioxide (CO2) from fuels burned on site or fuels burned off site to supply electricity to the building
b. Avoiding the release of ozone-depleting compounds, such as HCFCs from refrigerants or foam insulation materials
c. Selection of building materials that, based on an overall life-cycle assessment, are the least damaging to the environment in their extraction, processing, use, and ultimate disposal

C. Material selection and construction process goals: In support of the overall goals listed above, the following goals have been identified for the material selection and construction process. These are also general in nature and should be considered as a guideline—in the event of a conflict, any specific requirements in technical specification sections take precedence. Tradeoffs and compromises are inevitable in the pursuit of these goals, but everyone working on the project is expected to take all reasonable actions to further these goals. Notify Owner and Architect of any performance requirements that conflict unnecessarily with these goals.
1. Use resources efficiently:
   a. Select materials that use resources efficiently.
   b. Use construction practices that achieve the most efficient use of resources and materials.
   c. Recycle or reuse job-site waste.
   d. Select recycled-content materials.
   e. Select materials that can be recycled.
2. Avoid scarce, irreplaceable, or endangered resources:
   a. Select materials from abundant, well-managed resources.
   b. Select materials that are replaceable, renewable, or can be replenished.
   c. Select materials that minimize damage to natural habitats.
3. Use durable materials:
   a. Select materials with the longest usable life.
   b. Select materials that can be reused.
   c. Select materials with the least burdensome maintenance requirements.
4. Create spaces that are healthy for occupants:
   a. Select low-toxic products and materials.
   b. Select materials without toxic maintenance requirements.
   c. Specify mechanical equipment that will provide fresh air and will not trap water or pollutants.
5. Use energy efficiently:
   a. Select materials with low embodied energy.
   b. Select materials that save energy during building operations.
   c. Select products and equipment that save energy during building operations.
6. Use water efficiently:
   a. Use construction practices that achieve the most efficient use of water.
   b. Select water-conserving appliances and equipment.
   c. Landscape for water conservation.
   d. Capture and utilize rainwater.
7. Select materials that generate the least amount of pollution. Consider pollution and toxins generated during harvesting, mining, manufacturing, transport, installation, use, and disposal.
8. Protect/restore natural habitats.

1.02 ENVIRONMENTAL GOALS IMPLEMENTATION

A. Contractor shall designate an on-site party (or parties) responsible for instructing workers and overseeing the Environmental Goals for the Project.

B. Distribution: The Contractor shall distribute copies of the Environmental Goals to the Job-Site Foreman, and each Subcontractor.

C. Meetings: Environmental Goals shall be discussed at the following meetings:
   1. Pre-bid meeting
   2. Pre-construction meeting
   3. Regular job-site meetings

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

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SECTION 01 35 63.02

ENVIRONMENTAL IMPACT OF MATERIALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 WORK INCLUDED:

A. Objectives: To obtain acceptable Indoor Air Quality (IAQ) for the completed project and minimize the environmental impacts of the construction and operation, the Contractor during the construction phase of this project shall implement the following procedures singly or in combination:
   1. Select products that minimize consumption of non-renewable resources, consume reduced amounts of energy and minimize amounts of pollution to produce, and employ recycled and/or recyclable materials. Obtain Architect's approval of all materials listed in Part 2 prior to placing the order with the manufacturer of the material.
   2. Maintain a materials log book and verification that materials used have been reviewed for environmental considerations as outlined in this section.
   3. Control sources of potential IAQ pollutants by controlled selection of materials and processes used in project construction in order to attain acceptable IAQ as defined in this section.

B. Products and processes that achieve the above objectives to the extent currently possible and practical have been selected and shown in the Contract Documents. The Contractor is responsible to maintain and support these objectives in developing means and methods for performing the work of this Contract and in proposing product substitutions and/or changes to specified processes.

1.3 RELATED WORK:

A. Division 1 sections: "Indoor Air Quality Requirements", and "Waste Materials Management and Recycling".

1.4 SUBMITTALS:

A. Submit the following in accordance with Conditions of the Contract and Division 1 specification sections.
   1. Submit as part of the Division 1 Project Closeout documents indicating for each material the VOC content, the recycled content, and the Manufacturer's Safety Data Sheet (MSDS).

1.5 QUALITY ASSURANCE:

A. As part of the Preconstruction Meeting specified in Division 1 discuss the IAQ and environmental impact compliances required by this Contract. The purpose of this agenda item is to develop a mutual understanding of the IAQ and environmental impact program requirements, and coordination of the Contractor's management of the program with the Architect.

PART 2 - PRODUCTS

2.1 MATERIALS:

A. General: The following special IAQ and environmental impact requirements apply to materials specified in their respective technical specification sections of this Project Manual. See Tables 2.1 and 2.2 for definitions of low VOC content and recycled content.

The following list are qualities requested to be attained to the best ability of the Contractor for each of the described materials in the pursuit to achieve a more environmentally compatible building.

B. Division 03 - Concrete:
1. Cast-in-Place Concrete:
   a. Per FAR, cement must include 20% fly ash.
   b. Reinforcing steel shall maximize recycled scrap steel content.
   c. Form release agents shall be low VOC content.
   d. Liquid membrane-forming curing and sealing compound shall be low VOC content.

C. Division 04 - Masonry:
1. Concrete Unit Masonry:
   a. Concrete Unit Masonry shall maximize the use of recycled materials.
   b. Reinforcing bars shall maximize the use of recycled steel.

D. Division 05 - Metals:
1. Structural Steel: Framing steel shall maximize the use of recycled steel.

E. Division 06 - Wood and Plastics: Wood products:
1. Each specified solid and veneer wood species must originate from a sustainably managed forest certified by a Forest Stewardship Council (FSC) accredited certification group such as Smartwood or Scientific Certification Systems (SCS).
2. Fiberboard used as blocking, millwork, casework substrate, underlay and door cores must be urea-formaldehyde free, and not exceed ANSI A208.1-1993 emission standard of 0.20 ppm of formaldehyde.
3. Structural fiberboard (OSB, MDF, and particleboard) shall maximize post-consumer waste material.
4. Plastic laminates will be installed with water-based, formaldehyde free, low VOC (volatile organic compound) adhesives.
5. Millwork and casework adhesives will be water-based, formaldehyde free, low VOC adhesives.
6. Transparent wood finish systems shall utilize only waterborne acrylic sealers and finish coats.

F. Division 06 - Wood and Plastics:
1. Cast Resin Countertops: Silicone sealants shall be water-based low VOC silicone sealant.

G. Division 07 - Thermal and Moisture Protection:
1. Building Insulation:

a. Insulation materials manufactured using chlorofluorocarbons (CFCs) shall not be used. (CFCs have been completely phased out of U. S. manufactured insulation products.)
b. Fiberglass batt insulation, fiberglass board insulation, and mineral wool insulation shall maximize use of recycled material.

2. Joint Sealants:
   a. Interior sealants shall not contain: mercury, butyl rubber, neoprene, SBR (styrene butadiene rubber), or nitrile.
   b. Silicone sealants shall be low VOC content.
   c. Polyurethane sealants containing mercury shall not be used.
   d. Compressible foam joint fillers, polyester polyurethane foam impregnated with neoprene rubber or acrylic ester styrene copolymer used in this facility shall not be manufactured with CFC blowing agents.
   e. Sealants formulated with aromatic solvents (organic solvent with a benzene ring in its molecular structure) fibrous talc or asbestos, formaldehyde, halogenated solvents, mercury, lead, cadmium, hexavalent chromium, or their components shall not be used.

H. Division 08 - Doors and Windows:
1. Flush Wood Doors: Fiberboard used as door cores shall meet the requirements of ANSI A208.1-1993 for particleboard, including the requirement to meet a threshold of less than 0.30 ppm of formaldehyde using test method ASTM 1333.

I. Division 09 - Finishes:
1. Gypsum Drywall:
   a. Gypsum board must contain recycled or synthetic gypsum. Facing paper shall be manufactured from recycled newsprint including post-consumer waste.
   b. Glass fiber sound attenuation blanket insulation shall maximize recycled material.
   c. Joint compound shall be low VOC content.
   d. Multi-layer gypsum board applications shall be screw attached and not laminated with adhesives.
   e. Provide for thorough cleaning and removal of all silica/gypsum dust upon completion of gypsum drywall installations, including, but not necessarily limited to, all components in plenum spaces, including tops of pipes and sills, and insides and outsides of ducts.
   f. Only paper joint tape (no fiberglass tape) will be used.
   g. Mineral fiber sound attenuation blankets shall maximize recovered material.
   h. Steel studs, runners, and channels for framing shall maximize recycled steel content.
2. Acoustic Panel Ceilings:
   a. Ceiling panels shall maximize use of recycled material, and be finished with water-based low VOC paint.
   b. Suspension systems shall maximize recycled material.
3. Resilient Tile Flooring:
   a. Adhesives shall be low VOC content.
4. Carpet/Carpet Tile:
   a. Carpet shall be one that is accepted in an operating recycling program which extracts component materials for reuse and/or reclaims inherent energy, and does not contribute significantly to land fill.

b. If an adhesive is required for installation, use low VOC carpet manufacturer recommended adhesive and install per manufacturer's recommended frame or perimeter adhesive pattern method. (Full field glue-down is not acceptable except for carpet with an integral dry film adhesive back.)

c. If a seam sealer is required for installation, use carpet manufacturer recommended low VOC seam sealer or recommend heat welded seaming.

5. Paint and Polychromatic Finish Coating:

a Do not use water based paints formulated with aromatic hydrocarbons (organic solvent with a benzene ring in its molecular structure), formaldehyde, halogenated solvents, mercury or mercury compounds, or tinted with pigments of lead, cadmium, chromium VI and their oxides. Water based paints shall be low VOC and shall have a flash point of 61 degrees C or greater.

b. Where it is necessary to use solvent-based paints, they shall be formulated for low VOC emissions and shall not be formulated with formaldehyde, halogenated solvents, mercury or mercury compounds, or tinted with pigments of lead, cadmium, chromium VI and their oxides, nor formulated with more than 10% aromatic hydrocarbons by weight.

c. The following shall be low VOC and not be formulated with aromatic hydrocarbons (organic solvent with a benzene ring in its molecular structure) formaldehyde, halogenated solvents, mercury or mercury compounds, or tinted with pigments of lead, cadmium, chromium VI and their oxides.
High performance water based acrylic coatings.
Pigmented acrylic sealers.
Catalyzed epoxy coatings.
High performance silicone grafted epoxy coatings.

J. Division 12 - Furnishings:

1. Casework: Silicone sealant shall be water-based silicone sealant with low VOC content.

K. Division 23 - Mechanical:

1. Basic Mechanical Materials and Methods: Use low VOC joint sealers.
2. Basic Piping Materials and Methods: Use solder that does not contain lead.
3. Underground Utilities - Basic Piping Materials and Methods: Use solder that does not contain lead.
4. Pipes and Pipe Fittings: Use solder that does not contain lead.
6. Plumbing Fixtures: Plumbing fixtures must meet water conservation requirements of the Energy Policy Act.
7. Metal Ductwork: Use low VOC joint and seam sealants.

Table 2.1 Definition of Low VOC Content Levels

Material or Product	Low VOC Content Level
Form Release Agents	350 g/L VOC content
Plastic Laminate Adhesive	20 g/L VOC content
Casework and Millwork Adhesives	20 g/L VOC content
Transparent Wood Finish Systems	350 g/L VOC content
Cast Resin Countertop silicone Sealant	20 g/L VOC content

Material or Product	Low VOC Content Level
Water based Joint Sealants	50 g/L VOC content
Non-water based Joint Sealants	350 g/L VOC content
Gypsum Drywall Joint Compound	20 g/L VOC content
Acoustic Panel Ceiling Finish	50 g/L VOC content
Resilient Tile Flooring Adhesive	100 g/L VOC content
Water-based Paint & Polychromatic finish coatings	150 g/L VOC content
Solvent -based Paint	380 g/L VOC content
High Performance Water-Based Acrylic coatings	250 g/L VOC content
Pigmented Acrylic Sealers	250 g/L VOC content
High Performance Silicone	250 g/L VOC content
Casework Sealant	50 g/L VOC content
Liquid membrane-forming curing & sealing compound	350 g/L VOC content

Table 2.2 Required Minimum Recycled Content of Materials

Material or Product	Recommended Recycle Content
Reinforcing Steel in Concrete	60% recycled scrap steel 1
Concrete Unit Masonry	50% recycled content
Reinforcing Bars in Concrete Unit Masonry	60% recycled steel 1
Framing steel	30% recycled steel 1
Fiberglass batt insulation	20% recycled glass cullet 2
Mineral wool insulation	75% recycled material (slag) 2
Mineral wool fire safing insulation	75% recycled material by weight (slag) 2
Gypsum board	10% recycled or synthetic gypsum
Facing paper of Gypsum Board	100% recycled newsprint including post consumer waste 2
Mineral Fiber Sound Attenuation Blankets	75% recovered material by weight (slag) 2
Steel studs, runners, and channels	60% recycled steel 1
Acoustic Panel Ceilings	60% recycled material by weight
Ceiling Suspension Systems	60% recycled material 1
Structural fiberboard	80-100% recycled content 2

Notes for Table 2.2:

1. 60% represents the average recycled content for the U. S. steel industry. Use of U. S. manufactured steel will meet this requirement.
2. As per EPA Comprehensive Guideline for Procurement of Products Containing Recovered Materials (60 FR 21370, effective May 1, 1996).

PART 3 - EXECUTION

3.1 GENERAL:

A. Submit to the Architect for review and approval product data such as MSDS and environmental impact data prior to ordering project materials.

B. Prepare and maintain a Materials Log, providing information on content of materials, where specific materials are to be used, MSDS, and environmental specifications of the material. Maintain the log book weekly as materials are ordered.

3.2 FIELD QUALITY CONTROL:

A. The Owner reserves the right to take samples and perform, at random, tests of approved materials delivered to the job site to verify compliance of actual materials with specifications.

END OF SECTION

SECTION 01 40 00

QUALITY REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Quality control and control of installation.

B. Verification of Credentials and Licenses.

C. Safety Awareness Policy

D. Tolerances

E. References.

F. Mock-up requirements.

G. Testing and inspection services.

H. Manufacturers' field services.

1.02 QUALITY CONTROL AND CONTROL OF INSTALLATION

A. Monitor a quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of the specified quality.

B. Comply with the manufacturers' instructions, including each step in sequence.

C. When the manufacturers' instructions conflict with the Contract Documents, request a clarification from the Architect before proceeding.

D. Comply with the specified standards as a minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Perform the Work by persons qualified to produce the required and specified quality.

F. Verify that field measurements are as indicated on the Shop Drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

H. Field measurements
   1. Verify actual measurements/openings by field measurements before fabrication; show recorded measurements on shop drawings. Coordinate field measurements, fabrication scheduled with construction progress to avoid construction delays.

I. The Contractor, by approving and submitting Shop Drawings, Product Data, Samples, and similar submittals thereby represent that they have determined and verified all dimensions, quantities, field dimensions, relations to existing work, coordination with work to be installed later, coordination with information on previously accepted Shop Drawings, Product Data, Samples, or similar submittals and verification of compliance with all the requirements of the Contract Documents. The accuracy of all such information is the responsibility of the Contractor. In reviewing Shop Drawings, Product Data, Samples, and similar submittals the Architect shall be entitled to rely upon the Contractor's representation that such information is correct and accurate.

J. Concrete Installation Quality Control
   1. **NO** concrete is to be installed without prior inspection by the Architect of all forms, reinforcement and vapor barriers and receipt of a written approval by the Architect.
   2. The Architect is to be notified a minimum of three (3) working days prior to each pour.
   3. All inconsistencies will be corrected, re-inspected and approved by the Architect prior to installation of the concrete.

1.03 VERIFICATION OF CREDENTIALS AND LICENSES

A. All persons employed on the project site must have appropriate and current credentials and licenses in their possession, at the project site, for the work they are performing.

B. Be forewarned that state resident inspectors will be checking for verification of credentials and licenses of both union and non-union persons, in their onsite inspections.

C. State resident inspectors will also be reviewing Contractor's Certified Monthly Payroll Records for conformance with RI State Prevailing Wage Rate requirements.

D. Those persons without the appropriate credentials and licenses will be subject to dismissal from the project site.

1.04 SAFETY AWARENESS POLICY

A. In accordance with Rhode Island General Laws, Title 28, S28-20-35 5.1 Safety awareness program required. (Effective January 1, 2002.) all contractors who bid on municipal and state construction projects with a total project cost of One Hundred Thousand Dollars($100,000.00) or more, shall have an OSHA “ten hour safety construction program” for their on-site employees. The training shall utilize instructors trained by the Occupational Safety Health Administration, using OSHA approved curriculum. Graduates shall receive a card from the U. S. Department of Labor Occupational Safety and Health Administration certifying the successful completion of the training course. The director of the Rhode Island Department of Labor and Training shall promulgate rules, regulations and penalties to enforce provisions of this section.

B. The Contractor is required to conform to all applicable OSHA requirements on this project.

1.05 TOLERANCES

A. Monitor the fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with the manufacturers' tolerances. When the manufacturers' tolerances conflict with the Contract Documents, request a clarification from the Architect before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

1.06 REFERENCES

A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Conform to reference standard by the date of issue current on the date of the Contract Documents, except where a specific date is established by code.

C. Obtain copies of the standards where required by the product specification Sections.

D. When the specified reference standards conflict with the Contract Documents, request a clarification from the Architect before proceeding.

E. Neither the contractual relationships, duties, nor responsibilities of the parties in the Contract, nor those of the Architect, shall be altered from the Contract Documents by mention or inference otherwise in reference documents.

1.07 MOCK-UP REQUIREMENTS

A. Tests will be performed under the provisions identified in this Section and identified in the respective product specification Sections.

B. Assemble and erect the specified items with the specified attachment and anchorage devices, flashing, seals, and finishes.

C. Accepted mock-ups shall be a comparison standard for the remaining Work.

D. Where the mock-up has been accepted by the Architect and is specified in the product specification Sections to be removed, remove the mock-up and clear the area when directed to do so by the Architect.

1.08 TESTING AND INSPECTION SERVICES

A. The Contractor will submit the name of an independent firm to the Architect for approval by the Owner, to perform the testing and inspection services. All fees to be paid to the independent firm will be deducted from the Testing Allowance stated in Section 01 21 00. The Contractor is to submit the testing firm's invoice as backup to be included with a Change Order deducting the amount from the Testing Allowance.

B. The independent firm will perform the tests, inspections and other services specified in the individual specification Sections.
   1. Laboratory: Authorized to operate in the location in which the Project is located.
   2. Laboratory Staff: Maintain a full time registered Engineer on staff to review the services.
   3. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to either the National Bureau of Standards or to the accepted values of natural physical constants.

C. Testing, inspections and source quality control may occur on or off the project site. Perform off-site testing as required by the Architect.

D. Reports will be submitted by the independent firm to the Architect and the Contractor, in duplicate, indicating the observations and results of tests and indicating the compliance or non-compliance with Contract Documents.

E. Cooperate with the independent firm; furnish samples of the materials, design mix, equipment, tools, storage, safe access, and the assistance by incidental labor as requested.
   1. Notify the Architect and the independent firm 24 hours prior to the expected time for operations requiring services.
   2. Arrange with the independent firm and pay for additional samples and tests required for the Contractor's use.

F. Testing and employment of the testing agency or laboratory shall not relieve the Contractor of an obligation to perform the Work in accordance with the requirements of the Contract Documents.

G. Re-testing or re-inspection required because of a non-conformance to the specified requirements is to be performed by the same independent firm on instructions by the Architect. Payment for the re-testing or re-inspection will be the Contractor's responsibility.

H. Agency Responsibilities:
   1. Test samples of mixes submitted by the Contractor.
   2. Provide qualified personnel at the site. Cooperate with the Architect and the Contractor in performance of services.
   3. Perform specified sampling and testing of the products in accordance with the specified standards.
   4. Ascertain compliance of the materials and mixes with the requirements of the Contract Documents.
   5. Promptly notify the Architect and the Contractor of observed irregularities or non-conformance of the Work or products.
   6. Attend the preconstruction meetings and the progress meetings.

I. Agency Reports: After each test, promptly submit two copies of the report to the Architect and to the Contractor. When requested by the Architect, provide an interpretation of the test results. Include the following:
   1. Date issued.
   2. Project title and number.
   3. Name of inspector.
   4. Date and time of sampling or inspection.
   5. Identification of product and specifications section.
   6. Location in the Project.
   7. Type of inspection or test.
   8. Date of test.
   9. Results of tests.
   10. Conformance with Contract Documents.

J. Limits On Testing Authority:
   1. Agency or laboratory may not release, revoke, alter, or enlarge on the requirements of the Contract Documents.
   2. Agency or laboratory may not approve or accept any portion of the Work.
   3. Agency or laboratory may not assume any duties of the Contractor.
   4. Agency or laboratory has no authority to stop the Work.

1.09 MANUFACTURERS' FIELD SERVICES

A. When specified in the individual specification Sections, require the material or Product suppliers, or manufacturers, to provide qualified staff personnel to observe the site conditions, the conditions of the surfaces and installation, the quality of workmanship, the start-up of equipment, or test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.

B. Submit the qualifications of the observer to the Architect thirty (30) days in advance of the required observations. The Observer is subject to approval by the Architect.

C. Report the observations and the site decisions or instructions given to the applicators or installers that are supplemental or contrary to the manufacturers' written instructions.

D. Refer to Section 01 33 00 - SUBMITTAL PROCEDURES, MANUFACTURERS' FIELD REPORTS article.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not used.

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SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Temporary Utilities:
1. Temporary electricity.
2. Temporary lighting for construction purposes.
3. Temporary heating.
4. Temporary cooling.
5. Temporary ventilation.
6. Telephone service.
7. Computer E-mail service
8. Temporary water service.
9. Temporary sanitary facilities.

B. Construction Facilities:
1. Field offices, trailers and sheds.
2. Vehicular access.
3. Parking.
4. Progress cleaning and waste removal.

C. Temporary Controls:
1. Barriers.
2. Enclosures
3. Security.
4. Fire detection.
5. Dust control.
6. Noise control.
7. Pollution control.

D. Removal of utilities, facilities, and controls.

1.02 TEMPORARY ELECTRICITY

A. The Owner will pay the cost of electricity used. Utilize the Owner’s existing power service. Exercise measures to conserve energy.

B. Provide a temporary electric feeder from an existing building, or from the electrical service at the location as directed by the Architect. Do not disrupt the Owner's use of service.

C. Complement the existing power service capacity and characteristics as required for construction operations.

D. Permanent convenience receptacles may be utilized during construction.

1.03 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

A. Provide and maintain lighting for construction operations to achieve a minimum lighting level of 2 watt/sq ft.

B. Provide and maintain 1 watt/sq ft lighting to exterior staging and storage areas after dark for security purposes.

C. Provide and maintain 0.25 watt/sq ft lighting to interior work areas after dark for security purposes.

D. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails and lamps for specified lighting levels.

E. Maintain lighting and provide routine repairs.

F. Permanent building lighting may be utilized during construction.

1.04 TEMPORARY HEATING

A. Existing heating equipment may be used.

B. Provide and pay for heating devices and heat as needed to maintain the specified conditions for construction operations.

C. Maintain a minimum ambient temperature of 50 degrees F in the areas where construction is in progress, unless indicated otherwise in the product Sections.

1.05 TEMPORARY COOLING

A. Existing cooling equipment may be used.

B. Provide and pay for cooling devices and cooling as needed to maintain the specified conditions for construction operations.

C. Maintain a maximum ambient temperature of 80 degrees F in the areas where construction is in progress, unless indicated otherwise in the specifications.

1.06 TEMPORARY VENTILATION

A. Ventilate the enclosed area to achieve a curing of materials, to dissipate humidity, and to prevent the accumulation of dust, fumes, vapors, or gases.

B. Utilize the existing ventilation equipment. Extend and supplement the equipment with temporary fan units as required to maintain clean air for construction operations.

1.07 TELEPHONE SERVICE

A. The Contractor is required to insure the on-site Project Supervisor maintains a cell phone in their possession for the duration of the Contract.

1.08 COMPUTER E-MAIL SERVICE

A. Provide, maintain and pay for a computer with an Internet connection capable of receiving e-mail at the field office at the time of project mobilization and throughout the construction period.

1.09 TEMPORARY WATER SERVICE

A. The Owner will pay the cost of temporary water. Exercise measures to conserve. Utilize the Owner's existing water system, extend and supplement with temporary devices as needed to maintain the specified conditions for construction operations.

B. Extend branch piping with outlets located so that water is available by hoses with threaded connections. Provide temporary pipe insulation to prevent freezing.

1.10 TEMPORARY SANITARY FACILITIES

A. Provide and maintain the required facilities and enclosures for construction employees. Existing facility use is not permitted. Provide facilities at the time of project mobilization.

B. **Temporary Restroom Facilities for the General Public**
Temporary restroom facilities for use by the general public only during Phase 1 of construction (when the Public Restrooms on the first floor are closed due to construction) will be provided and paid for by the Contractor.

1. The facilities will be installed at an exterior location approved by the Owner.
2. The facilities are to be wheelchair accessible.
3. The facilities are to contain separate male and female compartments each containing a minimum of two toilets.
4. The facilities are to contain the following:
   a. Flushing toilets and urinals.
   b. Sinks with hot & cold running water.
   c. Soap dispensers, paper towel dispensers (or electric hand dryers), toilet tissue dispensers and wastebaskets.
   d. Climate control (heating & cooling) with ventilating fans and interior & exterior lighting.
5. Water source will be by garden hose (supplied by vendor or contractor) hooked up to existing building. Owner will pay cost of water.
6. Electric source will be connected from existing building, 20 amp/110v. Owner will pay cost of all electricity.

7. Vendor or Contractor to provide regularly scheduled servicing of the facilities. The servicing shall include the following:
   a. Clean and disinfect all surfaces and fixtures.
   b. Refill all dispensers.
   c. Empty wastebaskets and waste holding tank.
   d. Inspect all facility systems to verify they are functioning properly.

C. At the completion of the Work remove the facilities, trailer, utility services, and debris. Restore the areas to match original condition.

1.11 FIELD OFFICES, TRAILERS AND SHEDS

A. Office: Provide a weather tight portable building or trailer with lighting, electrical outlets, heating, cooling and ventilating equipment, and equipped with sturdy furniture, drawing rack, and drawing display table.
   1. Provide a space for Project meetings, with table and chairs to accommodate 8 persons.
   2. Locate the offices and sheds a minimum distance of 30 feet from existing or new structures in location agreed upon by Architect and Owner.

B. Storage Areas, Trailers and Sheds: Size to the storage requirements for the products of the individual Sections, allowing for access and orderly provision for the maintenance and for the inspection of Products to the requirements of Section 01 60 00.

C. Installation:
   1. Install the office spaces ready for occupancy fifteen (15) days after the date of receipt of a Purchase Order from the State of Rhode Island Department of Administration, Division of Purchases.

D. Maintenance and Cleaning
   1. Weekly janitorial services for the offices, periodic cleaning and maintenance for the office and storage areas.
   2. Maintain the approach walks free of mud, water, and snow.

E. Removal: At the completion of the Work remove the buildings, trailers, utility services, and debris. Restore the areas.

1.12 VEHICULAR ACCESS

A. Provide unimpeded access for emergency vehicles. Maintain 20 foot width driveways with turning space between and around combustible materials.

B. Provide and maintain access to fire hydrants and control valves free of obstructions.

1.13 PARKING

A. Arrange for temporary surface parking areas to accommodate the construction personnel.

B. Location must be approved by the Owner.

C. Use of existing parking facilities by construction personnel is permitted.

D. When site space is not adequate, arrange through the Owner for additional off-site parking.

E. Use of designated existing on-site streets and driveways for construction traffic is permitted. Tracked vehicles are not allowed on paved areas.

1.14 PROGRESS CLEANING AND WASTE REMOVAL

A. Maintain areas free of waste materials, debris, and rubbish. Maintain the site in a clean and orderly condition.

B. Collect and remove waste materials, debris, and rubbish from the site periodically, weekly, or daily, as necessary to prevent an on-site accumulation of waste material, debris, and rubbish, and dispose off-site.

C. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

D. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other or remote spaces, prior to enclosing the space.

E. Sweep and vacuum clean the interior areas prior to the start of surface finishing, and continue cleaning to eliminate dust.

1.15 BARRIERS

A. Provide barriers to prevent unauthorized entry to the construction areas and to protect existing facilities and adjacent properties from damage from the construction operations, or demolition.

B. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.16 ENCLOSURES

A. Interior Enclosures:
   1. Provide temporary partitions as required to separate the work areas from the Owner occupied areas, to prevent penetration of dust and moisture into the Owner occupied areas, and to prevent damage to the existing materials and equipment.
   2. Construction: Framing and reinforced polyethylene, plywood, or gypsum board sheet materials with closed joints and sealed edges at intersections with existing surfaces:
      a. Maximum flame spread rating of 75 in accordance with ASTM E84.

1.17 SECURITY

A. Security Program:
   1. Protect the Work, the existing premises, or the Owner's operations from theft, vandalism, and unauthorized entry.

2. Initiate the program at the mobilization.
3. Maintain the program throughout the construction period until Owner occupancy.

1.18 FIRE DETECTION

A. Before beginning any construction that can potentially trigger the existing fire detection system, notify the Owner and request to temporarily disconnect the system in the specific areas of construction, for as long as may be necessary.

1.19 DUST CONTROL

A. Execute the Work by methods to minimize raising dust from construction operations.

B. Provide positive means to prevent air-borne dust from dispersing into the atmosphere.

1.20 NOISE CONTROL

A. Provide methods, means, and facilities to minimize noise produced by the construction operations.

1.21 POLLUTION CONTROL

A. Provide methods, means, and facilities to prevent the contamination of soil, water, and the atmosphere from discharge of noxious, toxic substances, and pollutants produced by the construction operations.

1.22 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, and materials prior to Substantial Completion.

B. Remove the underground installations to a minimum depth of 2 feet. Grade the site as indicated.

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

D. Restore the existing facilities used during construction to the original condition. Restore the permanent facilities used during construction to the specified condition.

PART-2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Products.

B. Product delivery requirements.

C. Product storage and handling requirements.

D. Product options.

E. Product substitution procedures.

1.02 PRODUCTS

A. Products: Means new material, machinery, components, fixtures, or systems forming the Work; but does not include the machinery or equipment used for the preparation, fabrication, conveying, or erection of the Work. Products may include the existing materials or components required or specified for reuse.

B. Furnish products of qualified manufacturers suitable for the intended use. Furnish products of each type by a single manufacturer unless specified otherwise.

C. Do not use materials and equipment removed from the existing premises, except as specifically permitted by the Contract Documents.

D. Furnish interchangeable components of the same manufacturer for the components being replaced.

1.03 PRODUCT DELIVERY REQUIREMENTS

A. Transport and handle products in accordance with the manufacturer's instructions.

B. Promptly inspect shipments to ensure that the products comply with the requirements, the quantities are correct, and the products are undamaged.

C. Provide equipment and personnel to handle the products by methods to prevent soiling, disfigurement, or damage.

1.04 PRODUCT STORAGE AND HANDLING REQUIREMENTS

A. Store and protect the products in accordance with the manufacturers' instructions.

B. Store with seals and labels intact and legible.

C. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to the product.

D. For exterior storage of fabricated products, place on sloped supports above the ground.

E. Provide bonded off-site storage and protection when the site does not permit on-site storage or protection.

F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent the condensation and degradation of products.

G. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

H. Provide equipment and personnel to store the products by methods to prevent soiling, disfigurement, or damage.

I. Arrange storage of the products to permit access for inspection. Periodically inspect to verify that the products are undamaged and are maintained in acceptable condition.

1.05 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Any Product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Products of one of the manufacturers named and meeting the specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named in accordance with the following article.

1.06 PRODUCT SUBSTITUTION PROCEDURES

A. Throughout these Specifications, types of materials may be specified by manufacturer's name, and product information in order to establish standards of quality and performance and not for the purpose of limiting competition.

B. Inclusion of additional names of manufacturers, other than the Basis of Design manufacturer, does not imply acceptability of standard products from those manufacturers listed. All manufacturers listed shall conform, with modification as necessary, to criteria established by the specification for performance, efficiency, materials, finishes and special accessories along with, at a minimum, matching the Basis of Design product.

C. No substitutions will be considered prior to receipt of Bids unless written request for approval (by hard copy or email) has been received by the Architect at least 10 calendar days prior to the Bid due

date. If the product substitution is approved prior to receipt of the Bids, such approval will be set forth in an Addendum. Bidders shall not rely upon approvals announced in any other manner.

It will be the Architect's and Owner's option to consider a formal request, review and acceptance of a product substitution following award of the contract. For all requests made after award of the contract, the Architect will review the requests with reasonable promptness and notify the Contractor in writing of the decision to accept or reject the substitution.

D. A request for substitution of any manufacturer or product not named in a specification section is to be submitted in accordance with the following.
   1. Document each request with complete data substantiating the compliance of a proposed Substitution with the Contract Documents.
   2. A request constitutes a representation that the Contractor:
      a. Has investigated the proposed product and determined that it is equal to or superior in all respects to the specified product.
      b. Will provide the same warranty for the substitution as for the specified product.
      c. Will coordinate the installation and make changes to other Work that may be required for the Work to be complete with no additional cost to the Owner.
      d. Waives claims for additional costs or time extension that may subsequently become apparent.
      e. Will coordinate installation with all affected trade Contractors, specialty Contractors and the like and will be responsible for any and all costs which may arise as a result of this substitution.
      f. Will reimburse the Owner and the Architect for review or redesign services associated with re-approval by the authorities having jurisdiction.

E. Substitutions will not be reviewed when a substitution is implied on the Shop Drawing or Product Data submittals without a separate written request or when acceptance will require revision to the Contract Documents.

F. If the Contractor proposes to use a material which, while suitable for the intended use, deviates in any way from the detailed requirements of the Contract Documents, the Contractor shall inform the Architect in writing of the nature of such deviations at the time the material is submitted for review.

G. Substitution Submittal Procedure:
   1. Submit the Request for Substitution letter, Shop Drawings, Product Data, direct comparison table and the certified test results attesting to the proposed product equivalence by E-mail via an electronic format (PDF) copy to the Architect. Assemble package into a single indexed file incorporating all the required information.
   2. The Contractor shall submit a separate request for each product substitution.
   3. Provide direct comparison between the specified product and the proposed substitution. The burden of proof is on the proposer.
      Supporting data to be submitted to permit a fair evaluation of the proposed substitution must address:
      a. Performance;
      b. Capacity;
      c. Efficiency;
      d. Safety;

e. Function;
f. Appearance;
g. Quality and durability;
h. Finish;
i. Warranty terms and conditions;
j. Directly compare, side-by side, in table format, all listed testing agency performance requirements;
k. Delivery times and effect on schedules, if any;
l. Changes in space requirements or affect on other elements of work, if any;
m. Availability of maintenance service and source of replacement materials, if applicable.

H. The Contract Documents are intended to produce a building of consistent character and quality of design. All components of the building including visible items of mechanical and electrical equipment have been selected to have a coordinated design in relation to the overall appearance of the building. The Architect shall judge the design and appearance of proposed substitutes on the basis of their suitability in relation to the overall design of the Project, as well as for their intrinsic merits. The Architect will not approve as equal to materials specified proposed substitutes which, in the Architect's opinion, would be out of character, obtrusive, or otherwise inconsistent with the character or quality of design of the Project. In order to permit coordinated design of color and finishes the Contractor shall, if required by the Architect, furnish the substituted material in any color, finish, texture, or pattern which would have been available from the manufacturer originally specified, at no additional cost to the Owner.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01 70 00

EXECUTION REQUIREMENTS

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. Examination.

B. Preparation.

C. Protection of adjacent construction.

D. Cutting and patching.

E. Special procedures.

F. Progress cleaning and waste removal.

G. Final cleaning.

H. Starting and adjusting of systems.

I. Demonstration and Instructions.

J. Protecting Installed Construction.

1.02 EXAMINATION

A. Acceptance of Conditions:
1. Verify that the existing applicable site conditions, substrates, or substrate surfaces are acceptable or meet the specific requirements of the individual specifications Sections, for subsequent Work to proceed.
2. Verify that the existing substrate is capable of structural support or attachment of new Work being applied or attached.
3. Examine and verify specific conditions described in the individual specifications Sections.
4. Verify that utility services are available, of the correct characteristics, and in the correct locations.
5. Beginning of new Work, that relies upon the quality and proper execution of the Work of a preceding trade, means acceptance of that preceding Work as appropriate for the proper execution of subsequent Work.
6. Acceptance of preceding Work that can be shown later to have adversely affected proper performance of new Work may result in removal and repeat performance of all Work involved at no cost to the Owner.

1.03 PREPARATION

A. Clean substrate surfaces prior to applying the next material or substance.

B. Seal cracks or openings of the substrate prior to applying the next material or substance.

C. Apply a manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

D. Prior to the application, installation, or erection of any products and product components, perform any other preparatory operations, or surface or substrate modifications, as may be specified or directed by the product manufacturers.

1.04 PROTECTION OF ADJACENT CONSTRUCTION

A. Protect the existing adjacent properties and provide special protection where specified in the individual Specification Sections.

B. Provide protective coverings at wall, projections, jambs, sills, and soffits of the existing openings.

C. Protect the existing finished floors, stairs, and other existing surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

D. Repair adjacent properties damaged by the construction operations to the original condition to the satisfaction of the Owner.

E. Prohibit unnecessary traffic from the existing landscaped areas.

F. Restore the grassed landscaped areas damaged by the construction operations to a full healthy growth by installing loam and sod.

1.05 CUTTING AND PATCHING

A. Employ the original, or skilled and experienced installer to perform cutting and patching.

B. Submit a written request in advance of the cutting or altering elements which affect:
1. Structural integrity of element.
2. Integrity of weather-exposed or moisture-resistant elements.
3. Efficiency, maintenance, or safety of the element.
4. Visual qualities of sight-exposed elements.
5. Existing construction, or the Work of separate contractor.

C. Execute cutting, fitting, and patching including excavation and fill, to complete the Work, and to:
1. Fit the several parts together, to integrate with the other Work.
2. Uncover Work to install or correct ill-timed Work.
3. Remove and replace defective and non-conforming Work.
4. Remove samples of installed Work for testing.

5. Provide openings in the elements of Work for penetrations of mechanical and electrical Work.

D. Execute Work by methods that will avoid damage to other Work, and provide proper surfaces to receive patching and finishing.

E. Cut masonry, concrete, and other rigid materials using a masonry saw or core drill.

F. Restore the Work with new Products in accordance with the requirements of Contract Documents.

G. Fit Work tight to the pipes, sleeves, ducts, conduits, and other penetrations through surfaces.

H. Maintain the integrity of the wall, ceiling, or floor construction; completely seal voids.

I. At the penetration of fire rated partition, ceiling, or floor construction completely seal the voids with a fire rated or fire resistant material to the full thickness of the penetrated element as required to equal the rating of the surrounding construction.

J. Refinish surfaces to match the adjacent finishes. For continuous surfaces refinish to nearest intersection; for an assembly refinish the entire unit.

K. Identify any hazardous substance or conditions exposed during the Work to the Architect for a decision or remedy.

1.06 SPECIAL PROCEDURES

A. Materials: As specified in the product Sections; match the existing with new products, or salvaged products as appropriate, for patching and extending work.

B. Employ a skilled and experienced installer to perform alteration work.

C. Cut, move, or remove items as necessary for access to the alterations and renovation Work. Replace and restore at completion.

D. Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, and deteriorated masonry and concrete. Replace the materials as specified for finished Work.

E. Remove the debris and abandoned items from the area and from concealed spaces.

F. Prepare the surface and remove surface finishes to provide the installation of new Work and finishes,

G. Close the openings in exterior surfaces to protect the existing Work from the weather and extremes of temperature and humidity.

H. Remove, cut, and patch the Work in a manner to minimize damage and to provide a means of restoring products and finishes to the original or specified condition.

I. Refinish the existing visible surfaces to remain in renovated rooms and spaces to the specified condition for each material, with a neat transition to the adjacent finishes.

J. Where new Work abuts or aligns with the existing, provide a smooth and even transition. Patch the Work to match the existing adjacent Work in texture and appearance.

K. When finished surfaces are cut so that a smooth transition with the new Work is not possible, terminate the existing surface along a straight line at a natural line of division and submit a recommendation to the Architect for review.

L. Where a change of plane of 1/4 inch or more occurs, submit a recommendation for providing a smooth transition to the Architect for review.

M. Trim existing doors as necessary to clear new floor finish. Refinish the trim as required.

N. Patch or replace the portions of existing surfaces which are damaged, or showing other imperfections.

O. Finish surfaces as specified in the individual product Sections or as indicated on the Drawings.

1.07 PROGRESS CLEANING AND WASTE REMOVAL

A. Maintain areas free of waste materials, debris, and rubbish. Maintain the site in a clean and orderly condition.

B. Remove the debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Sweep and vacuum clean the interior areas prior to the start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove the waste materials, debris, and rubbish from the site periodically or weekly and dispose of off-site.

E. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.08 FINAL CLEANING

A. Execute final cleaning of areas affected by the Work prior to the final project assessment.

B. Clean the interior and exterior glass surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

C. Clean the equipment and fixtures to a sanitary condition using cleaning materials appropriate to the surface and material being cleaned.

D. Clean or replace filters of operating equipment as directed by the Architect.

E. Clean the site; sweep the paved areas, rake clean the landscaped surfaces.

F. Remove the waste and surplus materials, rubbish, and the construction facilities from the site.

1.09 STARTING AND ADJUSTING OF SYSTEMS

A. Coordinate the schedule for the starting and adjusting of various equipment and systems.

B. Notify the Architect and the Owner seven days prior to the starting and adjusting of each item.

C. Verify that the tests, meter readings and the specified electrical characteristics agree with those required by the equipment or system manufacturer.

D. Verify wiring and support components for equipment are complete and tested.

E. Execute the starting and adjusting under the supervision of the responsible Contractor's personnel or manufacturer's representative, in accordance with the manufacturer's instructions.

F. Adjust the operating Products and equipment to ensure smooth and unhindered operation.

G. When specified in the individual specifications Section, require the manufacturer to provide the authorized representative to be present at the site to inspect, check, and approve the equipment or system installation prior to starting, and to supervise the placing of equipment or system in operation.

1.10 DEMONSTRATION AND INSTRUCTIONS

A. Demonstrate the operation and maintenance of Products to the Owner's personnel two weeks prior to the date of Substantial Completion.

B. Utilize the operation and maintenance manuals as the basis for instruction. Review the manuals with the Owner's personnel in detail to explain all aspects of the operation and maintenance.

C. Demonstrate the start-up, operation, control, adjustment, trouble shooting, servicing, maintenance, and shutdown of each item of equipment at a scheduled or agreed upon time, at the equipment or system location.

D. Prepare and insert additional data in the operations and maintenance manuals when the need for additional data becomes apparent during the instruction.

1.11 PROTECTING INSTALLED CONSTRUCTION

A. Protect the installed Work and provide special protection where specified in the individual specification sections.

B. Provide temporary and removable protection for the installed products. Control activity in the immediate work area to prevent damage.

C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

E. Repair or replace the installed Work damaged by construction operations, as directed by the Architect.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01 74 19

WASTE MATERIALS MANAGEMENT AND RECYCLING

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 WASTE MANAGEMENT GOALS FOR THE PROJECT

A. The Owner has established that this Project shall generate the least amount of waste possible and that processes shall be employed that ensure the generation of as little waste as feasible including prevention of damage due to mishandling, improper storage, contamination, inadequate protection or other factors as well as minimizing overall packaging and poor quantity estimating.

B. Of the inevitable waste that is generated, the waste materials designated in this specification shall be salvaged for reuse or recycling. Waste disposal in landfills or incinerators shall be minimized. On new construction projects this means careful recycling of job site waste, on demolition projects this also means careful removal for salvage.

1.3 SUMMARY:

A. This Section includes required salvage and recycling of the following waste materials and applies to all such listed waste materials produced during the course of this Contract:
   1. Concrete, Masonry, and Other Inert Fill Material: Concrete, brick, rock, clean soil not intended for other on-site use, broken up asphalt pavement containing no ABC stone, clay, concrete, or other contaminants, and other inert material.
   2. Metals: Metal scrap including iron, steel, copper, brass, and aluminum.
   3. Untreated Wood: Unpainted, untreated dimensional lumber, plywood, oriented strand board, masonite, particleboard, and wood shipping pallets.
   4. Gypsum Wallboard Scrap: Excess drywall construction materials including cuttings, other scrap, and excess materials.
   5. Cardboard: Clean, corrugated cardboard such as used for packaging, etc.
   6. Paper: Discarded office refuse such as unwanted files, correspondence, etc.
   7. Plastic Buckets: Containers for various liquid and semi-solid or viscous construction materials and compounds.
   8. Beverage Containers: Aluminum, glass, and plastic containers.
   9. Other Mixed Construction and Demolition Waste: Solid waste resulting solely from construction, remodeling, repair, or demolition operations on pavement, buildings, or other structures exclusive of waste materials listed herewith.

B. Non-Recyclable Waste: Collect and segregate non-recyclable waste for delivery to a permitted landfill site.
   1. Mixed Solid Waste: Solid waste usually collected as a municipal service, exclusive of waste materials listed above.

1.4 HAZARDOUS MATERIAL SUSPICION

A. If, during the course of construction, the Contractor suspects a material to contain asbestos, all work involving the material is to be stopped and the Architect notified immediately of the suspicion. Until the material is confirmed to be safe or tested and determined to be an asbestos containing material, the Contractor is to assume it contains asbestos and is to avoid contact. Upon notification of its composition the Architect will determine the course of action and inform the Contractor accordingly.

1.5 DEFINITIONS:

A. Waste Materials are defined as large and small pieces of the materials indicated which are excess to the contract requirements and generally include materials which are to be salvaged from existing construction and items of trimmings, cuttings and damaged goods resulting from new installations, which can not be effectively used in the Work.

1.6 SUBMITTALS:

A. Construction Waste Management Plan: Before start of construction, submit for the approval of the Architect a construction waste management plan indicating how Contractor proposes to collect, segregate, and dispose of all construction wastes and debris produced by the work of this Contract. Show compliance with regulations specified under "Quality Assurance" article below. Include a list of recycling facilities to which indicated recyclable materials will be distributed for disposal. Identify materials that are not recyclable or otherwise conservable that must be disposed of in a landfill or other means acceptable under governing State and local regulations. List permitted landfills and/or other disposal means to be employed. Indicate any instances where compliance with requirements of this specification does not appear to be possible and request resolution from the Architect.

B. Delivery Receipts: Provide to the Construction Quality Manager delivery receipts for waste materials salvaged and sent to permitted waste materials processors or recyclers within 48 hours of delivery that indicate the location and name of firm accepting recyclable waste materials, types of materials, net weights of each type, date of delivery and value of materials.

C. Application for Payments: The Contractor shall submit with each Application for Payment a summary of waste materials, recycled, salvaged and disposed of using a form generated by the Contractor and approved by the Architect. Failure to submit this information shall render the Application for Payment incomplete and shall delay Payment. The Summary shall contain the following information: For each material salvaged and recycled from the Project, include the amount (in cubic yards or tons or in the case of salvaged items state quantities by number, type and size of items) and the destination (i.e. recycling facility, used building materials yard). For each material land filled or incinerated from the Project, include the amount (in cubic yards or tons) of material and the identity of the landfill, incinerator or transfer station.

1.7 QUALITY ASSURANCE:

A. Regulatory Requirements: Comply with all applicable requirements of the federal, state or local authorities concerning Management of Construction, Demolition, Land Clearing, Inert, and Yard Trash Debris

B. Disposal Sites, Recyclers, and Waste Materials Processors: Use only facilities properly permitted by the State and by local authorities where applicable.

C. Pre-Construction Waste Management Conference: Prior to beginning work at the site, schedule and conduct a conference to review the Construction Waste Management Plan and discuss procedures, schedules and specific requirements for waste materials recycling and disposal. Discuss coordination and interface between the Contractor and other construction activities. Identify and resolve problems with compliance with requirements.
   1. Attendees: The Contractor and related Contractor personnel associated with the work of this section, including personnel to be in charge of the waste management program; Owner, and the Architect.
   2. Plan Revison: Make any revisions to the Construction Waste Management Plan agreed upon during the meeting and incorporate resolutions agreed to be made subsequent to the meeting. Submit the revised plan to the Architect for approval.

D. Implementation: Designate an on-site party responsible for instructing workers and implementing the Construction Waste Management Plan. Distribute copies of the Construction Waste Management Plan to the job site foreman and each subcontractor. Include waste management and recycling in worker orientation. Provide on-site instruction on appropriate separation, handling, recycling, and salvaging methods to be used by all parties at the appropriate stages of the work at the site. Include waste management and recycling discussion in pre-fabrication meetings with subcontractors and fabricators. Also include discussion of waste management and recycling in regular job meetings and job safety meetings conducted during the course of work at the site.

1.8 STORAGE AND HANDLING:

A. Site Storage: Remove all indicated recyclable materials from the work location to approved containers daily. Failure to remove waste materials will be considered cause for withholding payment and termination of Contract.

B. Position covered containers for recyclable waste materials at a designated location on the Project Site. Select a location for the recyclable materials containers separated from that of general waste and rubbish containers. Provide separate collection containers for a minimum of the following materials:
   1. Untreated lumber.
   2. Gypsum wallboard.
   3. Paper, paper products, and cardboard.
   4. Plastics.
   5. Metals.
   6. Glass.
   7. Other salvageable materials.

C. Change out loaded containers for empty ones as demand requires, but not less than weekly.

D. Handling: Deposit all indicated recyclable materials in the containers in a clean (no mud, adhesives, solvents, petroleum contamination), debris-free condition. Do not deposit contaminated materials into the containers until such time as such materials have been cleaned.

E. If the contamination chemically combines with the material so that it can not be cleaned, do not deposit into the recycle containers. Comply disposal with all legal and regulatory requirements.

1.9 PROJECT/SITE CONDITIONS:

A. Environmental Requirements: Transport recyclable waste materials from the Work Area to the recycle containers and carefully deposit in the containers without excess noise and interference with other activities, in a manner to minimize noise and dust. Reclose container covers immediately after materials are deposited.
   1. Do not place recyclable waste materials on the ground adjacent to a container.

B. Existing Conditions: Coordinate with "Instructions to Bidders" and "Supplementary Conditions".

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.1 WASTE MANAGEMENT:

A. General: Implement waste management procedures in accordance with approved construction waste management plan. Maintain procedure throughout the life of this Contract.

B. Source Separation: Separate, store, protect, and handle at the project site all identified recyclable and salvageable waste products to prevent contamination of materials and maximize recyclability and salvageability of materials.

C. Arrange for the regular collection, transport from the site, and delivery to respective approved recycling centers of indicated recyclable waste materials. Maintain records accessible to the Architect for verification of construction waste materials recycling.

D. Delivery Receipts: Arrange for timely pickups from the site or deliveries to approved recycling facilities of designated waste materials to keep construction site clear and prevent contamination of recyclable materials. Keep and maintain records of all deliveries to recycling facilities and all pickups of waste materials at the site by others as specified above.

3.2 RECYCLABLE WASTE MATERIALS HANDLING:

A. General: The following paragraphs supplement handling requirements for various materials identified for classification and recycling listed in Part 1 "Summary" article above.

B. Paper: Classify and handle waste paper goods as follows:
   1. Bond Paper: As generally found in the construction offices and used for specifications, correspondence, copiers, printers and FAX machines. Collect in a separate container at each workstation and deposit loose in the appropriate recycle container daily.
   2. Newsprint: Newspapers and tabloid style advertising. Collect in a single location and deposit daily in the appropriate recycle container.
   3. Prints (drawings): Set up a single location for collection. Roll together to minimize space. Deposit daily in the appropriate recycle container.

C. Packaging materials:
   1. Cardboard and paperboard cartons and boxes: Knock-down, fold flat and deposit in the appropriate recycle container.

2. Paper packing materials (separators, stiffeners, etc.) shall be placed in the same container.
3. Newsprint, used as packing (shredded or whole), shall be deposited in the recyclable container for newsprint.
4. Plastic (polystyrene peanuts and other shapes) shall be deposited in the recyclable container for plastics.
5. Metal and plastic banding materials shall be deposited in the appropriate container.

D. Metals: Cut all items to lengths and sizes to fit within the container provided, when necessary. Where there is sufficient quantity of a specific recyclable waste item (for example; salvaged metal roofing or duct work), make special arrangements for items to be bundled, banded or tied, and stack in a designated location for a special pick-up. Coordinate all special arrangements with the Architect.

E. Plastics: Collect recyclable plastics (polystyrene and others specifically marked for recycling) daily from work areas and deposit in designated containers.

F. Glass: Remove waste glass products (sheet, bottles, etc.) daily from the work area and deposit in designated containers. Where glass containers are marked for separation by color or type, segregate glass accordingly. Glass containing imbedded wire (typical in some fire rated doors having glazed lights) is not recyclable.

G. Gypsum Wallboard: Separate gypsum wallboard from other wastes. Dispose of waste gypsum wallboard off-site at a gypsum reclamation or recycling facility, or on-site as a soil amendment.

1. For on-site application as a soil amendment, incorporate waste gypsum wallboard in landscape areas under construction, at a rate of 50 pounds per 1000 square feet, or approximately one ton per acre.
   a. Material must be unpainted gypsum wallboard from new construction, ground to reduce material to a fine particle size (70% passing a 100 mesh screen), and must be fully incorporated into the soil surface.

H. Other Items: Where recyclability classification of any given waste material is unclear, verify with the Architect.

END OF SECTION

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SECTION 01 78 00

CLOSEOUT SUBMITTALS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Closeout procedures.

B. Quality assurance.

C. Maintenance service.

D. Owner's Manuals

E. Operations and maintenance manuals.

F. Materials and finishes manuals.

G. Equipment and systems manuals

H. Spare parts and maintenance materials.

I. Product warranties and product bonds.

J. Project Record documents.

K. Project close out inspections – Punch List

1.02 CLOSEOUT PROCEDURES

A. Submit a written certification that the Contract Documents have been reviewed, the Work has been inspected, and that the Work is complete in accordance with the Contract Documents and is ready for the Architect's review.

B. Provide submittals to Architect that are required by the governing or other authorities, including the following closeout documents:
1. AIA Document G706 - Contractor's Affidavit of Payment of Debts and Claims, 1994 Edition.
2. AIA Document G706A - Contractor's Affidavit of Release of Liens, 1994 Edition.
3. AIA Document G707 - Consent of Surety to Final payment, 1994 Edition.

C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

D. The Owner will occupy all portions of the building as specified in Section 01 11 00.

E. Provide submittals to Architect that are required by governing or other authorities, including abatement invoices correctly prepared as prescribed in Section 02 82 13. Failure to include correctly prepared abatement invoices will delay issuing of final payment.

1.03 QUALITY ASSURANCE

A. Employ personnel assembling submittals experienced in the maintenance and the operation of the described products and systems.

1.04 MAINTENANCE SERVICE

A. Submit a contract for furnishing service and maintenance of the components indicated in the specification sections for one year from date of Substantial Completion, or during the warranty period, whichever period of time is the longest.

B. Provide for an examination of the system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

C. Include a systematic cleaning, examination, adjustment, and lubrication of the components. Repair or replace the parts whenever required. Use the parts produced by the manufacturer of the original component.

D. Do not assign or transfer the maintenance service to an agent or Subcontractor without the prior written consent of the Owner.

1.05 OWNER'S MANUALS

A. Submit the data for Operations and Maintenance, Materials and Finishes, and Equipment and Systems Manuals bound in 8-1/2 x 11 inch text pages, in maximum 2 inch size, D side three - ring commercial quality binders with durable cleanable plastic covers.

B. Prepare binder covers with the printed title of the manual, title of the project, and the subject matter of binder when multiple binders are required.

C. Internally subdivide the binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.

D. Drawings: Provide with reinforced punched binder tab. Bind in with the text; fold the larger drawings to the size of the text pages.

E. Submit one copy of the completed volumes for review. They will be reviewed and returned with the Architect's comments. Revise the content of the manuals as required prior to final submission.

F. Submit <u>one</u> set of revised final volumes in final form.

G. Submit one copy of all the manuals for Operations and Maintenance, Materials and Finishes, and Equipment and Systems in PDF electronic format on a Compact Disc or DVD.

1.06 OPERATIONS AND MAINTENANCE MANUALS

A. Contents: Prepare the Table of Contents for each volume, with each product or system description identified, typed on white paper, in three parts as follows:

1. Part 1: Directory, listing the names, addresses, and telephone numbers of the Architect, Contractor, Subcontractors, and major equipment suppliers.

2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by the specification Section. For each category, identify the names, addresses, and telephone numbers of the Subcontractors and suppliers. Identify the following:
   a. Significant design criteria.
   b. List of equipment.
   c. Parts list for each component.
   d. Operating instructions.
   e. Maintenance instructions for equipment and systems.
   f. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.

3. Part 3: Project documents and certificates, including the following:
   a. Shop drawings and product data.
   b. Air and water balance reports.
   c. Certificates.
   d. Photocopies of warranties and bonds.
   e. MSDS for applicable products.

1.07 MATERIALS AND FINISHES MANUALS

A. Instruction for Care and Maintenance: include manufacturer's instructions for cleaning agents and methods, precautions against detrimental agents and methods, and a recommended schedule for cleaning and maintenance.

B. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Include recommendations for inspections, maintenance, and repair.

C. Include Material Safety Data Sheets (MSDS) for all applicable products. These are required to provide both workers and emergency personnel with the proper procedures for handling or working with a particular substance. MSDS's include information such as physical data (melting point, boiling point, flash point etc.), toxicity, health effects, first aid, reactivity, storage, disposal, protective equipment, and spill/leak procedures.

D. Additional Requirements: As specified in the individual product specification Sections.

E. Include a listing in the Table of Contents for design data, with a tabbed flysheet and a space for the insertion of data.

1.08 EQUIPMENT AND SYSTEMS MANUALS

A. For equipment, or component parts of equipment put into service during construction and operated by the Owner, submit documents within 10 days after acceptance.

B. Each Item of Equipment and Each System: Include a description of the unit or system, and the component parts. Identify the function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and model number of replaceable parts.

C. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; by label machine.

D. Include color-coded wiring diagrams as installed.

E. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shutdown, and emergency instructions. Include summer, winter, and special operating instructions.

F. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

G. Include a servicing and lubricating schedule, and a list of lubricants required.

H. Include the manufacturer's printed operation and maintenance instructions.

I. Include sequence of operation by the controls manufacturer.

J. Include the original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

K. Include the Contractor's coordination drawings, with color-coded piping diagrams as installed.

L. Include charts of valve tag numbers, with the location and function of each valve, keyed to the flow and control diagrams.

M. Include a list of the original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

N. Additional Requirements: As specified in the individual product specification Sections.

O. Include a listing in the Table of Contents.

1.09 SPARE PARTS AND MAINTENANCE PRODUCTS

A. Furnish spare parts, maintenance, and extra products in the quantities specified in the individual specification Sections.

B. Deliver to the Project site and place in a location as directed by the Owner; obtain a receipt prior to final payment.

1.10 PRODUCT WARRANTIES AND PRODUCT BONDS

A. Obtain warranties and bonds executed in duplicate by the responsible subcontractors, suppliers, and manufacturers, within 10 days after the completion of the applicable item of work.

B. Execute and assemble the transferable warranty documents and bonds from the subcontractors, suppliers, and manufacturers.

C. Verify that the documents are in the proper form, contain full information, and are notarized.

D. Co-execute the submittals when required.

E. Submit two copies in D side three ring binders with a durable plastic cover.

F. Submit prior to the final Application for Payment.

G. Time of Submittals:
1. For equipment or component parts of equipment put into service during construction with the Owner's permission, submit the documents within 10 days after acceptance.
2. Make other submittals within 10 days after the Date of Substantial Completion, prior to the final Application for Payment.
3. For items of Work for which acceptance is delayed beyond the Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty or bond period.

1.11 PROJECT RECORD DOCUMENTS

A. Maintain on the site one set of the following record documents; record actual revisions of the Work for all trades:
1. Construction drawings.
2. Specifications.
3. Addenda.
4. Change Orders and other modifications to the Contract.
5. Reviewed Shop Drawings, Product Data, and Samples.
6. Manufacturer's instructions for assembly, installation, and adjusting.

B. Ensure the entries are complete and accurate, enabling future reference by the Owner.

C. Store the record documents separate from the documents used for construction.

D. Record information concurrent with the construction progress, not less than weekly.

E. Specifications: Legibly mark and record at each product Section description of the actual products installed, including the following:
   1. Manufacturer's name and product model and number.
   2. Product substitutions or alternates utilized.
   3. Changes made by Addenda and modifications.

F. Record Construction Drawings and Shop Drawings: Legibly mark each item to record the actual construction including:
   1. Measured horizontal and vertical locations of the underground utilities and appurtenances, referenced to permanent surface improvements.
   2. Measured locations of internal utilities and appurtenances concealed in the construction.
   3. Field changes of dimension and detail.
   4. Details not on the original Contract drawings.

G. Legibly marked Specifications, and legibly marked Record Construction Drawings and Shop Drawings shall constitute the Project Record Documents in paper form.

H. At completion of the Work of the Contract, the Architect will furnish the Contractor with an electronic copy of the construction drawings in AutoCad format, and the Project Manual content in Adobe Acrobat PDF format.

I. Transfer the information from the Project Record Documents onto the electronic documents (Drawings in AutoCad and Project Manual in Adobe Acrobat PDF format copied onto a CD or DVD ROM disc) and return the electronic copy to the Architect along with the Project Record Documents in paper form. Provide two copies of both the electronic copy and the paper copy. All paper copies are to be bound and printed full size.

J. The Architect will review the Project Record Documents and compare them for accuracy, and if necessary return them to the Contractor for final correction. At the time of final submission, submit a claim for the final Application for Payment.

K. No review or receipt of record of Project Record Documents by the Architect or the Owner shall be interpreted as a waiver of any deviation from the Contract Documents or Shop Drawings , or in any way relieve the Contractor from responsibility to perform the Work in accordance with the Contract Documents and the Shop Drawings to the extent they are in accordance with the Contract Documents

L. Update the on-site Project Record Documents on a regular basis. Monthly payments will not be processed if Project Record Documents are not maintained up to date.

M. Abatement Invoices: Application for Final Payment must be accompanied with shipping documents for disposal of the abated material as specified in Section 02 81 13.

M. At completion of the Work of the Contract submit to the Architect a summary of waste materials, recycled, salvaged and disposed of as outlined in Section 01 74 19. The Summary shall contain the following information: For each material salvaged and recycled from the Project, include the amount (in cubic yards or tons or in the case of salvaged items state quantities by number, type and size of

items) and the destination (i.e. recycling facility, used building materials yard). For each material land filled or incinerated from the Project, include the amount (in cubic yards or tons) of material and the identity of the landfill, incinerator or transfer station.

N. At completion of the Work of the Contract submit to the Architect delivery receipts for waste materials salvaged and sent to permitted waste materials processors or recyclers that indicate the location and name of firm accepting recyclable waste materials, types of materials, net weights of each type, date of delivery and value of materials.

O. At completion of the Work of the Contract submit to the Architect a table indicating information pertaining to construction materials used on the project that includes the following:

Name of the material
Amount of low emissive VOC
Percentage of pre-consumer recycled content
Percentage of post consumer recycled content
Distance product was manufactured from construction site.

Also submit written documentation substantiating the information in the form of a manufacturer's cut sheet, material safety data sheet or letter from the manufacturer.

1.12 PROJECT CLOSE OUT INSPECTIONS - PUNCH LIST

A. When the work has reached such a point of completion that the building or buildings, equipment, apparatus or phase of construction or any part thereof required by the Owner for occupancy or use can be so occupied and used for the purpose intended, the Contractor, prior to notification to the Architect, shall make a preliminary inspection of the Work to insure that all requirements of the Contract have been met and the Work is substantially complete and is acceptable.
Upon such notification, the Owner or the Architect and the consulting Engineers shall make detailed inspection of the Work to insure that all requirements of the Contract have been met and the Work is complete and is acceptable.

B. Within ten (10) calendar days of notification, the Architect and the consulting Engineers will perform the inspection and a copy of the report of the inspection shall be furnished to the Contractor so that the Contractor may proceed without delay with any part of the Work found to be incomplete or defective. The Contractor shall complete the items listed within thirty (30) calendar days and notify the Owner and Architect

C. When the items appearing on the report of inspection have been completed or corrected, the contractor shall so advise the Owner and the Architect. After receipt of this notification, the Owner or the Architect and consulting Engineers shall reinspect and inform the Contractor of any remaining items.

A copy of the report of the final inspection containing all remaining contract exceptions, omissions and incompletions shall be furnished to the Contractor within seven (7) calendar days of notification.

D. The Contractor shall within fourteen (14) calendar days complete the items listed on the inspection report and provide notification of completion and all remaining contract exception, omissions and incompletions from the Contractor, the Owner and the Architect and consulting Engineers will

reinspect the Work to verify completion of the exception items appearing on the report of final inspection.

Upon completion of reinspections, the Architect will prepare a certificate of final acceptance or will furnish to the Contractor a copy of the report of the Architect's reinspection detailing Work that is incomplete or obligations that have been fulfilled but are required for final acceptance.

The Contractor shall compensate the Architect and all consulting Engineers for services performed on Punch List inspections beyond the original inspection and two reinspections of the same area through a credit change order reducing the total contract amount.

E. Upon Substantial Completion of the Work, the Contractor will be paid all retainage, less one hundred fifty percent (150%) of the value attributable to "punch list" work. As items on the punch list are completed, the Contractor will be paid one hundred fifty percent (150%) of their value at the next progress payment.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION

SECTION 02 41 19

SELECTIVE DEMOLITION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. All material, labor and equipment required for demolition and removal of existing structures and items as shown on the drawings and as may be required to permit the proper installation of any new work.

1.02 QUALITY ASSURANCE

A. Perform work in accordance with all applicable local and state Codes.

B. NOTE: The Owner has determined there is asbestos containing material to be encountered and abated in the Work of this Project. See Section 02 81 13 for additional information.

1.03 SEQUENCING

A. Coordinate with the occupancy of the owner under provisions of Section 01 11 00.

B. Avoid interference with the use of and passage to and from adjacent buildings and facilities.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.01 PREPARATION

A. Inspection

1. The contractor shall inspect the entire site, premises and all objects designated to be removed and those to be preserved.
2. Locate all existing utility lines and determine the requirements for their protection or abandonment.

B. Notification

1. Notify the owner at least two full working days prior to commencing the work of this section.

C. Verification

1. Prior to commencing the work of this section, verify with the owner and the Architect all objects to be removed and all objects to be preserved.

D. Protection

1. Protect all objects and utilities designated to remain as required. Active utilities shall not be interrupted.
2. Provide shoring and bracing for the support of existing structures, that are to remain in place, where necessary to prevent collapse of structures.
3. Dust control shall be as necessary to prevent the spread of dust and flying particles of during performance of the work of this section. Provide taped fire resistant polyethylene dust barriers as required. Thoroughly moisten all surfaces as required.
4. The contractor shall be responsible to repair or replace all items designated to remain that are damaged due the surrounding demolition.

3.02 CLEANING

A. Clean work under provisions of Section 01 70 00.

B. Remove all debris and trash from the site on a daily basis and dispose of in accordance with all local and state Codes.

C. All removed items scheduled to be retained shall be given to the owner for their use.

D. Burning at the site will not be permitted.

3.03 SCHEDULE

A. Finishes

1. Remove all existing floor finishes, base materials and adhesives in all areas scheduled to receive new finishes unless instructed otherwise. Patch and repair all substrate damaged by removal as required to install new finish.
2. Remove all finishes as indicated on the drawings and as required by new construction. Repair or replace substrate damaged by removals.

B. Gypsum Board Partitions

1. Remove partitions, blocking, and associated framing indicated to be removed on the drawings and as required by new construction.
2. Remove all appurtenances and fixtures from the partitions to be demolished.
3. Remove all nails, screws and other fastening hardware associated with partitions to be demolished.
4. Remove all doors, windows and frames within partition to be demolished.

C. Concrete

1. Assume all concrete is reinforced.
2. Use a saw cut on all concrete to be removed that butts concrete to remain
3. Always remove concrete in small sections
4. Provide core boring through concrete floors and roofs as required to install new utilities.
5. Remove all concrete slabs, walls or foundations as indicated on the drawings.

D. Masonry

1. Assume all masonry is reinforced.
2. Remove all masonry as indicated on the drawings and as required by new construction
3. All new openings in existing walls will be saw cut.
4. Saw cut masonry walls as required to install new flashing as indicated on the drawings.
5. Remove reinforcing flush with surfaces scheduled to remain.
6. Remove steel lintels within walls to be demolished.
7. Remove all appurtenances and fixtures from masonry partitions to be demolished.

E. Doors

1. Remove all doors, frames, hardware, fasteners, sub frame material and anchors from openings indicated on the plans or as required by new construction.
2. Modify existing openings for new construction as indicated on plans.
3. Provide new lintels as required by new construction.

F. Mechanical, Electrical and Plumbing.

1. Refer to the mechanical, electrical, and plumbing drawings and specifications for equipment removal requirements.
2. Provide cutting of holes for all mechanical, electrical, and plumbing as required.
3. Remove all mechanical, electrical, and plumbing equipment and fixtures from partitions to be demolished.
4. Remove all existing fixtures and equipment in areas scheduled to receive new fixtures and equipment unless instructed otherwise. Patch and repair all substrate and finishes damaged by removal of items as required to match existing or to prepare for a new finish as scheduled. Dispose of all removed fixtures and equipment unless noted otherwise.

END OF SECTION

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SECTION 02 82 13

ASBESTOS MATERIAL REMEDIATION

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Abatement procedures.

B. Approved abatement plan.

1.2 RELATED SECTIONS

A. Document 00 31 19 - Information Available to Bidders
B. Section 02 41 19 - Selective Demolition.

1.3 ABATEMENT PROCEDURES

A. The Owner has determined there is asbestos containing material to be encountered in the Work of this Project.

B. Contractor's authorization to contract for the specified abatement work is enabled by an abatement plan prepared by Vortex, Inc.

The plan will be submitted by the Owner to be reviewed by the Rhode Island Department of Health, for performance of the Work described in the plan.

C. Obtain the services of a State Certified Abatement Contractor to remove and dispose of the asbestos containing material involved in this construction project, in accordance with the approved plan and with requirements of the Rhode Island Department of Health, Division of Occupational & Radiological Health.

D. Retain abatement invoices for submittal with required closeout record documents. Invoices must be accompanied by complete shipping documents showing final disposal location.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

3.01 EXECUTION

A. Perform the Work described in accordance with the abatement plan.

END OF SECTION

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SECTION 03 31 00

CONCRETE CONSTRUCTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Description for the complete installation of standard concrete construction.

1.02 REFERENCES

A. ASTM C150 - Specification for Portland Cement

B. ASTM C33 - Specification for concrete aggregates

C. ASTM A-15 - Standard metal reinforcement

D. ASTM A-305 - Minimum requirements for the deformation of deformed steel bars for concrete reinforcement

E. ASTM A-185 - Standard specifications for welded steel wire fabric for concrete reinforcement.

F. ASTM C-192 - Method of making and curing concrete compression and flexure test specimens in the laboratory.

G. ASTM C-31 - Method of making and curing concrete compression and flexure test specimens in the field.

H. ASTM C-39 - Test for compressive strength of cylindrical strength of cylindrical concrete specimens.

I. ASTM C-143 - Test for slump of Portland Cement Concrete

J. ASTM C-42 - Method of obtaining and testing drilled cores and sawed beams of concrete

K. ASTM C-94 - Standard Specifications for Ready-Mix concrete.

1.03 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

B. Test reports shall be submitted for approval and the results distributed as follows: Copy to field office, 1 copy to contractor's office and 4 copies to Architect's office

C. Shop drawings shall indicate dimensions, bar schedules, bending details and placing diagrams and details for all reinforcement.

D. Design data shall be by the architect 30 days prior to commencing any concrete operations.

E. Record documents regarding concrete pours shall be kept by the contractor and submitted to the Architect, upon request including the following data: date of pour, starting time, mean temperature, total yardage pour location, time of finish and curing duration.

1.04 QUALITY ASSURANCE

A. Concrete Quality: When there is any question as to the quality of the concrete of the structure, the Architect may require the Contractor, at the Contractor's expense, to have tests made in an approved independent testing and inspection laboratory. Such tests shall be in accordance with ASTM C-42 or Section 20l and 202 of the current A.C.I. Building code for Reinforced Concrete (A.C.I. 3l8) as may be required. The criteria for acceptability of the concrete under the latter shall be that given therein. If tested concrete is below contract requirements, the Architect may condemn such concrete already installed. Remove such condemned concrete and replace with new concrete that meets the proper criteria.

1.05 QUALIFICATIONS

A. All companies involved in performing the work of this section shall have documented experience specializing in such work for a minimum of five years.

1.06 REGULATORY REQUIREMENTS

A. All concrete construction shall meet state and local code requirements.

1.07 MEASUREMENT OF MATERIALS

A. Measurement shall be by weight by weighing devices accurate within 1% except that water may be measured by either weight or volume and the water measuring device shall be controllable to one-half of one percent.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. Cement: Cement shall be Portland cement Type l, conforming to ASTM Specification C-l50. Type III High Early Cement shall be used between December 1st and April 1st.

B. Only one brand of cement shall be used for all structural concrete to be left exposed, so that even coloring is assured for all such surfaces.

C. Fine Aggregate: Sand for concrete work shall conform to ASTM Specification C-33, and shall be composed for clean, hard, durable, uncoated grains free from silt, loam and clay.

D. Coarse Aggregate: Coarse aggregate shall be gravel or crushed stone conforming to ASTM Specificaiton C-33 and shall be composed of clean, yard, durable, uncoated grains of strong material. Maximum size of aggregate shall be l inch.

E. Water: Water used in mixing concrete shall be clean and free from injurious amounts of oils, acids, alkalis, organic materials, or other deleterious substances.

F. Metal Reinforcement: Reinforcing bars shall conform to (ASTM Designation: A 615/A 615M, Grade 60, deformed.

G. Wire Fabric: Welded wire fabric for concrete reinforcement shall conform to ASTM Designation A-l85.

H. Metal Accessories: Include all spacers, chairs, ties and other devices necessary for properly placing, spacing, supporting and fastening reinforcement in place.

I. Inserts: Inserts shall be either adjustable, threaded or wedge types depending on use as manufactured by Hohmann & Barnard, Inc., 205 East 53rd Street, New York, New York.

J. Admixtures: The use of any admixtures other than those which may be specified, shall be used only when and as approved in writing by the Architect. Anti-freeze admixtures shall not be used.

2.02 MIXES

A. Concrete details, plain or reinforced to conform to the current provisions of the A.C.I. Code. Design and strength of concrete 4000 lbs. per sq. inch at 28 days.

B. Design of Mixes: The testing laboratory, approved by the Architect shall prepare the designs of mixes for the strength of concrete specified to be used. For trial mixes, use identical proportions of cement and aggregate that will be used for job mix. Tests shall be in accordance with ASTM C-192 and C-39. Laboratory trial mix shall develop concrete comprehensive strength 15% higher than required minimum. Prepare mix design for each type of cement.

2.03 MIXING OF CONCRETE:

A. Equipment: The mixing equipment shall be capable of combining the aggregates, cement and water within the specified time into a thoroughly mixed and uniform mass and of discharging the mixture without separation.

B. Truck Mixing: Truck mixers shall be of the revolving drum type, watertight, and so constructed that the concrete can be mixed to insure a uniform distribution of materials. All solid materials for the concrete shall be accurately measured in accordance with section on measuring and charged into the drum at the proportioning plant. The truck mixer shall be equipped with a tank for carrying water, and the tank equipped with a device by which the quantity of water added can be readily verified. Only the predetermined amount of water shall be added to the dry mixture at the site. Truck mixing shall be continued for not less than fifty revolutions after all ingredients, including the water, are in the drum and shall not continue for more than ten minutes before being used.

C. Ready-mixed concrete shall be mixed and delivered in accordance with ASTM Designation C-94.

D. Hand Mixing: When hand mixing is authorized, it shall be done on a watertight platform and in such a manner as to insure a uniform distribution of the materials throughout the mass. Mixing shall be continued until a homogeneous mixture of the required consistency is obtained.

E. Retempering: The retempering of concrete or mortar which has partially hardened will not be permitted.

2.04 QUALITY CONTROL

A. Concrete Tests: Tests of concrete shall be made by the testing laboratory. Not less than one test, or as may be directed by the Architect, for each l00 cu. yd. of concrete for each strength of concrete placed will be required with a minimum of one test for each day's pour. Not less than four specimens will be made and stored by the Contractor for each test. All specimen shall be cured and tested by the Laboratory. Specimen shall be made and tested in accordance with current ASTM Specifications C-39 and C-3l. Slump tests shall be made on each batch tested in accordance with current ASTM Specification C-l43.

B. Each test shall consist of four specimens of which one cylinder shall be tested after 7 days; two cylinders shall be tested after 28 days; fourth cylinder shall be tested at 45 days only when 28 day tests are below specified strength. In all cases where strength of specimen falls below required minimum ultimate compressive strength, the Architect shall have the right to make whatever changes are necessary to secure the required strength.

2.05 CEMENT FINISHES:

A. Concrete Floor Slab Finishes: Finished floor slab surfaces shall be true plane surfaces with a tolerance of l/8" in l0' unless otherwise indicated. Surfaces shall be pitched to drains. The dusting of finished surfaces with dry materials will not be permitted.

B. Monolithic Finish: Floor slabs shall be finished by tamping the concrete with special tools to force the coarse aggregate away from the surface then screeding and floating with straight edges to bring the surface to the required finish level. While the concrete is still green but sufficiently hardened to bear a man's weight without deep imprint, it shall be wood-floated to a true, even plane with no coarse aggregate visible. Sufficient pressure shall be used on the wood float to bring moisture to the surface. After surface moisture has disappeared, surfaces shall be steel-troweled to a smooth, even, impervious finish free from trowel marks.

E. Steel-Trowel Finish: shall be provided for floor slabs in rooms and spaces to have exposed concrete floor finish and floor slabs that are to receive vinyl tile floor finishes and where thin set quarry tile floors are indicated.

PART 3 - EXECUTION

3.01 PLACING OF STEEL REINFORCEMENT:

A. Metal reinforcement before placing shall be free from loose mill and rust scale and other coatings that destroy or reduce the bond. No concrete shall be placed before the placing and binding of

reinforcement has been inspected and approved by the Architect. Metal reinforcement shall not be straightened or rebent in a manner that will injure the material. All bars shall be bent cold.

B. Steel reinforcement shall be accurately positioned and secured against displacement by using wire ties and shall be supported by metal supports.

C. Concrete covering over steel reinforcement shall be the following thicknesses.

a. Footings and other principal structural members in which concrete is deposited against the ground, 3" between steel and ground.

b. Where concrete surfaces, after removal of forms, are exposed to weather or ground.

For bars more than 5/8" in diameter, 2"
For bars 5/8" or less in diameter, l l/2"

3.02 PLACING OF CONCRETE:

A. Concrete shall be handled from the mixer and in the case of truck-mixed concrete, from the transporting vehicles to the place of final deposit as rapidly as practicable by methods which shall prevent the separation or loss of the ingredients. Under no circumstances shall concrete that has partly hardened be deposited in the work.

B. Forms for walls or thin section of considerable height shall be provided with opening or other devices that will permit the placing of concrete without segregation. Concrete, during and immediately after deposit, shall be thoroughly compacted by spading, rodding, or by mechanical vibration.

C. Concrete shall be deposited continuously or in layers of such thickness that no concrete will be deposited on concrete which has hardened sufficiently to cause a formation of seams and planes of weakness within the section. If a section cannot be placed continuously, construction joints may be located at points as provided for in the drawings, or approved by the Architect. Do not secure vibrator, to forms or reinforcement, operate in place not less than fifteen (l5) seconds and of sufficient duration to produce concrete of uniform and maximum density with even distributing of ingredients and complete embedment of reinforcement. l-l/2" head vibrators shall be provided for wall and column pours.

D. Approved external mechanical vibrating equipment applied lightly to exterior studs and walls when such vibration is necessary to secure surfaces that are even, dense, free from aggregate pockets and honeycomb. Vibration shall be carried on continuously with the placing of concrete. Vibration shall not be used in partly set concrete.

E. No concrete to be placed when temperatures are below 32 degrees F.

3.03 CONSTRUCTION JOINTS:

A. Construction joints shall be located only as herein specified, where shown on the drawings or as approved by the Architect.

a. Floor Slab on Ground: Joints shall be as located on plans or a maximum of 20'-0" in all directions. Slabs can be poured in alternate panels, checkerboard fashion.

B. Exposed joints shall be straight and true.

C. Bulkheads shall be keyed and doweled unless the thickness is less than 4 inches.

D. Reinforcement shall be continuous through construction joints unless otherwise specified. For added reinforcement at construction joints, see drawings.

E. Expansion joints shall be located as herein specified or as shown on the drawings. Joint materials shall be full thickness indicated.

3.04 CURING AND PROTECTION:

A. Protect all concrete work against injury from elements and defacement of any nature during construction operations, which included protection of mechanical rooms with plywood prior and during mechanical installation.

B. When the temperature is below 30 degrees F., or is likely to fall below 35 degrees F., adequate equipment shall be provided for heating the concrete materials and maintaining the concrete at not less than 50 degrees F. for at least 72 hours for Type I, or for as much time as is necessary to insure proper rate of curing of the concrete. Temperature of the separate materials, including the mixing water, when placed in the mixer, shall not exceed l40 degrees F. When placed in forms, the concrete shall have a temperature between 60 degrees F., and 90 degrees F. The use of salts, chemicals to prevent freezing or accelerating agents shall not be permitted.

C. Keep exposed surfaces of concrete moist for a period of at least seven (7) days after being placed. Protect all concrete except slabs on ground, placed during hot weather, from rays of sun and air currents, cover with two layers of wet burlap and keep wet for seven (7) days.

3.05 ANCHOR BOLTS: The structural steel contractor will furnish an approved anchor bolt location plan. General Contractor shall set anchor bolts and be responsible for position and height of bolt projection. Modification to steel due to incorrect position of anchor bolts will be borne by the General Contractor.

3.06 CONCRETE FLOOR SLAB INFILL:

A. Following cutting and removing existing concrete floor slab and installation of under-slab utilities provide and install new reinforced concrete infill as follows.
B. See drawings for location of concrete floor slab infill.
C. Concrete infill is to be 4" thick of 4000 psi concrete on an 8 inch thick compacted gravel base course. (Unless thicknesses of concrete and base are noted otherwise on the drawings)
D. Provide reinforcing of w.w.f. 6x6 – w4 x w4 with a 2 inch minimum cover.
E. Provide new 15 mil vapor barrier above new gravel base.

F. Pin new concrete infill to existing concrete floor slab using 5/8” diameter 12 inch long steel rods inserted into existing core-drilled slab minimum of 6 inches. Install maximum of 2 feet o.c. around perimeter of infilled area.

G. Surface of new concrete infill to match level with existing surrounding concrete slab surface.

H. New slab surface is to be finished and steel troweled to match finish of surrounding concrete slab or as required to accept new floor finish.
Floor showing trowel marks, swirls, depressions, etc. will be rejected.
All exposed slabs shall not have any deviations exceeding l/8" in l0`.
Finish shall have a hard surface without air pockets or other defects.
In the event that finishing workmanship is deemed inadequate by the Architect, the contractor shall modify his methods to improve the resulting finish.

END OF SECTION

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SECTION 03 54 13

FLOOR PATCH AND SKIMCOAT

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Provision and installation of floor patch and skimcoat in all areas where necessary at demolished existing partitions to create a level subfloor in accordance with these specifications.

1.02 PERFORMANCE REQUIREMENTS

A. ASTM C-109 - Compressive strength = more than 4000 PSI after 28 days.

B. VOC: 0 g/L, calculated SCAQMD 1168

1.03 SUBMITTALS

A. Submit product data under provisions of Section 01 33 00.

B. Shop Drawings: Plans indicating substrates, and locations.

1.04 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing the products specified in this section with minimum 5 years of experience.

B. Installer: Company specializing in performing the work of this section with minimum five years documented experience.

1.05 DELIVERY, STORAGE AND HANDLING

A. Deliver, store, protect and handle products to site under provisions of Section 01 60 00.

1.06 SAFETY PRECAUTIONS

A. Follow all safety precautions by the manufacturer and required all Federal, State and Local Codes.

1.07 ENVIRONMENTAL REQUIREMENTS

A. Do not install material in interior air temperature below 50 degrees. This temperature must be maintained two days prior and two days after installation.

B. Comply with manufacturer's written instructions for substrate temperature, ambient temperature and humidity, ventilation, and other conditions affecting underlayment performance.

1.08 COORDINATION

A. Verify that the floor patch and skimcoat material specified in this section is compatible with the existing substrate it is covering and the floor finish that will be installed to its surface.

B. If any inconsistencies exist, inform the Architect prior to installation.

PART 2 - PRODUCTS

2.01 MANUFACTURER

A. Ardex Engineered Cements
ARDEX GPS™ General Patch & Skimcoat

B. Substitutions: Under provisions of Section 01 60 00.

2.02 MATERIALS

A. The material is a trowelable patch and skim coat for use over interior concrete subfloors.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify the existing substrate is in satisfactory condition and properly cleaned to meet the manufacturer's recommendations.

3.02 INSTALLATION

A. Install the floor patch and skimcoat material in accordance with the manufacturer's requirements, instructions and recommendations.

B. Cure according to manufacturer's written instructions. Prevent contamination during application and curing processes.

C. Do not install floor coverings over floor patch and skimcoat material until after time period recommended in writing by manufacturer.

D. Remove and replace areas of floor patch and skimcoat material that show evidence of lack of bond with substrate, including areas that emit a "hollow" sound when tapped.

E. Install under all areas receiving new vinyl tile and carpet tile flooring as required to provide a level subfloor meeting the minimum requirements of the flooring manufacturer. See drawings for locations.

3.03 CLEANING
A. Clean work under provisions of Section 01 70 00.

END OF SECTION

SECTION 05 50 00

MISCELLANEOUS METAL WORK

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Miscellaneous metal work items as described in Part 2 - Products of this section.

1.02 SUBMITTALS

A. Submit shop drawings, product data under provisions of Section 01 33 00. Include plans, elevations, sections, details, and attachments to other work.

B. Submit samples of product as requested by the architect.

1.03 REGULATORY REQUIREMENTS

A. Conform to all federal, state, and local codes.

1.04 QUALITY ASSURANCE

A. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, protect and handle products to site under provisions of Section 01 60 00.

1.06 FIELD MEASUREMENTS

A. Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication.

PART 2 - PRODUCTS

2.01 GENERAL FABRICATION REQUIREMENTS

A. Welding shall conform to the applicable requirements of the American Welding Society. Welding shall be done in a manner that will prevent permanent buckling and all welds exposed in the finished work shall be ground to an architectural quality smooth appearance approved by the Architect.

B. Exposed surfaces shall have a smooth finish and sharp, well defined lines. Sections shall be formed to shape and size with sharp lines and angles. Curved work shall be sprung evenly.

C. Necessary rabbets, lugs and brackets shall be provided so that work can be assembled and anchored in a neat and substantial manner. Holes for bolts and screws shall be drilled. Fastenings shall be concealed where practicable.

D. Work shall be fabricated and installed in a manner that will provide for expansion and contraction, prevent the shearing of bolts, screws and other fastenings, insure rigidity and provide close fitting of sections. Joints exposed to the weather shall be formed to exclude water.

2.02 SHOP PAINTING

A. All surfaces of ferrous metal except galvanized steel shall be given a shop coat of red lead, zinc-chromate paint or other approved rust-inhibitive primer unless otherwise specified. All surfaces which will be inaccessible for painting after erection, except contact surfaces of riveted or welded connections, shall be given two coats of paint before being assembled or erected. All marred surfaces of shop coats shall be thoroughly recoated. Field painting is specified under Division 09900.

2.03 ANCHORING CEMENT:

A. Anchoring cement shall be Hallemite "Por-rok" as manufactured by Lean & Fink, Montvale, New Jersey, or equal.

2.04 CLEANING:

A. Clean under provisions of Section 01 70 00.

B. The Contractor shall clean the miscellaneous metal work by removing all excess sealants, dirt and foreign materials, restoring finishes, leaving work in a good and satisfactory condition. The Contractor shall perform the work of cleaning using methods and materials as recommended by the manufacturers of the materials used and as approved.

PART 3 - EXECUTION

3.01 PRODUCTS

A. Anchors and Bolts: Anchors and bolts shall be provided where indicated and where necessary for fastening work in place. They shall be embedded in concrete and masonry as the work progresses. Sizes, kinds and spacing of anchors not indicated or specified shall be as necessary for their purpose.

B. Steel: Steel for the support of piping and appurtenances shall be provided to the details indicated and as necessary for the complete installation.

C. Pipe Hangers and Miscellaneous Supports: Pipe hangers and miscellaneous supports shall be provided as required.

D. Metal support framing:
Provide metal framing as necessary to support ceiling mounted urinal partition pilasters in accordance with partition manufacturer's instructions and requirements.

3.02 REPAIR OF ZINC COATINGS:

A. All zinc coatings that have been damaged in handling or transporting or in welding, riveting or bolting shall be repaired by the application of a thick paste made from galvanizing repair compound conforming to Federal Specification 0-G-93 and water. Areas to be repaired shall be cleaned thoroughly, including removal of slag on welds, before the paste is applied. Surfaces to be coated with paste shall be heated with a torch so that all metallics in the paste will be melted when applied to the heated surfaces. Extreme care shall be taken to see that adjacent zinc-coated surfaces are not damaged by torch. Molten metal shall spread uniformly over all surfaces to be coated and the excess metal wiped off.

3.03 FIELD PAINTING

A. Specified as scheduled under Section 09 91 00 - Painting.

3.04 DISSIMILAR MATERIAL

A. Where aluminum comes in contact with metals other than stainless steel, zinc, white bronze or other metals compatible with aluminum, then those surfaces shall be kept from direct contact by painting the dissimilar metal with a coating of heavy-bodied bituminous paint, a good quality caulking placed between the metals, non-absorptive tape or gasket.

END OF SECTION

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SECTION 06 20 10

CARPENTRY AND MILLWORK

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. All labor and materials, equipment and installation of all work required to complete the construction and installation of all work required to this trade as indicated on the drawings and as herein specified.

1.02 RELATED SECTIONS

A. Section 09 91 00 - Painting

1.03 REFERENCES

A. American Plywood Association

B. American Woodwork Institute

1.04 SUBMITTALS

A. Submit shop drawings, product data and samples under provisions of Section 01 33 00.

B. For all wood products designated in this specification as “FSC certified,” provide evidence of compliance with Forest Stewardship Council (FSC) standards by submitting certificates with company Chain-of-Custody (COC) number and also identifies each FSC certified product on a line-item basis.

1.05 QUALITY ASSURANCE

A. Work shall comply with all local and state building and fire codes.

B. Material and workmanship of all woodwork shall conform to the Premium grade requirements of the AWI Quality Standards.

1.06 REGULATORY REQUIREMENTS

A. All materials are to conform to the minimum requirements of the State Building Code or as indicated in this specification, whichever is stronger or stricter.

1.07 DELIVERY, STORAGE AND HANDLING

A. Deliver, store, protect and handle products to site under provisions of Section 01 60 00.

B. Protect all materials from weather. Do not store in damp or wet areas.

1.08 FIELD MEASUREMENTS

A. Verify all field dimensions at the site prior to fabrication.

1.09 COORDINATION

A. Coordinate work with other trades and under provisions of Section 01 31 00.

1.10 SUSTAINABLE MATERIAL REQUIREMENTS

A. All wood products used on this project are to be designated as "FSC-Certified" according to the rules of the Forest Stewardship Council (FSC) (www.fscus.org).

PART 2 - PRODUCTS

2.01 MATERIALS

A. Framing Lumber

1. Moisture content when delivered to the project shall not exceed 19 percent.
2. Wood studs, blocking, bridging, nailing pieces, shall be Douglas Fir, Coast Region construction grade "J" and "P" or Southern Pine No. 1. All structural load bearing lumber shall be of quality to provide 1200 psi units fiber stress.

B. Plywood shall be of the types and grades listed below:
1. Exposed exterior plywood to be American Plywood Association A-C, Group 1, Exterior, in thickness as noted on the drawings. Where thickness is not indicated, plywood shall be 3/4" thick.
2. Exposed interior plywood to be American Plywood Association A-C, Group 1, Exposure 1, in thickness as noted on the drawings. Where thickness is not indicated, plywood shall be 3/4" thick.
3. All sheathing plywood shall be in accordance with Chapter 23 of the State of Rhode Island Building Code.
4. Each panel of plywood shall be identified with a stamp as to type, grade and species by the grade trademark of the American Plywood Association.

C. Interior and Exterior Woodwork for Paint Finish

1. Quality: Wood shall be free from knots, pitch or sap streaks, molded and executed as detailed and noted on the drawings.
2. Species: Wood shall be clear, kiln-dried pine unless otherwise indicated.

D. Counter Brackets
1. Manufacturer: Rangine Corporation
2. Inside wall mount Rakks models as follows:
3. Provide the following models and sizes as required unless otherwise noted on drawings: EH-1209FM: 12” x 11” (12” vertical) on counters between 11” and 13” deep

EH-1212FM: 12” x 14” on counters between 13 1/2” and 18” deep
EH-1818FM: 18” x 20” on counters between 18 1/2” and 25” deep
EH-1824FM: 18” x 26” (18” vertical) on counters between 25 1/2” to 30” deep

4. Finish to be selected by Architect from manufacturer’s standard colors.
5. Brackets are attached to the side of studs prior to the application of the gypsum board.
6. Provide wood blocking inside the stud of metal stud walls to provide solid support for the fasteners. Provide through bolts through the wood stud per manufacturer’s instructions. Patch gap around opening through gypsum board for a finished installation.
7. Maximum distance between standards to be 32 inches.
8. Size bracket as required to coordinate with shelf depth as noted on the drawings.

PART 3 - EXECUTION

3.01 CONSTRUCTION

A. Rough Carpentry

1. General: Carefully lay out, cut, fit and rout all framing, blocking and other items of carpentry in such a manner as to minimize shrinkage and insure stability. Perform all carpentry work required for building in work of other trades and work to the details indicated and as required by field conditions.
2. Includes: Rough carpentry shall consist of the installation of sleepers, blocking, nailers, curb nailers, furring, joists, studding, rafters, stringers, centers, rough flooring, grounds, screeds, and such other items of rough carpentry as may be required for proper construction and to complete the work. Absence of illustration, detail or specification will not relieve the Contractor from responsibility or carrying out the work.
3. Lumber and other rough work shall be properly framed closely fitted, accurately set to the required lines and levels and rigidly secured in place.
   Joists and rough stair stringers shall be set with the crown edge up, and the bottom edges shall be free from pronounced defects.
   Leveling of sills, etc., on masonry or concrete shall be done, as required and grouted with cement mortar.
   Studs and joists shall be sized to give true surfaces for finish.
   Nailing and spiking shall be done in a thorough manner with nails of ample size, spikes larger than 20d being used where practicable.
   Special framing or construction, not explicitly shown on drawings or specified, shall be provided as required to complete the work in the best and most workmanlike manner.
4. Mechanical equipment clearances: Members shall be framed to allow for passage of pipes or ducts as required to avoid cutting of structural members. No members shall be cut, notched or bored for the passage of such pipes without permission of the Architect, and all members damaged by cutting shall be reinforced as directed by the Architect.
5. Pressure treated lumber: All lumber in direct contact with concrete, masonry, soil or gravel shall be pressure treated wood, 0.40 lbs./cu.ft., ground contact grade with a 40 year warranty. Wood shall be free from large or loose knots, shakes, checks and warpage.
6. Furring and Grounds: Shall be l" x 3" strips, spaced l6" on center and continuous at all vertical edges of framed openings. Furring shall be secured to concrete, brick or masonry units by power driven fasteners. Face of furring and grounds shall form a true, even plane

for installation of materials thereon. Species shall be Fir or Southern Pine, at Contractor's option.

7. Trim
   a. Trim shall be mitered and jointing shall be tight and formed to conceal shrinkage. All mortise, tongue-and-groove and shiplap joints shall be set in neutral white caulking compound. Interior woodwork shall be back painted and primed before installation.
   b. Interior trim shall be milled, fabricated and erected as shown on the drawings. All finishes shall be machine-sanded at the mill and sand-papered and primed at the job.
      All interior trim including base, chair rails, ceiling mouldings, casings, window stools and aprons shall be of stock designs. All joints shall be made in an approved manner to conceal shrinkage and shall be tight, straight, plumb and level, in perfect alignment and closely fitted. Joints shall be secured with finish nails set for putty stopping. Window and door trim shall be in single lengths. Base shall be in long lengths. Mouldings shall be mitered at corners and coped at angles. These joints shall be made at the mill.
8. Temporary Enclosures and Protection: Temporary enclosures of doors, windows and other exterior openings shall be provided when necessary to meet conditions specified. Maintain in good repair and remove when no longer required. Door and window frames shall be protected from traffic and from mortar drippings.
9. Construction Hardware: All rough hardware including nails, spikes, screws, miscellaneous bolts, brackets and angles will be furnished as required. All fasteners used on exterior work shall be hot dip galvanized.

B. Blocking
1. Blocking layout and size: Continuous and solid, fire retardant 3/4 inch plywood or fire retardant 2x4 or larger where additional support is required.
2. Provide blocking in addition to any indications on the drawings in locations as follows:
   a. Millwork attached to walls or ceilings.
   b. All standing and running trim
   c. Equipment attached to walls or ceilings.
   d. At grab bars.
   e. Toilet Room accessories.
   f. Wall hung lavatories.
   g. At cabinets and casework.
   h. At shelving and counter brackets.
   i. At all door wall stops.
   j. As required to support light fixtures.
3. Attach blocking as follows:
   a. In metal stud partitions: Screw attach through stud flanges.
   b. At masonry: With oval head toggle bolts and washers or with epoxy tube and sleeve systems.
   c. At concrete: With expansion shield bolts.
   d. At steel: With flat head bolts/nuts or approved power actuated fasteners.

3.02 CLEANING

A. Clean work under provisions of 01 70 00.

3.03 PROTECTION OF FINISHED WORK

A. Protect finished work under provisions of Section 01 70 00.

END OF SECTION

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SECTION 06 61 16

SOLID SURFACING MATERIAL (QUARTZ)

PART 1 - GENERAL

1.01 SUMMARY

A. Related Documents:
The Drawings and general provisions of the Contract, including General and Supplementary General Conditions, and Division 1 Requirements, apply to the work in this Section.

1.02 SECTION INCLUDES

A. Solid surfacing material (quartz) purchased and installed where indicated.

1.03 RELATED SECTIONS

A. Section 12 32 16 - Plastic Laminate Casework

1.04 REFERENCES

A. American National Standards Institute (ANSI):
1. A108.5 - Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex Portland Cement Mortar.
2. A118.4 - Latex-Portland Cement Mortar.

B. ASTM International (ASTM):
1. C97 - Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone.
2. C99 - Standard Test Method for Modulus of Rupture of Dimension Stone.
3. C170 - Standard Test Method for Compressive Strength of Dimension Stone.
4. C241 - Standard Test Method for Abrasion Resistance of Stone Subjected to Foot Traffic.
5. C256 - Method of Test for Flexural Strength of Magnesium Oxychloride Cements (Using Simple Bar with Two-Point or Single-Point Loading).
6. C370 - Standard Test Methods for Moisture Expansion of Fired Whiteware Products.
7. C373 - Standard Test Method for Water Absorption, Bulk Density, Apparent Porosity, and Apparent Specific Gravity of Fired Whiteware Products.
8. C531 - Standard Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes.
9. C672/C672M - Standard Test Method for Scaling Resistance of Concrete Surfaces Exposed to Deicing Chemicals.
10. C674 - Standard Test Methods for Flexural Properties of Ceramic Whiteware Materials.
11. C880 - Standard Test Method for Flexural Strength of Dimension Stone.
12. C1026 - Standard Test Method for Measuring the Resistance of Ceramic Tile to Freeze-Thaw Cycling.
13. C1028 - Standard Test Method for Determining the Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull-Meter Method.

14. C1378 - Standard Test Method for Determination of Resistance to Staining.
15. E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

C. NSF International/American National Standards Institute (NSF/ANSI) 51 - Food Equipment Materials.

1.05 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

B. Product Data: Manufacturer's technical literature indicating physical properties and performance criteria for solid surfacing materials and related components.

C. Shop Drawings: Indicate design parameters, adjacent construction, materials, dimensions, thickness, fabrication details, tolerances, jointing methods, method of support, anchorages, integration with plumbing fixtures and connections, and colors.

D. Samples: Submit two, 2 inch by 2 inch samples representative of colors, patterns, textures, finishes and edge treatments. Approved samples will be retained as a standard for the work.

E. Informational Submittals: Submit following packaged separately from other submittals:
1. Maintenance Data: Manufacturer's recommended cleaning and maintenance procedures. Include in project closeout documents.

F. Sustainable Design Submittals:
1. Product Data: For installation adhesives, including printed statement of VOC content.
2. Product Data: For adhesives, documentation indicating that the adhesive contains no urea formaldehyde.
3. For products having recycled content, provide documentation indicating percentages, by weight, of post-consumer and pre-consumer recycled content. Include statement indicating costs for each product having recycled content.
4. Identify each regional material along with the location of its harvest, extraction, or manufacture. Include material cost for each item.

1.06 QUALITY ASSURANCE

A. Conform to national sanitation foundation, standard #51 requirements.

B. Design Load: Deflection limited to 1/360.

C. Fire-Test-Response Characteristics: Provide solid surfacing fabrications with the following surface-burning characteristics as determined by testing identical products per ASTM E 84 by UL 723 or another testing and inspecting agency acceptable to authorities having jurisdiction:

1. Flame-Spread Index: 25 or less.
2. Smoke-Developed Index: 450 or less.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, handle and protect products to site under provisions of Section 01 60 00.

B. Store and protect joint adhesive and sealant from freezing or overheating in accordance with manufacturer's instructions.

C. Provide protective coverings of suitable material. Take special precautions at corners.

1.08 ENVIRONMENTAL REQUIREMENTS

A. Adhesive and sealant shall be installed in environmental conditions as specified by the manufacturer. Not to be installed below 65 degrees F.

1.09 FIELD MEASUREMENTS

A. Field verify all dimensions prior to fabrication.

1.10 COORDINATION

A. Coordinate work under provisions of Section 01 31 00.

B. Coordinate sizes and locations of plumbing, cut-outs and other related Work specified in other Sections to ensure that interior architectural woodwork can be supported and installed as indicated.

1.11 WARRANTY

A. Provide 10 year warranty under provisions of Section 01 78 00.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Subject to compliance with requirements of this Specification Section, provide products listed herein by the following manufacturer:
   1. Basis of Design: Silestone Quartz

B. Other acceptable manufacturers offering equivalent products.
   1. DuPont Zodiac
   2. Wilsonart Quartz

C. Substitutions: Under provisions of Section 01 60 00.

2.02 MATERIALS

A. Composition: Quartz aggregate, polyester resin, and color pigments formed into flat slabs.
   1. Colors and Patterns: As selected by Architect from manufacturer's full range of materials. See Material Schedule on drawings for additional information.
   2. Surface Finish: Polished

B. Special Features: Eased edge treatments.

C. Accessories:
   1. Adhesives: Type as recommended by manufacturer.

2. VOC Limits for Installation Adhesives and Glues: Use installation adhesives that comply with the limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

D. Sheets are to be 1.2 cm thick unless noted otherwise on the drawings.

E. Latisil Tile and Stone Sealant by Laticrete International, Inc. (or equal)
Sealant to be color coordinated to match quartz material.

2.03 FABRICATION

A. Assemble work at shop following manufacturer's printed fabrication instructions and deliver to job ready for installation. Manufacture in largest practical pieces for handling and shipping without seams.
1. Fabricate work square and to required lines.
2. Recess and conceal fasteners, connections, and reinforcing.
3. Design construction and installation details to allow for expansion and contraction of materials. Properly frame material with tight, hairline joints held rigidly in place.
4. Provide cut-outs for plumbing fixtures and trim, washroom accessories, appliances, and related items. Confirm lay-out with manufacturer's cut-out templates before beginning work.
5. Do not exceed manufacturer's recommended unsupported overhang distances.
6. Finish exposed surfaces smooth and polish.

B. All countertops shall include a 3 inch high by 1.2 cm thick splash where counter abuts walls unless noted otherwise on the drawings. All splash leading edges shall have an eased edge unless noted otherwise. All connecting corners shall be mitered.

2.04 QUALITY CONTROL

A. Quartz material shall meet or exceed the physical properties as tested by the methods listed in Section 1.03 of this specification.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Components shall be installed as per manufacturer's instructions.

B. Set items plumb, level, rigid and solidly adhered to substrate.

C. Prefit items: Adjust supports to make fit. Align joints over support framing.

D. Fill joints between fabrications and adjacent construction with joint sealer; finish smooth and flush.

3.02 INSTALLATION TOLERANCES

A. Maximum variation from level and plumb: 1/8 inch in 10 feet, noncumulative.

B. Maximum variation in plane between adjacent pieces at joint: Plus or minus 1/16 inch.

3.03 CLEANING

A. Clean work under provisions of Section 01 70 00.

B. Clean and polish fabrications in accordance with manufacturer's instructions.

C. Promptly remove excessive mastic and seam adhesive.

END OF SECTION

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SECTION 07 26 16

UNDER-SLAB VAPOR BARRIER

PART 1 – GENERAL

1.01 SUMMARY

A. Products Supplied Under This Section
1. Vapor Barrier, seam tape, pipe boots, detail strip for installation under concrete slabs.

1.02 RELATED SECTIONS

A. Division 3 - Concrete Construction

1.03 REFERENCES

A. American Society for Testing and Materials (ASTM)
1. ASTM E 1745 Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs
2. ASTM E 154 Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs
3. ASTM E 1643 Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs

B. American Concrete Institute (ACI)
1. ACI 302.1R Vapor Barrier Component (plastic membrane).

1.04 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

B. Quality Control / Assurance
1. Independent laboratory test results showing compliance with ASTM & ACI Standards.
2. Manufacturer's samples, literature
3. Manufacturer's installation instructions for placement, seaming and pipe boot installation

PART 2 – PRODUCTS

2.01 MATERIALS

A. 15 mil Vapor Barrier:
Extremely low permeance vapor barrier for critically sensitive, low permeance floor coverings.
1. Vapor Barrier must have the following qualities

a.	Thickness of Barrier (plastic)	ACI 302.1R	Not less than 15 mils
b.	Water Vapor Barrier	ASTM E-1745	Meets or exceeds Class A
c.	Water Vapor Permeance	ASTM F 1249	0.0086 Perms
d.	Water Vapor Transmission Rate	ASTM F 1249	0.0036
e.	Puncture Resistance	ASTM D 1709	2266 grams
f.	Tensile Strength	ASTM D 882	70.6 lbf/in

1. Acceptable 15 mil Vapor Barriers
   a. Stego Wrap (15 mil) Vapor Barrier by Stego Industries LLC
   b. Griffolyn 15-mil Green by Reef Industries, Inc.
   c. Perminator 15-mil by W.R. Meadows

2.02 ACCESSORIES

A. Seam Tape: High Density Polyethylene Tape with pressure sensitive adhesive. Minimum width 4 inches.

B. Pipe Boots: Construct pipe boots from vapor barrier material and pressure sensitive tape per manufacturer's instructions around all penetrations through the vapor barrier.

C. Perimeter / edge seal: Provide double sided tack tape to seal the vapor barrier around the entire perimeter wall. Ensure the concrete is clean and dry prior to adhering tape.

PART 3 – EXECUTION

3.01 PREPARATION

A. Ensure that subsoil is approved by architect
   1. Level and tamp or roll aggregate, sand or tamped earth base.

B. Contractor shall use a screeding system that does not puncture the vapor barrier.

3.02 INSTALLATION

A. Install Vapor Barrier:
   1. Installation shall be in accordance with manufacturer's instructions and ASTM E 1643–98.

      a. Install a vapor barrier as specified herein under all concrete slabs-on-grade and other locations as noted in the Construction Documents.
      b. Unroll Vapor Barrier with the longest dimension parallel with the direction of the pour.
      c. Overlap joints 6 inches and seal with manufacturer's seal tape.
      d. Seal all penetrations (including pipes) with pipe boot.
      e. No penetration of the vapor barrier is allowed except for reinforcing steel and permanent utilities.
      f. Repair damaged areas by cutting patches of vapor barrier, overlapping damaged area 6 inches and taping all four sides with tape.

3.03 CLEANING

A. Clean under provisions of Section 01 70 00.

END OF SECTION

SECTION 07 84 13

FIRESTOPPING

PART 1 – GENERAL

1.01 SUMMARY

A. Related Documents:
The Drawings and general provisions of the Contract, including General and Supplementary General Conditions, and Division 1 Requirements, apply to the work in this Section.

1.02 RELATED SECTIONS

A. Division 22 - Plumbing
B. Division 26 – Electrical

1.03 DESCRIPTION OF WORK

A. The work of this Section consists of the provision of all plant, materials, labor and equipment and the like necessary or required for the complete execution of all firestopping and smoke seal work for this project as required by the schedules, keynotes and drawings, including, but not limited to the following:

NOTE – Firestopping is defined as a material, or combination of materials, to restore the integrity of fire rated walls and floors by maintaining an effective barrier against the spread of flame, smoke and toxic gases.

1. Provide firestopping and smoke seals as indicated on the drawings and as required to maintain full and continuous smoke and fire barrier between zones.

   Seal all penetrations between floor/ceiling plane with expanding foam. No fiber insulation packing is permitted.

   Cope and seal around all structural elements to insure smoke and fire barriers.

2. Provide firestopping of all openings in floors and walls both empty and those accommodating penetrating items such as cables and wires, cable trays, conduits, pipes, ducts, etc.; coordinate with Divisions 21, 22, 23 and 26.

3. Provide firestopping at joints between curtain walls and floor or roof openings and balance of openings between exterior walls and connecting floor assemblies at each floor.

4. Pack expansion joints in fire rated walls and floors;

5. Provide firestopping of openings at each floor level in shafts or stairwells.

1.04 REFERENCE STANDARDS

A. American Society for Testing and Materials (ASTM)
   1. E 814 – Standard Method of Fire Tests of Through Penetration Fire Stops.
   2. E 119 – Methods of Fire Tests of Building construction and Materials.
   3. E 84 – Standard Test Method for Surface Burning Characteristics of Building Materials.

B. Underwriters Laboratories, Inc. (UL)
   1. UL 1479 – Fire Tests of Through Penetration Fire Stops.
   2. UL 263 – Fire Tests of Building Construction and Materials.
   3. UL 723 – Surface Burning Characteristics of Building Materials.
   4. UL "Fire Resistance Directory" current year.

C. Factory Mutual (FM) Approval Guide, current year.

D. Building code o the jurisdiction of the work.

E. National Fire Protection Association
   1. NFPA 101 – Life Safety Code.
   2. NFPA 70 – National Electrical Code.

1.05 QUALITY ASSURANCE

A. Firestopping materials shall conform to both Flame (F) and Temperature (T) ratings as tested by nationally accepted test agencies per ASTM E 814 or UL 1479 fire tests.

   The F rating and T rating must be a minimum of 1 hour but not less than the fire resistance rating of the assembly being penetrated.

   The fire test shall be conducted with a minimum positive pressure differential of 0.03 inches of water column.

B. Firestopping shall be performed by a Specialty Contractor trained or approved, in writing, by firestop material manufacturer.
   Said specialist shall be as defined in the conditions.

   Equipment used shall be in accordance with firestop material manufacturer's written installation instructions.

C. Materials shall conform to all applicable governing codes.

D. All materials used in the work shall be certified "asbestos free" and shall be free from any and all solvents or components that require hazardous waste disposal or, that after curing, dissolve in water.

E. All materials shall comply with the interior finish flame spread and smoke developed requirements for the area in which they are installed. Coordinate with governing codes.

1.06 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

B. Certification of specification compliance of all materials.

C. Manufacturer's printed product data and drawings indicating product characteristics, performance, detail applications and limiting criteria.

Submittal shall include applicable UL and/or FM assembly numbers for each material and proposed installation.

D. Manufacturer's installation instructions for each type of firestop required by the project.

E. Manufacturer's approval of nominated installer of firestopping and smoke seal products.

F. Mockups:
1. Prepare job mockup of the material proposed for use in the project as directed by Architect.
Approved markups shall be left in place as part of the finished project and will constitute and standard for remaining work, including aesthetics.

G. Manufacturers Material Safety Data Sheet (MSDS) must be submitted for each manufactured product.

1.07 PRODUCT DELIVERY STORAGE AND HANDLING

A. Deliver, store, protect and handle products to site under provisions of Section 01 60 00.

B. Deliver all materials to be used in the work of this section to the project site in original sealed containers with manufacturer's brand and name, lot numbers, UL labeling, mixing and installation instructions clearly identified thereon.

C. Store all materials in accordance with manufacturer's directions.

All materials shall be dated with shelf life and shall be removed from the project site at the contractor's expense if date is expired.

1.08 PROJECT CONDITIONS

A. Conform to manufacturer's printed instructions for installation and when applicable, curing in accordance with temperature and humidity. Conform to ventilation and safety requirements.

B. Coordinate work required with work of other trades; firestopping shall, where practical, precede gypsum board or other applied sheet finishing operations.

C. Where firestopping is installed at locations which will remain exposed in the finished work, provide protection as necessary to prevent damage to adjacent surfaces and finishes, and protect as required against damage from other construction operations.

D. Adhesive and sealants use in the building interior [i.e., inside the exterior moisture barrier] shall not exceed VOC content limits of:
   1. Provisions of 01 81 10 Environmental Impact of Materials.
   2. Aerosol Adhesives: Green Seal Standard GC-36.

1.09 PREINSTALLATION CONFERENCE

A. A preinstallation conference shall be scheduled in accordance with Section 01 31 00 by the contractor with this specialty contractor and all other specialty contractors, subcontractor and the like to establish procedures to maintain optimum working conditions and to coordinate the work of this section with related and adjacent work.

1.10 COORDINATION

A. Coordinate construction of openings and penetrating items to ensure that through-penetration firestop systems are installed according to specified requirements, and comply with the following:
   1. Coordinate work of this section with similar work being performed by certain trades for their own work.
   2. All firestop work not performed by trades shall be performed under this section.
   3. Coordinate sizing of sleeves, openings, core-drilled holes, or cut openings to accommodate through-penetration firestop systems.
   4. Notify the Architect at least seven days in advance of through-penetration firestop system installations; confirm dates and times on days preceding each series of installations.
   5. Do not cover up through-penetration firestop system installations that will become concealed behind other construction until the Architect and building inspector, if required by authorities having jurisdiction, have examined each installation.

PART 2 – PRODUCTS

2.01 SPECIFICATION STANDARD: For purposes of establishing standards of quality and levels of performance and not for the purposes of limiting competition, the basis of this specification is upon units as manufactured by one of the following and their respective model suitable for the intended application.

A. Bio Fireshield, Inc.; Damonmill Square, Concord, MA 01742.
   1. Novasit K-10 Firestop Mortar
   2. K-2 Firestop Mortar
   3. Biotherm Firestop Sealants and Caulk
   4. Firestop Sleeve
   5. Firestop Pillows
   6. Biostop 500 Intumescent Caulk

B. IPC Corp.
   1. KBS Mortar Seal
   2. Flamesafe Sealants and Caulk
   3. FPS 1000 Putty and 1077 Putty Pads
   4. Firestop Kits – FSK200
   5. KBS Seal Bags
   6. Quelpyre Tapes and Blankets

C. Dow Corning
   1. Firestop Sealant #2000
   2. Firestop Foam #2001

D. 3M Corporation
   1. Fire Barrier Caulk, CP-25WB
   2. Fire Barrier MPS-2 Putty and 4S Putty Pads
   3. Fire Barrier Intumescent Wrap Strip #FS-195

E. Nelson Firestop Products
   1. FSP Firestop Putty
   2. CMP Firestop Compound
   3. CLK Firestop Sealant
   4. PLW intumescent Pillow
   5. PCS Preformed Collar for Plastic Pipe Penetrations
   6. MPS Multi-Plug
   7. MCT Multi-Cable Transit
   8. EMCT Multi-Cable Transit and Plug
   9. CTG Firestop Coating
   10. CPS Composite Sheet

F. Tremco, Inc.
   1. Fyre-Sil and Fyre-Sil SL
   2. Fyre-Shield
   3. THC-900/901
   4. Dymeric, Dymonic Sealant Systems
   5. Compatible forming systems.

G. General Electric
   1. Pensil 100 Sealant
   2. Pensil 200 Foam
   3. Pensil 300 Joint Sealant
   4. Pensil 500 Putty
   5. Compatible forming systems.

H. U.S. Gypsum Company
   1. U.S.G. “Thermafiber” unfaced safing insulation with third party wrap, 3.5 pcf density, UL R-10905 label.
   2. U.S.G. “Firecode” compound.

I. Hilti Corporation
   1. Hilti CP 645 insulated firestop sleeve to replace existing pipe insulation

2.02 ACCESSORY ELEMENTS

A. Forming, damming materials shall be mineral fiber board or other suitable material recommended by nominated system manufacturer.

B. Primers, sealant and solvent cleaners shall be as recommended by the nominated system manufacturer.

C. Metal Systems – 20 gauge phosphatized, electrogalvanized steel plate or galvanized steel clips.

PART 3 – EXECUTION

3.01 INSPECTION AND ACCEPTANCE

A. Examine all surfaces and contiguous elements to receive work of this section and correct, as part of the work of this contract, any defects affecting installation.

B. Commencement of work will be construed as complete acceptability of surfaces and contiguous elements.

3.02 PREPARATION

A. The surface shall be dry, clean, and free of all foreign matter.

B. Do not apply firestopping to surfaces previously painted or treated with a sealer, curing compound, water repellant or other coatings unless tests have been performed to ensure compatibility of materials.

C. Provide primers as required which conform to manufacturer's recommendations for various substrates and conditions.

D. Mask where necessary to protect adjoining surfaces.

E. Remove excess material and stains on surfaces as required.

3.03 INSTALLATION – GENERAL SYSTEMS

A. Install in strict accordance with manufacturer's printed instructions.

B. Ensure that anchoring devices, backup materials, clips, sleeves, supports and other materials used in the actual fire test are installed.

C. Install firestopping with sufficient pressure to properly fill and seal openings to ensure an effective smoke seal.

D. Tool or trowel exposed surfaces. Remove excess firestop material promptly as work progresses and upon completion.

E. Install dams when required to properly contain firestopping materials within openings and as required to achieve required fire resistance ratings. Combustible damming materials must be removed after appropriate curing. Incombustible damming materials may be left as a permanent component of the firestopping systems.

3.04 FIRESTOPPING CONSTRUCTION AT BUILDING EXTERIOR PERIMETERS, INTERIOR WALLS, SHAFTS, ETC.

A. Install material of proper size on continuous plates or clips as required for proper support in order to safe-off area between exterior walls, interior walls and shafts and floor slabs, said walls and roof areas leaving NO VOIDS.

B. Firestopping is required at all juncture conditions whether or not clips, angles or other structural elements exist either intermittently or continuously.

C. Attach plates and clips to floor levels and other breaks and extend through framing to sheathing or other solid strata.

D. Where metal decking flutes, either parallel or perpendicular to walls, occur and are open, same shall be fully packed and sealed with proper firestopping system.

E. Where firestopping is accomplished after installation of drywall or other applied sheet finish, all spaces between penetrations and finish shall be filled to the thickness of said sheet finish with intumescent caulk.

F. At all linear openings, fill voids with a minimum of 6 inches of minimum 3.5 lb./cu. ft. density safing insulation as specified in Part 2 herein and cover entire surface with UL listed firestop sealant of one of nominated manufacturers identified in Part 2 herein.

3.05 PENETRATION SEALS

A. Penetrations are defined as conduits, cables, wires, piping, ducts or other elements passing through one through one or both outer surfaces of fire rated walls, floors or partitions and shall be firestopped on both sides of penetration in accordance with requirements set forth in Paragraph 1.04 of this Section.

B. Where sleeves are used, same shall be as specified in Part 2 herein; in event that sleeves are not used, core openings and caulk penetrating items with intumescent system the full length of penetration and seal on both sides with intumescent caulk.

C. Residual openings within square or rectangular holes shall be filled with compounds applicable for substrate encountered and all penetrations sealed on both sides with caulk.

D. Where existing pipes penetrate new partition, replace existing pipe insulation with new insulated firestop sleeve and seal perimeter of remaining opening on both sides with caulk.

3.06 FIELD QUALITY CONTROL

A. Contractor shall immediately notify the Architect if the firestopping systems herein specified cannot meet the requirements of the specification.

B. Contractor shall examine firestops to ensure proper installation and full compliance with this specification.

C. All areas of work must be accessible until inspection by the applicable code authorities.

D. Correct unacceptable firestops and provide additional inspection to verify compliance with this specification at no additional cost.

3.07 CLEANING

A. When finished work will be visible, clean adjacent surfaces in accordance with manufacturer's printed instructions.

B. If visible in the finished work, remove temporary dams after initial cure of firestops.

C. Correct staining and discoloring on adjacent surfaces.

D. Remove all debris and excess materials entirely from site and leave work in a neat and clean condition.

END OF SECTION

SECTION 07 92 13

JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Silicone joint sealants.
2. Urethane joint sealants.

B. Related Sections:
1. Division 09 Section "Gypsum Board" for sealing perimeter joints.
2. Division 09 Section "Tiling" for sealing tile joints.

1.3 PRECONSTRUCTION TESTING

A. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.

1. Use ASTM C 1087to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
2. Testing will not be required if joint-sealant manufacturers submit joint preparation data that are based on previous testing, not older than 24 months, of sealant products for adhesion to, and compatibility with, joint substrates and other materials matching those submitted.

1.4 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

B. Product Data: For each joint-sealant product indicated.

C. Sustainable Design Submittal:
1. Product Data: For sealants and sealant primers used inside the weatherproofing system, including printed statement of VOC content.

D. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

E. Joint-Sealant Schedule: Include the following information:

1. Joint-sealant application, joint location, and designation.
2. Joint-sealant manufacturer and product name.
3. Joint-sealant formulation.
4. Joint-sealant color.

F. Product Certificates: For each kind of joint sealant and accessory, from manufacturer.

G. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that sealants comply with requirements.

H. Preconstruction Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:
1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.

1.5 QUALITY ASSURANCE

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

B. Mockups: Install sealant in mockups of assemblies specified in other Sections that are indicated to receive joint sealants specified in this Section. Use materials and installation methods specified in this Section.

C. Deliver, store, protect and handle products to site under provisions of Section 01 60 00.

1.6 PROJECT CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions:
1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.
2. When joint substrates are wet.
3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.7 WARRANTY

A. Warranty Period: Two years from date of Substantial Completion. Provide under the provisions of Section 01 78 00.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers as listed below

B. Substitutions: Under provisions of Section 01 60 00.

2.2 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

B. VOC Content of Interior Sealants: Provide sealants and sealant primers for use inside the weatherproofing system that comply with the following limits for VOC content when calculated according to 40 CFR 59, Part 59, Subpart D (EPA Method 24):
1. Architectural Sealants: 250 g/L.
2. Sealant Primers for Nonporous Substrates: 250 g/L.
3. Sealant Primers for Porous Substrates: 775 g/L.

C. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full standard range.

2.3 SILICONE JOINT SEALANTS

A. Mildew-Resistant, Single-Component, Acid-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use NT. (for plumbing fixtures & tile)
1. Products: Subject to compliance with requirements, provide one of the following:
a. Dow Corning Corporation; 786 Mildew Resistant.
b. GE Advanced Materials - Silicones; Sanitary SCS1700.
c. Tremco Incorporated; Tremsil 200 Sanitary.

2.4 URETHANE JOINT SEALANTS

A. Single-Component, Nonsag, Urethane Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use NT.
Products: Subject to compliance with requirements, provide one of the following:
a. Pecora Corporation; Dynatrol I-XL.
b. Sika Corporation, Construction Products Division; Sikaflex - 1a.
c. Tremco Incorporated; Dymonic 100

2.5 JOINT SEALANT BACKING

A. General: Provide sealant backings of material that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Cylindrical Sealant Backings Rods: ASTM C 1330, Type C, Closed Cell, provide backing rods of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.6 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
   1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
   2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air.
   3. Remove laitance and form-release agents from concrete.
   4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
   1. Do not leave gaps between ends of sealant backings.
   2. Do not stretch, twist, puncture, or tear sealant backings.
   3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
   1. Place sealants so they directly contact and fully wet joint substrates.
   2. Completely fill recesses in each joint configuration.
   3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
   1. Remove excess sealant from surfaces adjacent to joints.
   2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
   3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
      a. Use masking tape to protect surfaces adjacent to recessed tooled joints.

3.4 CLEANING

A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

B. Clean under provisions of Section 01 70 00.

3.5 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage

or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.6 JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.
   1. Joint Locations:
      a. Control and expansion joints on exposed interior surfaces of exterior walls.
      b. Perimeter joints of exterior openings where indicated.
      c. Tile control and expansion joints.
      d. Vertical joints on exposed surfaces of interior unit masonry, concrete walls and partitions.
      e. Perimeter joints between interior wall surfaces and frames of interior doors and windows.
      f. Openings around all penetrations through partitions and perimeter of partitions designated as smoke partitions.
      g. Other joints as indicated.
   2. Urethane Joint Sealant: Single component, nonsag, Class 35
   3. Joint-Sealant Color: As selected by Architect from manufacturer's full standard range.

B. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.
   1. Joint Sealant Location:
      a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
      b. Tile control and expansion joints where indicated.
      c. Other joints as indicated.
   2. Joint Sealant: Mildew resistant, single component, nonsag, mildew resistant, acid curing Silicone Joint Sealant.
   3. Joint-Sealant Color: As selected by Architect from manufacturer's full standard range.

END OF SECTION

SECTION 08 12 13

STEEL DOOR FRAMES

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Steel door frames.

1.02 RELATED WORK

A. Section 08 14 16 - Wood Doors

B. Section 08 71 00 - Hardware

C. Section 09 91 00 - Painting: Field painting of frames.

1.03 REFERENCES

A. DHI - Door Hardware Institute: The Installation of Commercial Steel Doors and Steel Frames, Insulated Steel Doors in Wood Frames and Builder's Hardware.

B. ANSI/SDI-100 - Standard Steel Doors and Frames

C. SDI-105 - Recommended Erection Instructions for Steel Frames.

1.04 QUALITY ASSURANCE

A. Conform to requirements of the DHI, SDI-100, SDI-105, NFPA 252 ASTM E152 and UL10B.

1.05 SUBMITTALS

A. Submit shop drawings and product data under provisions of Section 01 33 00.

B. Indicate frame configuration, anchor types and spacings, location of cutouts for hardware, reinforcement, and finish.

C. Submit manufacturer's installation instructions under provisions of Section 01 33 00.

D. Sustainable Design Submittal:
   1. Provide documentation indicating percentages of post-consumer and pre-consumer recycled content.
   2. Identify each regional material along with the location of its harvest, extraction, or manufacture.

1.06 DELIVERY, STORAGE AND PROTECTION

A. Protect products under provisions of Section 01 60 00.

B. Protect frames with resilient packaging sealed with heat shrunk plastic.

C. Break seal on-site to permit ventilation.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Steelcraft

B. Other acceptable manufacturers offering equivalent products.

1. Ceco Door
2. De La Fontaine

C. Substitutions: Under provisions of Section 01 60 00.

2.02 METAL FRAMES

A. TYPES

1. Interior frames: Steelcraft Model F16-4 (16 gage cold rolled steel with 2" face for 1-3/4" doors.)

B. FABRICATION

1. All frames in new partitions shall be furnished as a welded unit with mitered corners. Miter and entire connection is to be continuous fully welded. Welds are ground and finished smooth.
2. Fabricate frames with hardware reinforcement plates welded in place as required to coordinate with hardware schedule. Provide mortar guard boxes, 22 gage.
3. Reinforce frames wider than 48 inches with roll formed steel channels fitted tightly into frame head, flush with top.
4. Prepare frame for silencers. Provide three single rubber silencers for single doors on strike side, and two single silencers on frame head at double doors without mullions.
5. Fabricate frames for masonry wall coursing with a 4 inch head member (unless indicated otherwise).
6. Frames shall be furnished with a minimum of six wall anchors and two base anchors of manufacturer's standard design. Jamb anchors shall be as required to coordinate with the adjacent wall construction.
7. Provide a temporary spreader bar securely fastened to the bottom of each frame.
8. Steel door frame material is to contain a minimum of 30 % Pre-Consumer recycled content and 50% Post-Consumer recycled content.

2.04 FINISH

A. After fabrication, all tool marks and surface imperfections shall be dressed, filled and sanded as required to make all faces and vertical edges smooth, level and free of all irregularities.

B. Frames shall be thoroughly cleaned and phosphatized.

C. All surfaces exposed to view shall receive a factory applied single coat of rust inhibiting prime paint baked-on in accordance with ANSI A224,1.

D. The finish coats of paint shall be field applied by others in accordance with the painting section of these specifications.

PART 3 - EXECUTION

3.01 INSTALLATION OF FRAMES

A. Install frames in accordance with SDI-105

B. Install the frames plumb, rigid, and in true alignment and fasten them so as to retain their position.

3.02 CLEANING

A. Clean in accordance with Section 01 70 00.

END OF SECTION

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SECTION 08 14 16

WOOD DOORS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Wood doors; flush configuration; fire-rated and non-rated.

1.2 RELATED SECTIONS

A. Section 08 71 00 - Door Hardware: Door hardware.

1.3 REFERENCES

A. ASTM E90 - Measurement of Airborne Sound Transmission Loss of Building Partitions.

B. AWI - Architectural Woodwork Institute Quality Standards.

1.4 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

B. Shop Drawings: Illustrate door location (Room # to Room #), door opening criteria, elevations, sizes, types, swings, undercuts required, special beveling, special blocking for hardware, identify cutouts for glazing.

C. Product Data: Indicate door core materials and construction; veneer species, type and characteristics; factory machining criteria, factory finishing criteria.

D. Samples: Submit two 12"X12" corner samples of door construction. (As required by architect)

E. Manufacturer's Instructions: Submit instructions regarding care of door during shipping, unloading, storage, preparation for hanging and hanging.

1.5 REGULATORY REQUIREMENTS

A. All door assemblies shall meet the requirements of the State Building and State Fire Codes.

1.6 QUALITY ASSURANCE

A. Product Performance: Provide documents showing compliance to the following WDMA attributes, validating the specified WDMA Performance Duty Level:
   1. Adhesive Bonding Durability: WDMA TM-6
   2. Cycle Slam: WDMA TM-7
   3. Hinge Loading: WDMA TM-8
   4. Screw Holding: WDMA TM-10

1.7 DELIVERY, STORAGE AND HANDLING

A. Deliver, store, protect and handle products to job site under provisions of Section 01600 and manufacturer's instructions.

B. Accept doors at job site in manufacturer's standard packaging. Inspect for damage.

C. Do not store in damp or wet areas. Cover stored doors with opaque covering material where sunlight might bleach veneer. Seal top and bottom edges if stored more than one week.

D. Break seal at job site to permit ventilation.

E. Mark each door on top rail with opening number used on Shop Drawings. Include manufacturer's order number and date of manufacture.

F. Environmental Limitations: Do not deliver or install doors until spaces are enclosed and weather tight, wet work in spaces is complete and dry, and HVAC system is operating and maintaining temperature between 60 and 90 deg F and relative humidity between 25 and 55 percent during remainder of construction period.

1.8 FIELD MEASUREMENTS

A. Verify all dimensions at the site prior to fabrication. Any inconsistencies shall be communicated to the architect for clarification.

1.9 COORDINATION

A. Coordinate work under provisions of Section 01 30 00.

B. Coordinate the work with door opening construction, door frame, hardware and weatherstripping installation.

1.10 WARRANTY

A. Provide manufacturer's warranty including replacement, refinishing, and rehanging, under provisions of Section 01 78 00 for the "Life of Original Installation" (unlimited lifetime).

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

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Subject to compliance with requirements of this Specification Section, provide products listed herein from one of the following:
   1. Eggers Industries

2. Lambton Doors
3. Masonite Architectural

B. Basis of Design: Masonite Architectural

C. Substitutions: Under provisions of Section 01 60 00.

D. Supply all wood doors from same manufacturer.

2.2 DOOR DESCRIPTION

A. Flush interior doors (non-rated): Aspiro™ Series | Marshfield-Algoma Model A-PC-B-NR

1. Provide wood-based particleboard core doors with a minimum density per ANSI A208.1, Grade LD-2 as required to meet WDMA Performance Duty level specified without added blocking.

2.3 TYPICAL COMPONENTS

A. Veneer
1. Grade 1 (WDMA Quality grade: Premium)
2. Veneer is to be of sufficient thickness so as not to permit show-through of crossbanding after sanding or finishing.
3. Species: Select white birch
4. Cut: Rotary cut
5. Construction: Five plies. Stiles and rails are bonded to core, and then entire unit is abrasive planed before veneering.
6. WDMA I.S.1-A Performance Grade: Heavy Duty.

B. Thickness
1. 1-3/4 inch thick unless indicated otherwise on the drawings

C. Stiles and rails shall be hardwood

2.4 FABRICATION

A. Fabricate doors in accordance with specified manufacturers and WHI and UL requirements.

B. Laminate door facing, cross banding, and assembled core in a hot press.

C. Provide non-rated flush doors with stiles of wood species to match face veneer.

D. Bond stiles and rails to cores. Sand the assembled core for uniform thickness.

E. Factory sand assembled door leaf.

F. Factory machine doors for finish hardware in accordance with hardware requirements and dimensions. Do not machine for surface hardware.

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

2.6 FINISH

A. Doors to be factory finished with the following: stained, one coat of sealer and finished with two topcoats of catalyzed polyruethane. Color and sheen to be selected by the Architect from the manufacturer's standard choices, submit samples of colors on wood species selected.

B. All metal accessories shall receive a prime coat of factory applied baked-on prime coat of paint.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that opening sizes and tolerances are acceptable.

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

3.2 INSTALLATION

A. Installation Instructions: Install doors to comply with manufacturer's written instructions, referenced quality standard, and as indicated.

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

C. Pilot drill screw and bolt holes using templates provided.

D. Coordinate installation of doors with installation of frames and hardware specified.

E. Install smoke- and draft-control doors according to NFPA 105.

F. Align and fit doors in frames with uniform clearances and bevels as indicated below; do not trim stiles and rails in excess of limits set by manufacturer or permitted for fire-rated doors. Machine doors for hardware. Seal edges of doors, edges of cutouts, and mortises after fitting and machining.
   1. Clearances: Provide 1/8 inch at heads, jambs, and between pairs of doors. Provide 1/8 inch from bottom of door to top of decorative floor finish or covering unless otherwise indicated. Where threshold is shown or scheduled, provide 1/4 inch from bottom of door to top of threshold unless otherwise indicated.
   2. Bevel non-fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) at lock and hinge edges.
   3. Trim bottom rail only to extent permitted by labeling agency.

3.3 INSTALLATION TOLERANCES

A. Maximum Diagonal Distortion (Warp): 1/4 inch measured with straight edge or taut string, corner to corner, over a maximum 42 x 84 inch surface area.

B. Maximum Vertical Distortion (Bow): 1/4 inch measured with straight edge or taut string, top to bottom, over a maximum 42 x 84 inch surface area.

C. Maximum Width Distortion (Cup): 1/4 inch measured with straight edge or taut string, edge to edge, over a maximum 42 x 84 inch surface area.

3.4 ADJUSTING

A. Adjust door for smooth and balanced door movement.

B. Operation: Correct any deficiency that prohibits the door from swinging or operating freely. Do not remove hinge screws after initial insertion. Shims used for alignment purposes must be inserted between hinge and frame. Do not insert shims between hinge and door.

C. To prevent stile failure, insure that door closers are properly adjusted and do not limit the door opening swing. Limit door opening swing only with a properly located stop.

D. Finished Doors: Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if Work complies with requirements and shows no evidence of repair or refinishing.

3.5 SCHEDULE

A. See Drawings.

END OF SECTION

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SECTION 08 71 00

DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes commercial door hardware for the following:

1. Swinging doors.
2. Other doors to the extent indicated.

B. Door hardware includes, but is not necessarily limited to, the following:

1. Mechanical door hardware.

C. Related Sections:

1. Section 08 12 13 - Steel Door Frames
2. Section 08 14 16 – Wood Doors

D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.

1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
2. ICC/IBC - International Building Code.
3. NFPA 101 - Life Safety Code.
4. NFPA 105 - Installation of Smoke Door Assemblies.
5. State Building Codes, Local Amendments.

E. Standards: All hardware specified herein shall comply with the following industry standards:

1. ANSI/BHMA Certified Product Standards - A156 Series

1.3 SUBMITTALS

A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes. Submit under provisions of Section 01 33 00.

B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
   1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
   2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
   3. Content: Include the following information:
      a. Type, style, function, size, label, hand, and finish of each door hardware item.
      b. Manufacturer of each item.
      c. Fastenings and other pertinent information.
      d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
      e. Explanation of abbreviations, symbols, and codes contained in schedule.
      f. Mounting locations for door hardware.
      g. Door and frame sizes and materials.
   4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.

C. Operating and Maintenance Manuals: Provide manufacturer’s operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Submittals. The manual to include the name, address, and contact information of the manufacturers providing the hardware and their nearest service representatives. The final copies delivered after completion of the installation test to include "as built" modifications made during installation, checkout, and acceptance.

D. Warranties and Maintenance: Special warranties specified in this Section.

1.4 QUALITY ASSURANCE

A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.

B. Installer Qualifications: Installers, trained by the primary product manufacturers, with a minimum 3 years documented experience installing both standard and electrified builders hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

C. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier

recognized as a factory direct distributor in good standing by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.

1. Scheduling Responsibility: Preparation of door hardware and keying schedules.

D. Source Limitations: Obtain each type and variety of Door Hardware specified in this Section from a single source, qualified supplier unless otherwise indicated.

1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.

2. Provide electromechanical door hardware from the same manufacturer as mechanical door hardware, unless otherwise indicated.

E. Regulatory Requirements: Comply with NFPA 70, NFPA 80, NFPA 101 and ANSI A117.1 requirements and guidelines as directed in the model building code including, but not limited to, the following:

1. Where indicated to comply with accessibility requirements, comply with the Rhode Island Building Code and the Americans with Disabilities Act (ADA), "Accessibility Guidelines for Buildings and Facilities (ADAAG)," ANSI A117.1 as follows:

   a. Handles, Pulls, Latches, Locks, and other Operating Devices: Shape that is easy to grasp with one hand and does not require tight grasping, tight pinching, or twisting of the wrist.
   b. Door Closers: Comply with the following maximum opening-force requirements indicated:
      1) Interior Hinged Doors: 5 lbf applied perpendicular to door.
   c. Thresholds: Not more than 1/2 inch high. Bevel raised thresholds with a slope of not more than 1:2.

2. NFPA 101: Comply with the following for means of egress doors:

   a. Latches, Locks, and Exit Devices: Not more than 15 lbf to release the latch. Locks shall not require the use of a key, tool, or special knowledge for operation.

   b. Thresholds: Not more than 1/2 inch high.

F. Each unit to bear third party permanent label demonstrating compliance with the referenced standards.

G. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:

1. Function of building, purpose of each area and degree of security required.
2. Plans for existing and future key system expansion.
3. Requirements for key control storage and software.
4. Installation of permanent keys, cylinder cores and software.
5. Address and requirements for delivery of keys.

H. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.

1. Prior to installation of door hardware, arrange for manufacturers' representatives to hold a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.
2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
3. Review sequence of operation narratives for each unique access controlled opening.
4. Review and finalize construction schedule and verify availability of materials.
5. Review the required inspecting, testing, commissioning, and demonstration procedures.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, protect and handle products to site under provisions of Section 01 60 00.

B. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.

C. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.

D. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.6 COORDINATION

A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.

B. Door Hardware and Electrical Connections: Coordinate the layout and installation of scheduled electrified door hardware and related access control equipment with required connections to source power junction boxes, low voltage power supplies, detection and monitoring hardware, and fire and detection alarm systems.

C. Field verify all dimensions and locations prior to shop drawing submittal.

1.7 WARRANTY

A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Warranty Period: Written warranty, executed by manufacturers, agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner, this includes all labor required to repair or replace product. Failures include, but are not limited to, the following:

1. Structural failures including excessive deflection, cracking, or breakage.
2. Faulty operation of the hardware.
3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
4. Electrical component defects and failures within the systems operation.

C. Standard Warranty Period: One year from date of Substantial Completion, unless otherwise indicated.

D. Special Warranty Periods:
1. Ten years for extra heavy duty cylindrical (bored) locks and latches.
2. Seven years for heavy duty cylindrical (bored) locks and latches.
3. Ten years for manual door closers.

1.8 MAINTENANCE

A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions for Owner's continued adjustment, maintenance, removal and replacement of door hardware.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.

1. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3.

a. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements.
The hardware schedule is based on the following manufacturers:
1. Locks, passage & privacy sets-Sargent

B. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and

in accordance with the procedures and time frames outlined in AIA Document A701 – Instructions To Bidders and Division 01, Section 01 60 00, Substitution Procedures. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

2.2 HANGING DEVICES

A. Hinges: ANSI/BHMA A156.1 certified butt hinges with number of hinge knuckles as specified in the Door Hardware Sets.

1. Quantity: Provide the following hinge quantity, unless otherwise indicated:

   a. Two Hinges: For doors with heights up to 60 inches.
   b. Three Hinges: For doors with heights 61 to 90 inches.
   c. Four Hinges: For doors with heights 91 to 120 inches.
   d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.

2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:

   a. Widths up to 3’-0”: provide 4-1/2” x 4-1/2” standard hinges

3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:
   a. Interior Doors: Standard weight, steel, ball bearing hinges unless Hardware Sets indicate heavy weight.

4. Acceptable Manufacturers:

   a. Bommer Industries (BO).
   b. Hager Companies (HA).
   c. McKinney Products (MK).
   d. Stanley Hardware (ST).
   e. Select Hinges (SH)

2.3 DOOR OPERATING TRIM

A. Door Push Plates and Pulls: ANS/BHMA A156.6 certified door pushes and pulls of type and design specified below or in the Hardware Sets. Coordinate and provide proper width and height as required where conflicting hardware dictates.

1. Push/Pull Plates: Minimum .050 inch thick, 4-inches wide by 16-inches high, stainless steel with square corners and beveled edges, secured with exposed screws unless otherwise indicated.
2. Straight Pull Design: Minimum 1-inch round diameter stainless steel tube stock pulls with 2-inch clearance from face of door. Length to be 10” center to center. Attach with concealed fasteners as required for door type. All pulls will include an associated plate.
3. Fasteners: Provide manufacturer's designated fastener type as indicated in Hardware Sets. All fasteners used for attachment are to be of anti-theft design.

4. Acceptable Manufacturers:
   a. Burns Manufacturing (BU).
   b. Hiawatha, Inc. (HI).
   c. Ives (IV).
   d. Rockwood Manufacturing (RO).
   e. Trimco (TC).
   f. Hager Companies (HA).

D. Kickplates shall be 10" high x 2" less than nominal door width, .050" thick stainless steel. All fasteners used for attachment are to be of anti-theft design.

1. Acceptable Manufacturers:

   a. Burns Manufacturing (BU).
   b. Hiawatha, Inc. (HI).
   c. Ives (IV).
   d. Rockwood Manufacturing (RO).
   e. Trimco (TC).
   f. Hager Companies (HA).

2.4 CYLINDERS AND KEYING

A. Locks shall be grandmaster keyed as directed by the Owner and Architect.

B. Supply two keys for each lock and 5 master keys for each master key grouping.

C. Provide all keys of nickel silvermetal only.

D. Hardware consultant shall meet with owner/architect to determine specific keying requirements and functions of locks.

E. Cylinders to be compatible with existing building.

2.5 MECHANICAL LOCKS AND LATCHING DEVICES

A. Cylindrical Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.2, Series 4000, Grade 1 certified cylindrical (bored) locksets **and be tested by an independent third party testing agency to meet a minimum of 10 million cycle tests** furnished in the functions as specified in the Hardware Sets. Lock chassis fabricated of heavy gauge steel, zinc dichromate plated, with through-bolted application. Furnish with solid cast levers, standard 2 3/4” backset, and 1/2" (3/4" at rated paired openings) throw brass or stainless steel latchbolt. Locks are to be non-handed and fully field reversible.

1. Locksets to incorporate a free-wheeling lever design with a lifetime warranty against lever sag and spring breakage on all locking functions.

2. Acceptable Manufacturers:

   a. Corbin Russwin Hardware (RU) – CL3300 Series.
   b. Sargent Manufacturing (SA) – 10 Line.
   c. Schlage (SC) – ND Series.

3. Lever shall be “L” and L Rose or equal from acceptable manufacturers.

4. Cylinders: Sargent high security interchangeable core 6-pin or equal.

5. Tactile warning - Levers shall be KNURLED or MILLED at doors leading into all hazardous locations (ie. electric rooms, mechanical rooms, elevator machine rooms). Do not use abrasive coating or applied tape in lieu of knurling or milling.

B. Mortise Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.13, Series 1000, Security Grade 1 certified mortise locksets **and be tested by an independent third party testing agency to meet a minimum of 10 million cycle tests** furnished in the functions as specified in the Hardware Sets. Lock chassis fabricated of heavy gauge steel, zinc dichromate plated, with through-bolted application. Furnish with solid cast levers, standard 2 3/4” backset, and 3/4" throw anti-friction stainless steel latch. Deadbolts, where specified, are to be full 1" throw made of one-piece hardened stainless steel. Locks are to be non-handed and fully field reversible.

1. Acceptable Manufacturers:

   a. Corbin Russwin Hardware (RU) – ML2000 Series.
   b. Sargent Manufacturing (SA) – 8200 Series.
   c. Schlage (SC) – L9000 Series.

2. Sargent 8200 series with "L" lever and 2" Dia. "LN" rosette or equal subject to provisions of Section 01600.

3. Tactile warning - Levers shall be KNURLED or MILLED at doors leading into all hazardous locations (ie. electric rooms, mechanical rooms, elevator machine rooms, hazardous storage rooms, etc.). Do not use abrasive coating or applied tape in lieu of knurling or milling.

4. Cylinders: Sargent 7300 series high security interchangeable core 6-pin.

2.6 DOOR CLOSERS

A. All door closers specified herein shall meet or exceed the following criteria:

1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers including installation and adjusting information on inside of cover.

2. Standards: Closers to comply with UL-10C and UBC 7-2 for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.

3. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the physically handicapped, provide units complying with ANSI ICC/A117.1.

4. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
   a. Closers shall not be installed on corridor side of doors; where possible, install the closers on door for optimum aesthetics. Provide drop plates or other accessories as required for proper mounting.

5. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for a complete installation.

B. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 surface mounted, heavy duty door closers **and be tested by an independent third party testing agency to meet a minimum of 5 million cycle tests**, with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units and high impact, non-corrosive plastic covers standard.

1. Acceptable Manufacturers:

   a. Corbin Russwin Hardware (RU) - DC7500 Series.
   b. LCN Closers (LC) - 4040XP Series.
   c. Sargent Manufacturing (SA) - 351 Series.
   d. Norton Door Controls (NO) - 7500 Series.

2.7 DOOR STOPS

A. General: Door stops to be of type and design as specified below or in the Hardware Sets.

B. Door Stops and bumpers: ANSI/BHMA A156.16, Grade 1 certified door stops and wall bumpers. Provide wall bumpers, concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic.

1. Acceptable Manufacturers:

   a. Hiawatha, Inc. (HI).
   b. Ives (IV).
   c. Rockwood Manufacturing (RO).
   d. Trimco (TC).

2.8 DOOR SILENCERS

A. All new interior metal door frames shall be provided with door silencers, 3 per single door and 2 for pair of doors.

2.11 FABRICATION

A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.12 FINISHES

A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.

B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware.

C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

D. Hardware in General: US26D Dull Chrome

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.

B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.2 PREPARATION

A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.

3.3 INSTALLATION

A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.

1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.

B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:
1. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
2. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
3. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.

C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.

D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."

E. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

F. NOTE: Coordinate installation of new door hardware with existing frames scheduled to remain. All new locksets are to be aligned as required to match-up with the existing strikes. Hinge locations are to be coordinated to match-up with the existing frame mortises. Verify all conditions at site prior to fabrication.

3.4 FIELD QUALITY CONTROL

A. Field Inspection: Supplier will perform a final inspection of installed door hardware and state in report whether work complies with or deviates from requirements, including whether door hardware is properly installed, operating and adjusted.

3.5 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.6 CLEANING AND PROTECTION

A. Clean work under provisions of 01 70 00.

B. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.

C. Clean adjacent surfaces soiled by door hardware installation.

D. Clean operating items as necessary to restore proper finish. and provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.7 DEMONSTRATION

A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.8 DOOR HARDWARE SCHEDULE

A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

3.07 COMPLETE HARDWARE INSTALLATION

A. The following schedule listings cover typical openings. The Contractor shall be responsible for complete examination of the drawings and shall furnish all hardware required. Any hardware necessary but not specifically mentioned herein shall be of the like quality, weight, design and finish as similar openings or items specified herein.

B. Provide wall stops at all door openings in rooms receiving new wall finishes.

3.08 HARDWARE SCHEDULE:

HW-1 Interior Single Doors with Office Lock and Closer

Butts
1 Lockset 10G05
1 Closer
1 Kickplate
1 Stop
3 Silencers

HW-2 Interior Single Doors with Storeroom Lock and Closer

Butts
1 Lockset 10G04
1 Closer
1 Stop
3 Silencers

HW-3 Single Private Toilet Room Doors

1 Privacy Set 10U65
1 Closer

HW-4 Single Private Toilet Room Doors with Mortise Privacy set & Indicator.

Butts
1 Privacy set ML2030LL M34 M19V
1 Closer
1 Kickplate
1 Wall Stop
3 Silencers

HW-5 Interior Single Non Rated Doors with Push/Pull

Butts
1 Push Plate
1 Door Pull
1 Closer
1 Kickplate
1 Stop
3 Silencers

HW-6 Interior Single Doors with Storeroom Lock

Butts
1 Lockset 10G04
3 Silencers

HW-7 Interior Single Doors with Storeroom Lock

1 Lockset 10G04 (with tactile warning on lever)
1 Closer

HW-8 Interior Single Doors with Office Lock

1 Lockset 10G05
1 Closer

HW-9 Single Private Toilet Room Doors

1 Privacy Set 10U65

END OF SECTION

SECTION 09 21 16

STEEL FRAMED DRYWALL SYSTEMS

PART 1 - GENERAL

1.01 SCOPE: Provide all necessary materials for construction of drywall systems.

1.02 RELATED SECTIONS:

A. Division 06 Carpentry Section for wood framing, blocking and furring.

B. Division 09 Painting Section for paint applied to gypsum board surfaces.

1.03 DELIVERY AND STORAGE OF MATERIALS:

A. Deliver, store, and handle under provision of Section 01 60 00.

B. All materials shall be delivered in their original unopened packages and stored in an enclosed shelter providing protection from damage and exposure to the elements. Damaged or deteriorated materials shall be removed from the premises. Stack gypsum panels flat to prevent sagging.

1.04 ENVIRONMENTAL CONDITIONS:

A. In cold weather and during gypsum panel joint finishing, temperatures within the building shall be maintained within the range of 55 degrees to 70 degrees F. Adequate ventilation shall be provided to carry off excess moisture.

B. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.

1.05 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

B. Product Data: Submit product data on all materials and accessories.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Provide manufacturer and product specified under the Materials paragraph below.

B. Substitutions: Under provisions of Section 01 60 00.

2.02 MATERIALS: See drawings for size and location of materials.

A. Non-Structural Studs: Cold-formed galvanized steel C-studs as per ASTM C 645, ProSTUD products manufactured by ClarkDietrich Building Systems.
   1. See drawings for gage, minimum 25 gage for interior non-load bearing, maximum 10’-0” high and 20 gage for above 10'. Provide 20 gage for jamb and lintel components.
   2. Flange Size: 1 1/4 inch.
   3. Web Depth: As specified on Drawings.

B. Non-Structural Track: Cold-formed galvanized steel runner tracks, drywall track, in conformance with ASTM C 645, ProTRAK as manufactured by ClarkDietrich Building Systems.
   1. Flange Size: 1-1/4 inch
   2. Web Depth: Track web to match and coordinate with stud web size.

C. Metal Furring (Hat) Channel manufactured by ClarkDietrich Building Systems: 7/8” depth by 10’ or 12’ length, (20 gauge at ceilings) (25 gauge at walls), meet or exceed ASTM C645.

D. Z Furring Channel manufactured by ClarkDietrich Building Systems available in1", 1-1/2", 2", 2 1/2" depths by 10’ length with 1 1/4” wide flange, meet or exceed ASTM C645.
   See drawings for size and gage.

E. Provide 1-1/2" Cold-Rolled Channels.

F. Galvanized Hanger Wire (12-ga)

G. 18-ga. Galvanized Tie Wire.

H. Faceboards - 48" wide USG Sheetrock Brand
   Firecode Type X gypsum board
   Provide lengths as required.
   Thickness to be as indicated on drawings. If not indicated on drawings, board to be 5/8” thick.

I. Fasteners - USG Screws: 3/8" Type S, pan head: 3/8", 1/2" Type S-12, pan head; 5/8" Type S-12 low-profile head; 1",1-1/4", 1-5/8", 1-7/8", 2-1/4" Type S, bugle head; 1", 1-5/8", 2-1/4" Type S or S-12, trim head; 1-1/2" Type G, bugle head; 1-1/4" Type W, bugle head; 1`-1/4" annular ring drywall nail.

J. USG Trim No. (200-A)(401)(402)(P-1)(801-A)(801-B).

K. USG Corner Bead - (No. 103 DUR-A-BEAD) (No. 104 DUR-A-BEAD)(No.800) Metal Corner Reinforcement.

L. USG Control Joint No. 093

M. Joint Treatment (select a United States Gypsum Company Joint System)

   Standard Gypsum = Joint Treatment: Sheetrock Brand All Purpose Joint Compound.
   Provide a Level 4 gypsum board finish.

PART 3 - EXECUTION

3.01 PARTITION INSTALLATION

A. STUD SYSTEM ERECTION: Attach steel runners at floor and ceiling to structural elements with suitable fasteners located 2" from each end and spaced 24" o.c.
To suspended ceilings, use toggle bolts or hollow wall anchors spaced 16" o.c.

Position studs vertically, with open side facing in same direction, engaging floor and ceiling runners, and spaced 16" o.c. When necessary, splice studs with 8" nested lap and two positive attachments per stud flange. Place studs in direct contact with all door frame jambs, abutting partitions, partition corners and existing construction elements. Where studs are installed directly against exterior walls and a possibility of water penetration through walls exists, install asphalt felt strips between studs and wall surfaces.

Anchor all studs for shelf-walls and those adjacent to door and window frames, partition intersections, corners and freestanding furring to ceiling and floor runner flanges with USG Metal Lock Fastener tool or screws. Securely anchor studs to jamb and head anchors of door or borrowed light frames by bolt or screw attachment. Over metal door and borrowed light frames, place horizontally a cut to length section of runner, with a web flange bend at each end, and secure to strut-studs with two screws in each bent web. Position a cut-to-length stud (extending to ceiling runner) at vertical panel joints over door frame header. When attaching studs to steel grid system, structural adequacy of grid to support end reaction of wall must be determined.

B. As occurring:
Install Sound Attenuation Insulation after gypsum panels are applied to the resilient channel (if occurring) and before panels are applied to other side of studs. Insert the sound insulation in the stud cavity, by bowing the blanket slightly. After inserting, make a vertical cut between the studs. Slit the blanket with a sharp utility or hook-bill knife to ease the pressure of the blanket against the gypsum panels when they are installed. Butt ends of blankets closely together and fill all voids. Seal perimeter of gypboard and all penetrations with acoustical sealant to complete the requirements for a sound retardant partition.

3.02 APPLYING INTERIOR GYPSUM BOARD

A. Single-Layer Application:
   A. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing, unless otherwise indicated.
   B. On partitions/walls, apply gypsum panels vertically (parallel to framing), unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
      a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
      b. At stairwells and other high walls, install panels horizontally, unless otherwise indicated or required by fire-resistance-rated assembly.
   C. On Z-furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.
   D. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

B. Gypsum Panel Attachment

Screw spacing that follows is for non-rated construction. For fire-rated construction, obtain screw spacing from manufacturer's fire test report.

For single-layer panel application, space screws 16" o.c. in field and along abutting end joints.

3.03 DRYWALL SOFFIT ERECTION:

Attach steel runners 24" o.c. to concrete slabs and concrete stub nails or power-driven anchors, to suspended ceilings with toggle bolts or to wood framing with suitable fasteners. On stud walls, space fasteners to engage each stud. On ceilings, place fastener close to outside face runner.

Fasten vertical face panel to web of face corner runner and flange of ceiling runner with 1" Type S Screws spaced 12" o.c. For braced furring, insert steel studs between face corner runners, sidewall and ceiling runners and attach studs to runners with Metal Lock Fastener tool or 3/8" pan head screws. Attach face panels to steel studs and runners with 1" Type S Screws spaced 12" o.c. Space screws in corner runner at least 1" from gypsum panel edge.

3.04 WALL FURRING INSTALLATION

A. METAL FURRING (HAT) CHANNEL INSTALLATION: Attach metal furring channels horizontally, spaced 24" o.c. to interior of masonry or concrete surface with hammer set or power driven fasteners or concrete stub nails staggered 24" o.c. on opposite flanges. Where furring channel is installed directly to exterior wall and a possibility of water penetration through walls exists, install asphalt felt protection strip between furring channel and wall.

Apply gypsum panels parallel to channel. Position all edges over furring channels in parallel application; all ends over framing in perpendicular application with joints staggered in successive courses. Use maximum practical lengths to minimize end joints. Fit ends and edges closely, but not forced together. Fasten panels to channels with 1" Type S Screws spaced 16" o.c.

B. Z FURRING CHANNEL INSTALLATION: Erect insulation vertically and hold in place with Z-furring channels spaced 24" o.c. Except at exterior corners, attach narrow flanges of furring channels to wall with concrete stub nails or power driven fasteners spaced 24" o.c. At exterior corners, attach wide flange of furring channel to wall with short flange extending beyond corner. On adjacent wall surface, screw attach short flange of furring channel to web of attached channel. Start from this furring channel with a standard width insulation panel and continue to regular manner. At interior corners, space second channel no more than 12" from corner and cut insulation to fit. Hold mineral fiber insulation in place until gypsum panels are installed with 10" long staple field fabricated from 18 ga. tie wire and inserted through slot in channel. Apply wood blocking around window and door opening and as required for attachment of fixtures and furnishings.
Apply gypsum panels parallel to channels with vertical joints occurring over channels. Use no end joints in single-layer application. Attach gypsum panels with 1" Type S Screws spaced 16" oc. in field of panels and at edges, and with 1-1/4" Type S Screws spaced 12" o.c. at exterior corners. For double-layer application, apply base layer parallel to channels, face layer either perpendicular

or parallel to channels with vertical joints offset at least one channel. Attach base layer with screws 24" o.c. and face layer with 1-5/8" screws 16" o.c.

3.05 CHASE WALL ERECTION

Align two parallel rows of floor and ceiling runners spaced apart as detailed. Attach to concrete slabs with concrete stub nails or power-driven anchors 24" o.c. to suspended ceilings with toggle bolts 16" o.c. or to wood framing with suitable fasteners 24" o.c.

Position steel studs vertically in runners, 24" o.c. with flanges in the same direction, and with studs on opposite sides of chase directly across from each other. Anchor all studs to floor and ceiling runner flanges with a Metal Lock Fastener tool or screws.

Cut cross bracing made from gypsum panels, 12" high by chase wall width. Place between rows of studs. Space braces 48" o.c. vertically and attach to stud webs with six 1" Type S Screws per brace. If larger braces are used, space screws 8" o.c. max. on each side.

Bracing of 2-1/2" steel studs may be used in place of gypsum panels. Anchor web at each end of at each end of steel brace to stud web with two 3/8" pan head screws. When chase wall studs are not opposite, install steel stud cross braces 24" o.c. horizontally and securely anchor each end to a continuous horizontal 2-1/2" runner screw attached to chase wall studs within the cavity.

3.06 ACCESSORY APPLICATION

A. JOINT SYSTEM: Finish all face panel joints and internal angles with a United States Gypsum Company Joint System installed according to manufacturer's directions. Spot exposed fastened on face layers and finish corner bead, control joints and trim as required, with at least three coats of joint compound, feathered out onto panel faces and sanded smooth.

B. CORNER BEAD: Reinforce all vertical and horizontal exterior corners with corner bead fastened with 9/16" galvanized staples 9" o.c on both flanges along entire length of bead.

C. METAL TRIM: Where assembly terminates against masonry or other dissimilar material, apply metal trim over panel edge and fasten with 9/16" galvanized staples 9" o.c.

D. SCREWS: Power drive at least 3/8" from edges or ends of panel to provide uniform dimple 1/32" deep.

E. CONTROL JOINTS: Break panel behind joint and back by double framing embers (and 2" wide gypsum panel strip). Apply acoustical sealant to fill gap and attach control joint to face layer with 9/16" galvanized staples spaced 6" o.c. on both flanges along entire length of joint. Provide a full height control joint where a wall or partition extends in a continuous straight plane for more than 30 linear feet or where indicated on the drawings.

3.07 CLEANING

A. Clean project under provisions of Section 01 70 00.

END OF SECTION

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SECTION 09 28 13

CEMENTITIOUS BACKER BOARD

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. All necessary materials and labor to install cementitious backer board.

1.02 SUBMITTALS

A. Submit product data under provisions of Section 01 33 00.

1.03 QUALIFICATIONS

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

1.04 DELIVERY, STORAGE, AND HANDLING

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

B. Store products in an enclosed shelter providing protection from damage and exposure to the elements.

1.05 ENVIRONMENTAL REQUIREMENTS

A. In cold weather and during backer board and tile installation, temperatures within the building shall be maintained within the range of 45° to 100°. Adequate ventilation shall be provided. Do not install board when it is wet.

PART 2 - PRODUCTS

2.01 MANUFACTURER

A. United States Gypsum Board

B. Substitutions: Under provisions of Section 01 60 00.

2.02 MATERIALS

A. Cement Board
1. Durock Interior Cement Board, 5/8” thickness, 48" width x 96" length.

B. Joint Reinforcement - Durock Interior Tape.

C. Fasteners
   1. Durock Steel Screws, 1-1/4" and 1-5/8" for 14 to 20 ga. steel framing; Durock Wood Screws, 1-1/4", 1-5/8" and 2-1/4" for wood framing.
   2. Nails 1-1/2" hot-dipped galvanized roofing nails.

D. Adhesives/mortars
   1. Meeting ASTM C557-73: Multi-Purpose Adhesive (for subfloor attachment).
   2. Meeting ANSI A136.1 TypeI: Durabond D-67 Multi-Purpose Ceramic Tile Mastic or Durock or Durabond Multi-Purpose Ceramic Tile Mastic.
   3. Meeting ANSI A118.4: Durabond D-40 or Durock Latex Fortified Mortar, Durabond D-30 Thin-Cut Marble and Granite Mortar.
   4. Meeting ANSI A118.1: Durabond D-50 Thin-Set Mortar. Can be mixed with Durabond D-L16 Acrylic Latex Additive.

E. Meeting ANSI A118.6: Durock LFG 250 Latex Fortified Grout; Durabond C-150 Commercial Dri-Set Grout mixed with Durabond D-L26 Acrylic Latex Grout Additive.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Framing to receive Durock Board shall be structurally sound, free from bow, and in general compliance with local building code requirements. Damaged and excessively bowed studs shall be replaced before installation of Durock Board.
Wall framing shall be designed not to exceed L/360 deflection. Steel framing must be 20-ga. or heavier with a corrosion-resistant metal coating equivalent to G60 hot dipped galvanized.
Floor application: Maximum joist spacing to be 24” o.c. The subfloor system should be designed with a minimum deflection limit of L/360 for the span.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions and recommendations.

B. Space wood and steel framing a maximum of 16" o.c.

C. Provide and install cementitious backer board as back-up behind all areas where ceramic tile or stone wall base are scheduled and in any additional areas noted on the drawings or in the specifications.

D. Panel Wall Application: Pre-cut board to required sizes and make necessary cut-outs. Fit ends and edges closely but not forced together. Stagger end joints in successive courses.
Fasten boards to wood studs spaced max. 16" o.c. and bottom plates with 1-1/4" Durock Wood Screws or 1-1/2" galvanized roofing nails spaced 8" o.c.
Fasten boards to steel studs spaced max. 16" o.c. and bottom runners with 1-1/4" Durock Steel Screws space 8" o.c. with perimeter fasteners at least 3/8" and less than 5/8" from ends and edges.

In double-layer walls where backer boards are installed over base-layer gypsum boards, apply a water barrier (not a vapor retarder) over gypsum boards. Prefill joints with tile-setting mortar or

adhesive and then immediately embed tape and level the joints. As an alternate, apply Durock Interior Tape over the joints and then apply tile-setting mortar or adhesive, forcing it through the tape to completely fill and level the joints. This may require several passes to accomplish.

3.03 JOINT TREATMENT APPLICATION FOR UNTILED AREA

A. For small areas where the Durock Board will not be tiled, such as a board extending beyond the tiled area and abutting another surface, treat joints as follows. Seal tile backer board with thinned ceramic tile mastic. (Mix four parts adhesive with one part water.) Embed Sheetrock Joint Tape over joints and treat fasteners with Sheetrock Setting-Type 45 or 90 Joint Compound applied in conventional manner. Flat trowel Sheetrock Setting-Type Joint Compound over board to cover fasteners and fill voids to a smooth surface. Finish joints with at least two coats Sheetrock Ready-Mixed Joint Compound. Do not apply ready-mixed joint compound over unsealed board.

3.04 CLEANING

A. Clean work under provisions of Section 01 70 00.

END OF SECTION

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SECTION 09 30 13

CERAMIC TILE

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Ceramic tile application where indicated.

1.02 REFERENCES

A. ANSI/TCA A118.4 - Latex-Portland Cement Mortar.

B. ANSI/TCA A136.1 - Organic Adhesives for Installation of Ceramic Tile, Type 1 and Type 2.

C. ANSI/TCA A137.1 - Specifications for Ceramic Tile.

D. ASTM C-150, Type 1 - Portland Cement Mortar

E. TCA (Tile Council of America) - handbook for Ceramic Tile Installation.

1.03 SUBMITTALS

A. Submit product data for ceramic tile under provisions of Section 01 33 00.

B. Submit product data indicating material specifications, characteristics, and instructions for using adhesives and grouts.

C. Submit samples for ceramic tile under provisions of Section 01 33 00.

1.04 QUALITY ASSURANCE

A. Conform to TCA Handbook for Ceramic Tile Installation.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store and protect products under provisions of Section 01 60 00.

B. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

1.06 ENVIRONMENTAL REQUIREMENTS

A. Do not install adhesives in a closed, unventilated environment.

B. Maintain 50 degrees F during installation of mortar materials and for 7 days after completion.

C. All materials are to be low VOC.

1.07 MAINTENANCE DATA

A. Submit maintenance data on all materials under the provisions of Section 01 78 00.

B. Submit data including cleaning methods, solutions recommended, and stain removal methods.

1.08 WARRANTY

A. Provide five year warranty under provisions of Section 01 78 00.

B. Warranty: Include coverage for defective material.

1.09 EXTRA MATERIALS

A. Furnish under provisions of Section 01 78 00.

B. Supply minimum 2% of each type tile and color used, properly packaged for long term storage.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. As noted in Materials paragraph 2.02 below.

B. Substitutions: Under provisions of Section 01 60 00.

2.02 MATERIALS

See Material and Finish Schedules on drawing A3.1 for additional information.
Provide all necessary trim and accessories as required.

A. Wall Tile

- Dal-Tile
  Style: Annapolis gloss bevel
  Size to be 6” x 16”.
  Pattern: 1/3 offset

- Dal-Tile
  Style: Largo
  Size to be 3” x 6”.
  Pattern: Brickwork

- Atlas Concorde
  Style: Jute Herringbone Mosaic
  Annapolis gloss bevel
  Size to be 30cm x 30cm Mosaic.

- Dal-Tile
  Style: Saddlebrook
  Size to be 6” x 36”.
  Pattern: 1/3 offset

- American Olean
  Style: Elemental Canvas
  Size to be 1” x 3” (12 x 12 mosaic).
  Pattern: stacked/grid

B. Floor Tile

- Dal-Tile
  Style: Volume 1.0
  Size to be 12” x 24”.
  Pattern: Staggered brickwork

- Dal-Tile
  Style: Slate Attache
  Size to be 12” x 24”.
  Pattern: Staggered brickwork

- American Olean
  Style: Elemental Canvas
  Size to be 12” x 24”.
  Pattern: Staggered brickwork

- Dal-Tile
  Style: Volume 1.0
  Size to be 6” x 6”.
  Pattern: Diamond

C. Tile Base

- Dal-Tile
  Style: Volume Cove Base
  Size to be 6” x 12”.

- Dal-Tile
  Style: Slate Attache
  Size to be 3” x 12”.

- American Olean
  Style: Elemental Canvas Cove Base
  Size to be 6” x 12”.

D. Thresholds:
   1. Provide a threshold of Panna Beige marble or light grey veined Missouri or Vermont marble with a sand-rubbed finish. Color selected by Architect.
      Corners and unprotected edges shall be beveled and rabbeting shall be provided for jambs.
      Top of the threshold shall be flush with the top of the adjacent ceramic tile floor.
      Thresholds shall be tapered as required to meet handicap codes.

E. Grout: Latex-Portland Cement grout conforming to ANSI A118.6.
   Color to be selected by Architect.
   Grout joints to be 1/8” unless otherwise recommended by manufacturer.

F. Aluminum Termination Strips for Wall Tile
   1. Manufacturer: Schluter Systems
   2. Model: Jolly
      a. Description: profile with 87° sloped exposed surface with integrated trapezoid-perforated anchoring leg.
      b. Material and Finish: AE - Satin Anodized Aluminum

G. Aluminum Divider Strips for Wall Tile
   1. Manufacturer: Schluter Systems
   2. Model: Designline
      a. Description: Profile has a flat surface, is 1/4 inch thick with a 1 inch wide visible surface and is used to divide two different tile patterns or colors.
      b. Material and Finish: AE - Satin Anodized Aluminum

PART 3 - INSTALLATION

3.01 EXAMINATION

A. Verify that surfaces are ready to receive work, and that concrete substrate has cured a minimum of 28 days.

B. Beginning of installation means installer accepts condition of existing substrate.

3.02 PREPARATION

A. Protect surrounding work from damage or disfiguration.

B. Vacuum clean existing substrate and damp clean.

C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances using Floor Patch and Skimcoat as specified in Specification Section 03 54 13.

3.03 INSTALLATION

A. THINSET METHOD

1. Floors: Tile shall be installed in accordance with TCA-F113 latex portland cement mortar.

2. Walls - All wall tile installed over cementitious backer board is to be installed in accordance with TCA-W244 latex portland cement mortar.

3. Walls - All wall tile installed over masonry is to be installed in accordance with TCA-W202 with latex portland cement mortar.

3.04 APPLICATION

A. Lay tile to pattern as indicated on drawings.

B. Cut and fit tile tight to penetrations through tile. Form corners and bases neatly. Align floor and base joints.

C. Coved base wall tile is to be installed so top of curved portion is level with surface of ceramic tile floor.

D. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make joints watertight, without voids, cracks, excess mortar, or excess grout.

E. Sound tile after setting. Replace hollow sounding units.

F. Keep control joints free of adhesive or grout.

G. Allow tile to set for a minimum of 48 hours prior to grouting.

H. Grout tile joints.

I. Apply sealant to junction of tile and dissimilar materials and at junction of dissimilar planes.

J. Provide aluminum termination strips at the top and sides of the exposed termination of ceramic wall tile used for a wainscot or backsplash.

K. Provide aluminum divider strips to separate two different types, patterns or colors of ceramic wall tile in locations where noted on drawings.

3.05 CLEANING

A. Upon completion of the various portions of his work, the tile contractor shall remove all unused materials, rubbish, etc., that have accumulated as a result of this work.

B. After the grout has sufficiently set or hardened, all tile on walls and vertical surfaces, or floors and horizontal surfaces, shall be thoroughly cleaned in an approved manner. All traces of cement or

dust accumulations shall be completely removed. In cases where acid solutions are required to clean the face of the finished tile work of surplus grouting or mortar used for pointing, all exposed hardware shall be first covered by a heavy coating of vaseline to protect the metal from the possible effects of the acid or its fumes. Acid solution shall not be used for cleaning glazed tile.

C. The Tile Contractor shall give the tile work one thorough final cleaning when so instructed by the General Contractor or Architect.

3.06 PROTECTION OF FINISHED WORK

A. Protect finished work under provisions of Section 01 70 00.

B. Protect finished floor with heavy covering during construction.

C. Do not permit traffic on floor for a minimum of 7 days after grouting.

END OF SECTION

SECTION 09 51 23

ACOUSTICAL CEILING SYSTEMS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. The furnishing and installation of acoustical and suspension ceiling systems.

1.02 RELATED SECTIONS

A. Division 26 - Electrical

1.03 REFERENCES

A. Federal Specification SS-S-118B acoustical tile and panel properties.

B. AMA 1-11 - Sound transmission

C. ASTM C423 - Sound absorption

D. ASTM C635 - Metal suspension system properties

E. ASTM C636 - Acoustical ceiling system installation procedures

F. UL - Underwriters Laboratories, Inc.

1.04 SYSTEM DESCRIPTION

A. Acoustical material and suspension systems, including all necessary hangers, hanger wires, grillage, splines, and supporting hardware, shall be furnished and installed as required to create a completed ceiling system.

1.05 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

B. Product Data: Include manufacturer's specifications of materials and installation instructions.

C. Samples: Submit two 6" x 12" samples of panels and two of the metal suspension system.

D. Test reports: Submit data indicating the following ratings:
NRC (Noise reduction coefficient)
CAC (Ceiling Attenuation Class)
Light reflectance.
Flame spread
Smoke developed

1.06 OPERATION AND MAINTENANCE DATA

A. Submit under provisions of Section 01 78 00.

B. Submit cleaning and maintenance data including procedures for stain removal and cleaning.

1.07 QUALITY CONTROL

A. Work shall be performed in accordance with Section 01 45 00.

1.08 QUALIFICATIONS

A. Installer: Company specializing in installing suspended acoustical ceilings with minimum of three years documented experience.

1.09 REGULATORY REQUIREMENTS

A. Conform to the manufacturer's recommendations to achieve the fire resistive ratings as listed by Underwriters Laboratories, Inc. (Class A)

B. All building areas designated to be fire rated or as required by State and Local Codes and scheduled for a suspended ceiling system shall receive a fire resistant system to meet U.L. requirements.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, protect and handle products to site under provisions of Section 01 60 00.

B. Storage shall be in building, closed to the weather with temperatures ranging from 60°F to 85°F at not more than 70% relative humidity.

1.11 ENVIRONMENTAL REQUIREMENTS

A. Do not install acoustical ceiling system when building. Interior temperature is below 60°F, above 90°F or above 70% relative humidity.

B. These conditions shall be maintained 24 hours prior to, during and after installation.

1.12 FIELD MEASUREMENTS

A. Verify that field measurements are as indicated on drawings. Any inconsistencies shall be reported to the architect prior to installation.

1.13 SEQUENCING

A. Installation of panels may commence only after an inspection of all electrical, mechanical and plumbing work has been completed.

1.14 COORDINATION

A. Coordinate work under provisions of Section 01 31 00.

1.15 WARRANTY

A. Provide 10 year warranty for the standard acoustical ceiling system under provisions of Section 01 78 00.

B. Provide 15 year warranty for the moisture resistant acoustical ceiling system under provisions of Section 01 78 00.

1.16 EXTRA MATERIALS

A. Furnish under provisions of Section 01 78 00.

B. Provide minimum of 5 panels or 1% of the total of each type of panel installed. (which ever is greater) The additional panels shall be properly packaged for long term storage.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Acoustical panels

1. Armstrong
2. Other acceptable manufacturers offering equivalent products.
   a. USG

B. Suspension System

1. Armstrong
2. Other acceptable manufacturers offering equivalent products.
   a. Chicago Metallic Corp.
   b. USG

C. Substitutions: Under provisions of Section 01 60 00.

2.02 MATERIALS (as listed on finish schedule)

A. Acoustical Panels

1. Type "ACT" - Acoustical Ceiling Tile
   a. Fine Fissured Second Look II, Angled tegular (24” x 48” tile scored to look like 24” x 24” tiles)
      1. Model No. 1761
      2. Size: 24” x 48” x 3/4” thick
      3. Water felted mineral fiber panel with white vinyl paint finish.
      4. Light reflectance = 0.84
      5. Flame spread = 25 or less
      6. Smoke developed = 50 or less
      7. NRC = 0.55
      8. CAC = 35
      9. Total recycled content: minimum 30%

B. Suspension Systems

1. Standard Exposed Grid (Coordinate with ACT tile)

   a. Prelude XL
      1. Hot dipped galvanized steel with white baked polyester paint finish.
      2. Intermediate duty main runners and cross tees with 15/16" flange face.
      3. Wall angles shall be straight edge and corner caps shall be of same materials and finish.
      4. Suspend with galvanized steel wire.
      5. Total recycled content: minimum 25%

2.03 COLORS

A. All colors to be selected from manufacturer’s standard colors.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that all components in the ceiling plenum are installed. The building shall be in proper condition to receive the acoustical materials and suspension system before any of the material shall be installed. The acoustical material shall be installed under conditions of normal occupancy. All wet work shall be completed, dry, and the building fully enclosed.

3.02 PROTECTION

A. Protect existing elements surrounding the work of this section from damage or disfigurement.

3.03 INSTALLATION

A. Install all acoustical materials and suspension systems in strict accordance with the manufacturer's instructions.

B. Main runners shall be installed on 24 inch centers and suspended by hanger wire spaced not more than 48 inches on center along the main runners.

C. Cross tees shall be 24 inches in length and shall be spaced 24 or 48 inches on center along the main runner to form 2'x4' modules as scheduled on the drawings.

D. Install wall moldings at intersection of suspended ceiling and all vertical surfaces.

E. Miter corners where wall moldings intersect or install corner caps.

F. The acoustical panels shall not be used to support any other materials except fiberglass thermal/sound control insulation installed in the thickness, density and manner specified by the manufacturer.

3.04 CLEANING

A. Clean under provisions of Section 01 70 00.

END OF SECTION

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SECTION 09 65 00

RESILIENT FLOORING

PART 1 - GENERAL

1.01 WORK INCLUDES

A. Installation of resilient flooring and accessories as indicated.

1.02 REFERENCES

A. ASTM E84 - Surface Burning Characteristics of Building Materials.

B. FS SS-W-40 - Wall Base: Rubber and Vinyl Plastic.

1.04 SUBMITTALS

A. Submit shop drawings and product data under provisions of Section 01 33 00.

B. Provide product data on specified products, describing physical and performance characteristics sizes, patterns and colors available.

C. Submit samples under provisions of Section 01 33 00.

D. Submit two samples 3 x 3 inches in size, illustrating the full range color and pattern for each floor material specified.

E. Submit 6 inch long samples of base material for each color specified.

F. Submit manufacturer's installation instructions under provisions of Section 01 33 00.

1.05 OPERATION AND MAINTENANCE DATA

A. Submit cleaning and maintenance data under provisions of Section 01 78 00.

B. Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, protect, and handle work to site under provision of Section 01 60 00.

1.07 ENVIRONMENTAL REQUIREMENTS

A. Store materials for three days prior to installation in area of installation to achieve temperature stability.

B. Maintain minimum 70 degrees F air temperature at flooring installation areas for three days prior to, during, and 24 hours after installation of materials.

1.08 EXTRA MATERIALS

A. Furnish under provisions of Section 01 78 00.

B. Provide 20 sq. ft. of each color and pattern of floor material and 10 lineal feet of base of each material required for Project, for maintenance use.

C. Clearly identify each box.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Armstrong
   1. Vinyl composition tile

B. Johnsonite
   1. Vinyl base
   2. Edge Guards

C. Substitutions: Under provisions of Section 01 60 00.

2.02 MATERIALS

A. Vinyl composition tile - Armstrong Standard Excelon tile, 1/8" in thickness, 12" x 12".

B. Vinyl base: 4" high x rolled length, 1/8" thick with ribbed back. Seams will only be allowed on walls longer than 40'.

C. Edge guards or Adaptors: Beveled type, matte finish; color as selected by Architect.
Johnsonite Model EG-G, H or J. Provide edge guards at all exposed edges.
Johnsonite Model CTA-A or CTA-D. Provide adaptors at all dissimilar materials (i.e. vinyl tile and carpet).

2.03 COLORS SELECTION

A. All colors shall be selected by the Architect from the manufacturer's standard color selections.

2.04 ACCESSORIES

A. Primers and Adhesives: Low VOC and waterproof; types recommended by flooring manufacturer for specific materials and as required to maintain product warranty.

B. Sealer and Finish: Types recommended by resilient flooring materials manufacturer for material type and location.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are smooth and flat with maximum variation of 1/8 inch in 10 ft., and are ready to receive work.

B. Documented moisture testing must be conducted on ALL concrete substrates, regardless of the grade level and age using both of the following methods.
   1. Test method ASTM F-1869 result is to be 5.0 lb. MVTR or lower.
   2. Test method ASTM F-2170 result to be less than 75 % RH.
   3. Concrete is to exhibit negative alkalinity, carbonization, or dusting.

C. Beginning of installation means acceptance of existing substrate and site conditions.

3.02 PREPARATION

A. Remove sub-floor ridges and bumps. Fill low spots, cracks, joints, holes, and other defects with subfloor filler.

B. Apply, trowel, and float filler to leave a smooth, flat, hard surface.

C. Prohibit traffic from area until filler is cured.

D. Vacuum clean substrate.

3.03 INSTALLATION - TILE MATERIAL

A. Install in accordance with manufacturers' instructions.

B. Mix tile from container to ensure shade variations are consistent.

C. Spread only enough adhesive to permit installation of materials before initial set.

D. Set flooring in place, press with heavy roller to attain full adhesion.

E. Install tile with pattern grain alternating with adjacent unit to produce basket weave pattern unless otherwise directed by the Architect. Allow minimum 1/2 full size tile width at room or area perimeter.

F. Terminate flooring at centerline of door openings where adjacent floor finish is dissimilar.

G. Install edge guards at unprotected or exposed edges, and where flooring terminates.

H. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

3.04 INSTALLATION - BASE MATERIAL

A. Fit joints tight and vertical.

B. Miter internal corners. At external corners, use premolded units. At exposed ends use premolded units.

C. Install base on solid backing. Bond tight to wall and floor surfaces.

D. Scribe and fit to door frames and other interruptions.

E. Install straight and level to variation of plus or minus 1/8 inch over 10 feet.

F. Provide coved base at all hard surface flooring.

3.06 PROTECTION

A. Prohibit traffic on floor finish for 48 hours after installation.

3.07 CLEANING

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

B. Clean surfaces in accordance with manufacturer's instructions.

3.08 INITIAL MAINTENANCE OF VCT FLOORING

A. The following work shall be performed in accordance with manufacturer's recommended instructions.
   1. Vacuum thoroughly
   2. Do not wash floor for at least five days after installation.
   3. The floor may be cleaned after installation by damp-mopping with a very dilute, neutral detergent solution, carefully scrubbing black marks and excessive soil.
   4. Apply one coat of Armstrong S-495 (or equal) commercial floor sealer.
   5. Apply a minimum of three coats of Armstrong S-480 (or equal) floor finish to protect floor until regular maintenance procedures can be started.
   6. Allow at least 60 minutes drying time between applications of finish.
   7. Do not allow traffic on the floor for at least 8 hours after final coat of finish.
   8. High speed buff to a glossy finish.

END OF SECTION

SECTION 09 81 16

SOUND ATTENUATION INSULATION

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Sound attenuation insulation for walls and ceilings.

1.02 SUBMITTALS

A. Submit product data and manufacturer's installation instructions under provisions of Section 01 33 00.

B. Sustainable Design Submittals:
1. Product Data: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content.
   a. Include statement indicating costs for each product having recycled content.
2. Product Data: Identify each regional material along with the location of its raw material extraction and manufacture.

1.03 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, protect, and handle products under provisions of Section 01 60 00.

B. Store in a dry, protected area.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Roxul AFB (Acoustical Fire Batt) by Roxul Inc.

B. Substitutions: Under provisions of Section 01 60 00.

2.02 MATERIALS

A. Sound attention batts: Unfaced mineral wool fiber, non-combustible insulation designed for sound attenuation.
3-1/2”thick in partitions and 6" thick above ceilings in locations as occurring and noted on drawings

B. Material Properties
1. Compliance and Performance:

ASTM C 665 Mineral-Fiber Blanket Thermal Insulation Type 1,	Complies
ASTM C 553 Mineral Fiber Blanket Thermal Insulation	Complies

UL Design Nos U305, U311, U317, U411, U412, U448, U465, V417, V418, V419

2. Fire Performance:
   ASTM E 136 Behaviour of Materials at 750°C (1382°F) — Non-Combustible
   ASTM E84 (UL 723) Surface Burning Characteristics
   Flame Spread = 0
   Smoke Developed = 0
3. Acoustical Performance:
   ASTM E 90 Airborne Sound Transmission Loss — Tested
   ASTM E 413 Rating Sound Insulation — Tested
   ASTM C 423 Sound Absorption Coefficients — Tested
   ASTM E 1050 Impedance and Absorption of Acoustical Materials — Tested
4. Air Erosion:
   UL 181 Maximum Air Velocity — 1000 fpm
5. Corrosive Resistance:
   ASTM C 665 Corrosiveness to Steel — Pass
6. Recycled content to be 40% pre-consumer minimum.

C. Acoustical Putty
1. QuietPutty 380 manufactured by Pabco Gypsum or equal.
2. Description: Moldable sheets of fire rated, acoustical putty to be used to seal penetrations in partitions that are constructed with sound attenuation insulation. Use putty to maintain the performance of acoustically rated walls at penetrations.
3. Surface burning requirements: (ASTM E84) Flame Spread 15, Smoke developed: 250, Classification: A.
4. One hour fire-rated to UL 1479
5. Install in accordance with manufactuer’s instructions.

PART 3 - EXECUTION

3.01 PREPARATION

A. Verify adjacent materials are dry and ready to receive installation.

B. Verify mechanical and electrical services within walls have been installed and tested.

3.02 INSTALLATION

A. Install batt insulation in accordance with manufacturer's instructions.

B. Install acoustical insulation of 3 1/2” thickness in walls and 6" thick above ceilings where indicated on the drawings.

C. Install batt insulation in spaces without gaps or voids.

D. Trim insulation neatly to fit spaces. Use batts free of damage.

E. Fit insulation tight in spaces and tight to exterior side of mechanical and electrical services within the plane of insulation. Leave no gaps or voids.

F. Install acoustical putty in accordance with manufacturer's instructions in locations as noted below.
   1. Acoustical putty is to be installed at all partitions where sound attenuation insulation is being installed so as to maintain the performance of acoustically rated walls.
   2. Install as required to seal around the entire back of all electrical boxes penetrating gypsum board.
   3. Install as required to seal all gaps where items penetrate gypsum board, such as HVAC ductwork, piping, conduits, cables, etc.

3.03 CLEANING

A. Clean under provisions of Section 01 70 00.

END OF SECTION

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SECTION 09 91 00

PAINTING

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Finish painting and priming of all items exposed and identified to receive a finish.

1.02 RELATED SECTIONS

A. Examine the specifications for the various other trades and become thoroughly familiar with all their provisions regarding what they are painting. All surfaces that are left unfinished by the requirements of other specifications shall be painted or finished as a part of this work.

1.03 REFERENCES

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

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

C. Federal Specifications

1.04 DEFINITIONS

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

B. The term "paint" as used herein includes enamels, paint, emulsions, varnishes, stains, sealers and other coatings whether used as prime, intermediate or finish coats.

1.05 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

B. Submit manufacturer's technical data sheet and Material Safety Data Sheets (MSDS) for each scheduled coating, giving the descriptive data, curing time, mixing, thinning and application instructions. Provide certification that paint was formulated within lead or mercury.

C. Submit manufacturer's fan deck of color chips for selection of colors by the Architect.

D. Samples

1. At the request of the Architect, prepare and submit paint samples on the materials he requires for approval.
2. Prepare and submit stained wood samples on the type and quality of wood specified for use on the project as requested by the Architect.

E. Submit a list of all interior paints and coatings used in the project that are addressed by the Green Seal Standard GS-11 and state the Volatile Organic Compounds (VOC) content for each product.

1.06 QUALIFICATIONS

A. Product Manufacturer: Company specializing in manufacturing quality paint and finish products with five years experience.
B. Applicator: Company specializing in commercial painting and finishing with 3 years documented experience.

1.07 REGULATORY REQUIREMENTS

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

1.08 FIELD SAMPLES

A. At the request of the Architect, provide field sample panel, one complete surface of each color scheme illustrating special coating, color, texture, finish and workmanship.

B. Locate where directed by the Architect.

C. If approved, sample area will serve as a minimum standard for Work throughout the building. Accepted sample may remain as part of the Work.

1.09 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and protect products under provisions of Section 01 60 00.

B. Deliver all paint materials to the job site ready mixed and in their original containers with all labels intact and legible at time of use.

C. Store only the approved materials at the job site, and store only in a suitable and designated area restricted to the storage of paint materials and related equipment.

D. Use all means necessary to insure the safe storage and use of paint materials.

E. All soiled or used rags, waste and trash must be disposed off site every night and every precaution taken to avoid the danger of fire.

F. All materials must be stored at above freezing temperature.

1.10 ENVIRONMENTAL REQUIREMENTS

A. Provide continuous ventilation and heating facilities to maintain surface and ambient temperatures above 45 degrees F for 24 hours before, during, and 48 hours after application of finishes.

B. Do not apply exterior coatings during rain or snow, or when relative humidity is above 50 percent.

C. Application Temperature for Paints: 50 degrees F minimum, and 95 degrees F maximum.

D. Application Temperature for Varnish and Other Natural Finishes: 65 degrees F minimum and 90 degrees F maximum.

E. Provide lighting level of 80 ft. candles measured mid-height at substrate surface.

F. Do not apply paint to areas where dust is being generated.

1.11 COORDINATION

A. Coordinate work under provisions of Section 01 31 00.

1.12 EXTRA MATERIALS

A. Furnish under provisions of Section 01 78 00 extra paint equaling approximately 10% of each color and gloss used in each coating material used, tightly sealed in clearly labeled containers.

B. The additional material shall be properly packaged for long term storage and delivered to the Owner.

PART 2 - PRODUCTS

2.01 MANUFACTURER:

A. Acceptable manufacturers:
   1. Interior Paint:
      a. Sherwin Williams
      b. Pittsburgh Paint
      c. Benjamin Moore Paint

B. Substitutions: Under provisions of Section 01 60 00.

2.02 COMPATIBILITY:

A. All paint materials and equipment shall be compatible in use; finish coats shall be compatible with prime coats; prime coats shall be compatible with the surface to be coated; all tools and equipment shall be compatible with the coating to be applied.

B. Thinners, when used, shall be only those thinners recommended for that purpose by the manufacturer of the material to be thinned.

2.03 MIXING AND TINTING:

A. Accomplish job mixing and tinting only when acceptable to the Architect. Mix only in mixing pails placed in suitable sized non-ferrous or oxide resistant metal pans.

B. Tints and all other additives or thinners shall be used only as recommended by the manufacturer of the paint and as approved by the Architect.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Prior to all work of this Section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence.

B. In the event of discrepancy, immediately notify the Architect.

C. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.02 PREPARATION:

A. General

1. Prior to all surface preparation and painting operations, completely mask, remove or otherwise adequately protect all hardware, accessories, machined surfaces, plates, lighting fixtures, and similar items in contact with painted surfaces but not schedule to receive paint.
2. Remove all existing loose, flaking and poor condition paint by scraping and then sanding surface. Sand as required to feather edges of remaining paint.
3. Spot prime all exposed nails and other metals that are to be painted with emulsion paints, using a primer recommended by the manufacturer of the coating system.
4. Surface to be painted shall be thoroughly clean and dry. All concrete and masonry work shall be completely cured.
5. All items concealing surfaces to be painted that are readily detachable shall be removed for the painting of said surface. Reinstall upon completion of space.
6. Surfaces in spaces above suspended ceilings and chases are not required to be painted unless otherwise indicated.
7. Doors shall be removed to paint the bottom edges.
8. Provide minimum of one coat of primer and minimum of two coats of finish paint. The shop priming coat, as occurring, shall substitute for the field applied primer coat.
9. Complete coverage is required. Provide additional coats to areas that do not show complete coverage.

B. Preparation of wood surfaces:

1. Clean all wood surfaces until they are free from dirt, oil, and all other foreign substance.
2. Smooth all finished wood surfaces exposed to view, using the proper sandpaper.
3. Where so required, use varying degrees of coarseness in sandpaper to produce uniformly textured and unmarred wood surfaces.
4. On small, dry, seasoned knots, thoroughly scrape and clean the surface and apply one coat of good quality knot-sealer before application of the priming coat.
5. On large, open, unseasoned knots, scrape off all pitch and thoroughly clean the area, followed by an application of one coat of good quality knot-sealer.

6. Back prime all wood mouldings and trim.
7. Fill nail holes, cracks, open joints and other defects with oil based putty after priming coat has dried. Color to match finish color.

C. Preparation of metal surfaces:

1. Metals
   a. Thoroughly clean all surfaces until they are completely free from dust, dirt, oil, loose rust and grease.
   b. All shop-primed surfaces that have been marred or abraded shall be wire-brushed and touched up with the same material as the shop coat prior to painting of surfaces.

D. Preparation of Concrete and Masonry

1. Concrete and masonry shall be repaired before painting.
2. Dirt, fungus, grease and oil shall be removed prior to application of paint by washing with a solution composed of from 2 to 8 ounces of tri-sodium phosphate per gallon of hot water and then rinsing thoroughly with fresh water.
3. Efflorescence shall be removed from concrete and masonry surfaces by scraping, wire brushing and washing with 5 to l0 percent solution of muriatic acid and then washing thoroughly with fresh water.
4. Unless otherwise recommended by the manufacturer of the paint materials as approved, all concrete and masonry surfaces to be painted shall be given a neutralizing treatment consisting of 2 pounds of zinc-sulfate in one gallon of warm water. The neutralizer shall be applied liberally and allowed to dry, following which the surfaces shall be rinsed thoroughly with clean water and allowed to dry for not less than 48 hours before paint is applied.

E. Preparation of Gypsum Wallboard

1. All surfaces must be thoroughly clean and joint treatment dry.
2. Steel corner beads shall be spot primed before water based paint is applied.
3. Do not apply solvent based coatings directly over unpainted wallboard.

3.03 APPLICATION

A. General

1. Apply all paint in accordance with manufacturer's instructions.
2. Do not apply the initial coating until moisture-meter reading of the surface is within limits recommended by the paint materials manufacturer.
3. Allow sufficient drying time between coats in accordance with manufacturer's recommendations.
4. Oil base and Oleo resinous solvent type paints shall be considered dry for recoating when the paint feels firm, does not deform or feel sticky under moderate pressure of the thumb, and the application of another coat of paint does not cause lifting or less of adhesion of the undercoat.

5. Schedule all cleaning and painting so that dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.
6. Sand, dust, and clean between coats to remove all defects visible to the unaided eye from a distance of five feet.
7. Finished surfaces shall be free from runs, drops, ridges, waves, laps, sags and unnecessary brush marks.
8. Slightly vary the color of succeeding coats.
9. Primer and intermediate coats shall be tinted to approximately the tint of finish coats.
10. Damaged painting shall be retouched before applying the succeeding coat.
11. Do not apply additional coats until completed coat has been inspected and approved by the Architect.
12. Only inspected and approved coats of paint will be considered in determining the number of coats applied.
13. Edges of paint abutting other materials or colors shall be clean and sharp with no overlapping.
14. Refinish entire wall where portion of finish has been damaged or is not acceptable.
15. Refinish all woodwork that has been removed and reset.
16. Paint all exposed, plastic drain pipes, electrical conduits, uninsulated metal piping, ceiling & wall access panels, sprinkler piping and ductwork, unless otherwise noted. Verify with Architect prior to painting these items.
17. Colors will be selected by Architect from manufacturer's full color palette.
18. Unlimited number of different colors allowed per project. Multiple colors are allowed per room. Opposite sides of door frames, window frames and doors may be painted different colors at Architect's discretion. Number of colors is to be determined by Architect and included in a color schedule that will be assembled after submittal of color sample fantex by the General Contractor prior to commencement of work.

3.04 CLEANING

A. Prevent accidental spilling of paint materials and, in event of such spill, immediately remove all spilled material, the waste of equipment used to clean up the spill, and wash the surfaces to their original undamaged condition.

B. After completion of the painting work, all glass shall be cleaned on both sides by professional window cleaners. The use of acid solution or water containing caustic soaps will not be permitted. The edge of compound shall not be disturbed by scrapers. Upon completion of contract, the glass shall be left whole, free of any defacements or rattle and shall be clean on both sides.

C. Prior to final inspection visually inspect all surfaces and remove all paint and traces of paint from surfaces not scheduled to be painted.

D. Paint storage space shall be thoroughly cleaned following the completion of all work.

E. All waste materials shall be disposed of properly and in accordance with all Federal, State, and Local regulations. Do not dispose of waste materials in the building sanitary waste system.

3.05 WASTE MANAGEMENT

A. Set aside extra paint for future color matches. All paint unused by the Contractor is to be delivered to the Owner in sealed containers.

B. Close and tightly seal all partly used paint and finish containers and store in a well-ventilated, safe area at moderate temperature.

C. Do not dispose of paints or solvents by pouring on ground. Place in designated containers for proper disposal.

3.06 PAINTING SCHEDULE

A. Interior: Based on Sherwin Williams Paints.

1. METAL
Eg-Shel / Satin Finish
1st Coat: S-W ProCryl Universal Primer, B66-310 Series (110 g/L)
(4 mils wet, 1.6 mils dry)
2nd & 3rd Coats: S-W Pro Industrial DTM Acrylic Eg-Shel B66-660 Series
(6.0 mils wet, 2.5mils dry per coat)

2. WOOD - (Walls, Ceilings, Doors, Trim,)
Eg-Shell / Satin Finish
1st Coat: S-W Premium Wall & Wood Primer B28 Series
(4 mils wet, 1.3 mils dry per coat)
2nd & 3rd Coats: S-W ProMar 200 Zero VOC Latex Eg-Shel B20-2600 Series
(4 mils wet,1.7 mils dry per coat)

3. DRYWALL - (Walls, Ceilings, Gypsum Board, etc.)
Eg-Shell / Satin Finish
1st Coat: S-W ProMar 200 Zero VOC Interior Latex Primer, B28W2600
(4 mils wet, 1.5 mils dry).
2nd & 3rd Coats: S-W ProMar 200 Zero VOC Latex Eg-Shel B20-2600 Series
(4 mils wet,1.7 mils dry per coat)

4. CEILINGS – (Gypsum Board or Plaster)
Flat Finish
1st Coat: S-W ProMar 200 Zero VOC Interior Latex Primer, B28W2600
(4 mils wet, 1.5 mils dry).
2nd & 3rd Coats: S-W ProMar Ceiling Paint Latex Flat, A27W05050 Series
(4 mils wet, 1.2 mils dry per coat).

5. GYPSUM FIBER PANELS WITH SKIMCOAT (Shower room ceilings)
   Eg-Shell Finish
   1st Coat: S-W ProMar 200 Zero VOC Latex Primer
   (4 mils wet, 1 mil dry)
   2nd & 3rd Coats: S-W Pro Industrial Water Based Catalyzed Epoxy
   (7.5 mils wet, 3.0 mils dry per coat)

6. CONCRETE BLOCK
   1st Coat: S-W Loxon Block Surfacer
   (16 mils wet, 8 mils dry)
   2nd & 3rd Coats: S-W ProMar 200 Zero VOC Latex Eg-Shel B20-2600 Series
   (4 mils wet,1.7 mils dry per coat)

END OF SECTION

SECTION 10 21 1.19

PLASTIC TOILET PARTITIONS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Furnish and install all plastic toilet partitions with doors, accessories and appurtenances, complete, in accordance with the specifications and drawings. Style to be floor mounted and overhead braced.

1.02 RELATED SECTIONS

A. Section 05 50 00 - Miscellaneous Metal Work
B. Section 09 30 13 - Ceramic Tile

1.03 SUBMITTALS

A. Submit shop drawings and product data and color samples under provisions of Section 01 33 00.

1.04 REGULATORY REQUIREMENTS

A. Meet all State and Federal Handicap Accessibility Codes.

1.05 DELIVERY, STORAGE AND HANDLING

A. Deliver, store, protect and handle products to site under provisions of Section 01 60 00.

1.06 COORDINATION

A. Coordinate work under provisions of Section 01 31 00.

1.07 WARRANTY

A. Provide a fifteen year warranty under provisions of Section 01 78 00.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. ASI Accurate Partitions Corporation

B. Other acceptable manufacturers offering equivalent products:
1. Scranton Products (Santana/Comtec/Capitol)
2. General Partitions

2.02 MATERIALS

A. Door, Panels, Pilaster and Urinal Screens

1. Shall be 1” thick (door and panels 55” high, pilasters 82” high)**.** High-Density Polyethylene (HDPE) polymer that is water resistant and non-absorbent.

2. The HDPE material shall have homogenous color throughout each component with 1/4” machined edges for uniformity. Surface finish shall resist markings from pens, pencils and other writing instruments.

3. Color to be selected by Architect from manufacturer's standard colors.
Color of plastic trim shoes to match the panels.

B. Hardware

1. Hinges:
   a. Continuous Hinge: Doors shall be hung on a continuous contact piano hinge, made of satin, anodized extruded aluminum and shall weigh not less than 1.5 pounds per foot. Knuckles shall have nylon separators. Pivot pin shall be 1/4" type 304 stainless steel. All fasteners shall be 3/4" tamperproof screws located 8" on-center on door and pilaster. Fasteners shall be concealed under a snap-on cover. Cover shall be fastened top and bottom with 5/8" stainless steel tamperproof screws. Hinge shall have internal spring which is adjustable to hold door open or closed as required.

2. Brackets: All panel brackets are to be continuous, full height, Satin anodized Type 6463-T5 aluminum, attached with tamperproof screws. Panels and bracket connection shall be through bolted with tamper resistant barrel nuts and shoulder screws.

3. Latches: All slide latches, strikes, door pulls, keepers and coat hook/bumpers are to be manufacturer's standard hardware with a brushed aluminum alloy to resist corrosion and through bolted with tamper resistant barrel nuts and shoulder screws. Latches for accessible toilet compartments are to meet all state code requirements for accessibility.

4. Compartments shall be supplied with all hardware and fasteners for a complete installation.

C. Construction Design

1. Partitions shall be anchored to the floor with a 1/4” x 1” stainless steel mounting bar attached to the bottom of the pilaster. Floor anchoring system shall be secured to the floor with 3/8” stainless steel anchors. The mounting system shall be capable of leveling as required.
   a. The mounting system shall be concealed by molded plastic trim shoes secured with two metal clips incorporated into the floor anchor assembly. Color of plastic trim shoes to match the panels.
   b. Provide clear satin anodized aluminum heat sink channel along bottom edge of all partition panels and doors.

2. Aluminum headrail with anti-grip profile shall provide overhead bracing and span all compartments and brace the end pilaster to the back wall. Aluminum to be clear satin anodized.

3. Urinal screens are to be attached to the wall with a continuous aluminum bracket and floor to ceiling mounted with a 1 ¾” x 1 ¾” aluminum post. Provide structure above ceiling as required to rigidly brace post. Screen size to be 28” x 55” unless noted otherwise on drawings.

PART 3 – EXECUTION

3.01 INSTALLATION

A. Install partitions rigid, straight, plumb and level in accordance with manufacturer’s instructions. Set units with not more than 1/2" between pilasters and panels and not more than 3/4" between panels and walls.

B. Secure to structural concrete floor and walls with tamperproof screws and conical plastic anchors (Provide 2" x 6" wood blocking for fastening partitions to drywall construction).

C. Evidence of drilling in floors and walls shall be concealed in the finished work.

D. Adjust and lubricate hardware for proper operation after installation.
   1. Hinges on in-swing doors are factory set to hold doors in the open position when unlatched as shown on drawings.
   2. Hinges on out-swing doors are factory set to return to the fully closed position.

3.02 CLEANING

A. Clean work under provisions of Section 01 70 00.

B. Remove protective plastic coating.

C. Clean exposed surfaces of compartment systems using materials and methods recommended by manufacturer, and provide protection as necessary to prevent damage during remainder of construction period.

END OF SECTION

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SECTION 10 28 13

TOILET ROOM ACCESSORIES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. The furnishing and installation of toilet room accessories as shown on drawings and herein specified.

1.02 RELATED SECTIONS

A. Section 09 21 16 – Steel Framed Drywall Systems

B. Section 10 21 13.19 Plastic toilet partitions

1.03 SUBMITTALS

A. Submit under provisions of Section 01 33 00

B. Product data: Include manufacturer's illustration of item and installation instructions.

C. Samples: Provide one sample of item if requested by the Architect. (Sample will be returned)

1.04 QUALITY CONTROL

A. Work is to be performed in accordance with Section 01 45 00.

1.05 REGULATORY REQUIREMENTS

A. Conform to all applicable Federal, State and local codes and laws including the state accessibility code for location and height requirements.

1.06 DELIVERY, STORAGE AND HANDLING

A. Deliver, store, protect, and handle products to site under provisions of Section 01 60 00.

1.07 FIELD MEASUREMENTS

A. Verify that field measurements are as indicated on drawings. Any inconsistencies or conflicts shall be reported to the Architect prior to installation.

1.08 COORDINATION

A. Coordinate work under provisions of Section 01 31 00.

B. Coordinate the work with finish installers, and contractor for all wall openings, blocking, anchors, etc.

C. NOTE: The Owner will supply the surface mounted soap dispensers and toilet tissue dispensers from their Vendor. Coordinate with the Owner for receipt of these items. Contractor is to install them in locations shown on the drawings and as listed in this section's schedule. All installations are to meet state accessibility code location and height requirements. Contractor is to provide all blocking as required in stud walls.

1.09 WARRANTY

A. Provide warranty under provisions of Section 01 78 00.

B. The bathroom accessories shall be warranted for one year from the date of purchase.

1.10 OPERATION AND MAINTENANCE

A. All keys, tools and instruction sheets supplied by the manufacturer are to be turned over to the owner.

PART 2 - PRODUCTS

2.01 MANUFACTURER

A. Bobrick Washroom Equipment, Inc. (except where noted)

B. Other acceptable manufacturers offering equivalent products.
1. American Specialties, Inc.
2. A&J Washroom Accessories, Inc.

2.02 PRODUCT LIST

A. Rectangular Mirror (Bobrick B-2908 or ASI 0600-B) - Stainless steel angle frame with tempered glass mirror. Provide concealed wall hanger with theft resistant locking device.

B. Oval Mirror Elevate Framed Oval Mirror by Gatco. Item Number : 4079FLG (or equal)
25 inch by 33 inch oval, satin nickel finish framed oval mirror mounted to wall from two stand-out brackets.

C. Grab Bars
1. All grab bars are of 18 gauge, 1-1/2" diameter, all satin finish, concealed mounting plate and theft resistant screws. (ASI has a snap-on flange cover)
a. Straight grab bar (Bobrick B-6806 or ASI 3801)

D. Feminine napkin disposal
(Bobrick B-270 or ASI Type 20852) surface mounted

E. Medicine cabinet
Bobrick B-398 recessed, stainless steel with satin finish and mirror, piano hinge, four adjustable st. st. shelves.

F. Shower curtain
Shower curtain material is to be Sure-Chek linen as manufactured by Herculite, Inc. or equal. Color as selected by Architect from manufacturer's standard colors.
Material to be flame resistant meeting or exceeding Federal Specifications. Material shall also be stain resistant, antistatic, odor resistant, and antimicrobial.

G. Janitor's shelf and hook strip
(Bobrick B-239 or ASI Type 1308-3) 34” long with shelf, 3 rubber mop holders and 4 hooks

H. Robe hook
(Bobrick B-6707 or ASI Type 7340)

I. Baby Changing Station
(Koala Kare Model KB200, horizontal, polypropylene, surface mounted - Color selected by Architect from manufacturer’s four standard colors)

J. Electric Hand Dryer
Bobrick B750 – 115V AirCraft (or equal) recessed hand dryer with white enamel finish.
Install electric hand dryer in accordance with manufacturer’s written instructions, using fasteners appropriate to substrate indicated and recommended by manufacturer. Install electric hand dryers level, plumb, and firmly anchored and mounted in locations and at heights indicated and as required to meet the Accessibility Code.

2.03 MATERIALS

A. Sheet Steel: ASTM A366, cold rolled stretcher leveled; 125 oz/sq. ft. galvanized coating.

B. Stainless Steel Sheet: ASTM A167, commercial grads, 22 gauge.

C. Stainless Steel Tubing: ASTM A269, commercial grade, seamless welded.

D. Adhesive: Epoxy type contact cement.

E. Fasteners, Screws, and Bolts: Hot dip galvanized. Expansion Shields: Fiber, lead, or rubber as recommended by accessory manufacturer for component and substrate.

2.04 FINISHING

A. All accessories shall be stainless steel with a satin finish except if specified otherwise in the schedule.

PART 3 - EXECUTION

3.01 PREPARATION

A. Provide rough-in dimensions and/or templates to site as required.

B. Verify exact location of accessories with the Architect prior to installation.

C. Provide all blocking, backup, anchors, mounting kits, etc. as required to install accessories.

3.02 INSTALLATION

A. Install accessories in accordance with manufacturer's specifications and instructions.

B. Install accessories plumb, square and level.

C. Accessories shall be anchored securely.

D. All items shall be attached with theft resistant fasteners.

3.03 CLEANING

A. Clean work under provisions of Section 01 70 00.

B. Protective plastic cover shall remain on accessories until all finishes and tile cleaning is completed.

C. Upon installation and cleaning by all other trades, the protective covers may be removed and the accessories cleaned as recommended by the manufacturer.

D. Do not use steel wool or other abrasives on stainless steel.

3.04 ACCESSORY SCHEDULE

Men’s Room 001

2	Oval mirrors
1	42” grab bar
1	36” grab bar
1	18” grab bar
1	Electric Hand Dryer
1	soap dispenser (Supplied by Owner)
1	toilet tissue dispenser (Supplied by Owner)

Women's Room 003

4	Oval mirrors
1	42" grab bar
1	36" grab bar
1	18" grab bar
2	Electric Hand Dryers
3	feminine napkin disposals
3	soap dispensers (Supplied by Owner)
3	toilet tissue dispensers (Supplied by Owner)

Janitor Closet 004

1	Janitor's shelf and hook strip

Men's Room 100

3	Rectangular mirrors 18"W x 30"H
3	42" grab bars
1	36" grab bar
3	18" grab bars
2	Electric Hand Dryers
1	Baby Changing Station
2	soap dispensers (Supplied by Owner)
3	toilet tissue dispensers (Supplied by Owner)

Family Toilet 102

1	Rectangular mirror 18"W x 30"H
1	42" grab bar
1	36" grab bar
1	18" grab bar
1	Electric Hand Dryer
2	Robe hooks
1	Baby Changing Station
1	soap dispenser (Supplied by Owner)
1	toilet tissue dispenser (Supplied by Owner)

Women's Room 103

4	Rectangular mirrors 18"W x 30"H
1	42" grab bar
1	36" grab bar
1	18" grab bar
2	Electric Hand Dryers
4	feminine napkin disposals
1	Baby Changing Station
3	soap dispensers (Supplied by Owner)
4	toilet tissue dispensers (Supplied by Owner)

Toilet Room 107
Toilet Room 110
DMV Toilet 114

NOTE: See Deduct Alternate No. 1

Each to have:

1	Medicine cabinet
1	Electric Hand Dryer
1	Robe Hook (install on back of door)
1	soap dispenser (Supplied by Owner)
1	toilet tissue dispenser (Supplied by Owner)

Men's Room 200

3	Oval mirrors
3	42" grab bars
1	36" grab bar
3	18" grab bars
2	Electric Hand Dryers
2	soap dispensers (Supplied by Owner)
3	toilet tissue dispensers (Supplied by Owner)

Family Toilet Room 202

1	Medicine cabinet
2	Robe hooks
1	Shower Curtain
1	42" grab bar
1	36" grab bar
1	18" grab bar
1	Electric Hand Dryer
1	Baby Changing Station
1	Soap dispenser (Supplied by Owner)
1	toilet tissue dispenser (Supplied by Owner)

Women's Room 203

4	Oval mirrors
1	42" grab bar
1	36" grab bar
1	18" grab bar
2	Electric Hand Dryers
4	feminine napkin disposals
3	soap dispensers (Supplied by Owner)
4	toilet tissue dispensers (Supplied by Owner)

Unisex Toilet 204

1	Oval Mirror
1	Electric Hand Dryer
1	Robe Hook (installed on back of door)
1	soap dispenser (Supplied by Owner)
1	toilet tissue dispenser (Supplied by Owner)

END OF SECTION

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SECTION 11 06 00

MISCELLANEOUS EQUIPMENT AND PRODUCTS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Miscellaneous equipment not requiring a separate specification section.

1.02 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

B. Submit shop drawings, product data, and samples as required.

1.03 OPERATION AND MAINTENANCE DATA

A. Submit under provisions of Section 01 78 00.

1.04 QUALIFICATIONS

A. The manufacturer and installer's companies must have specialized in the products specified in this section with a minimum of 3 years documented experience.

B. The installer must be approved by the manufacturer.

1.05 REGULATORY REQUIREMENTS

A. The product and installation of product shall comply with all Local, State, and Federal codes.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, protect, and handle products to site under provisions of Section 01 60 00.

1.07 FIELD MEASUREMENTS

A. Field verify all dimensions prior to fabrication of product.

1.08 COORDINATION

A. Coordinate work under provisions of Section 01 31 00.

B. Coordinate installation of product with other trades.

1.09 WARRANTY

A. Provide warranty under provisions of Section 01 78 00.

B. Provide standard length manufacturer's warranties with a minimum one year warranty.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Provide manufacturer and product specified in schedule.

B. Substitutions: Under provisions of Section 01 60 00.

2.02 FINISHES

A. Finish shall be as specified in schedule.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Field verify all dimensions prior to product purchase or fabrication.

B. Verify and coordinate any possible obstructions. Notify architect of any inconsistencies prior to fabrication.

3.02 PREPARATION

A. Prepare all surfaces and/openings as required to accept product.

3.03 INSTALLATION

A. Install product in accordance with manufacturer's specifications and instructions.

B. Install product plumb, square, and level.

3.04 CLEANING

A. Clean work under provisions of Section 01 70 00.

3.05 DEMONSTRATION

A. Provide demonstration under provisions of Section 01 70 00.

3.06 PROTECTION OF FINISHED WORK

A. Protect finished work under provisions of Section 01 70 00.

3.07 SCHEDULE

A. ARCHITECTURAL WINDOW FILM
1. Manufacturer: 3M Company
2. Model: 3M CRYSTAL Glass Finishes, Frosted Decorative / Privacy Glazing Film:
3. Quantity: One in Toilet Room 107. Verify window size at site. (Approximately 4’ wide x 6’-0” high)
4. Glass finishes field-applied, interior application to glass as visually translucent or decorative film.
5. Film: Vinyl
6. Adhesive: Acrylic, Pressure Sensitive, Permanent
7. Liner: Silicone-coated Polyester
8. Thickness (Film and Adhesive without Liner): 4.7 mils
9. Fire Performance: Surface burning characteristics when tested in accordance with ASTM E84, Meets Class A.
10. Performance
    a. Ultraviolet Transmittance (ASTM E 903): 20 percent.
    b. Visible Light Transmittance (ASTM E 903, ASTM E308): 72 percent.
    c. Visible Light Reflectance (ASTM E 903): 12 percent.
    d. Solar Heat Transmittance: 64 percent.
    e. Solar Heat Reflectance: 10 percent.
    f. Shading Coefficient at 90 Degrees (Normal Incidence) (ASTM E 903): 0.82.
11. Prepare glass and install in accordance with manufacturer's instructions. Cover entire glass surface and provide sharp, straight edges against the aluminum sash or frame.
12. Remove air bubbles, wrinkles, blisters and other defects. Use approved procedures to prevent the formation of air bubbles, wrinkles, blisters and other defects.

END OF SECTION

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SECTION 12 21 13

ROLL-UP WINDOW SHADES

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes: Manually operated, roll-up fabric window shades including mounting and operating hardware.

B. Related Specification Section: 01 22 00 - Alternates

1.02 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

1. List of proposed products and product data.

2. Shop drawings showing window openings, dimensions, and attachment method.

3. Samples of fabrics and metal finishes.

4. Window Shade Schedule listing rooms, field verified window dimensions, quantities, type of shade, fabric, and color.

5. Manufacturer's installation and maintenance instructions.

1.03 QUALIFICATIONS

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

1.04 REGULATORY REQUIREMENTS

A. Conform to all applicable Federal, State and local codes and laws.

B. Fabric must meet state fire retardant requirements.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, protect and handle products to site under provisions of Section 01 60 00.

B Do not deliver window shades until building is enclosed and construction within spaces where shades will be installed is substantially complete.

C. Deliver products in manufacturer's original, unopened, undamaged containers with labels intact.

D. Label containers and shades according to Window Shade Schedule.

1.06 FIELD MEASUREMENTS

A. Verify that field measurements are as indicated on drawings. Any inconsistencies shall be reported to the architect prior to installation.

1.07 WARRANTY

A. Provide under provisions of Section 01 78 00: 5 years warranty against defects in materials and workmanship for clutch operating mechanism.

PARTS 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Draper, Inc.
1. Model: Flexshade

B. Substitutions: Under provisions of Section 01 60 00.

2.02 MANUALLY OPERATED WINDOW SHADES

A. Type: Manually operated, vertical roll-up, fabric window shade with bead chain and clutch operating mechanism, mounting brackets, fasteners, and other components necessary for complete installation.

B. Method of installation: Mounted inside of window opening and extending from head to sill and jamb to jamb.

C. Operation: Bead chain and clutch operating mechanism allowing shade to stop when chain is released. Designed never to need adjustment or lubrication. Provide preset limit stops to prevent shade from being raised or lowered too far.

1. Clutch mechanism: Fabricated from high carbon steel and molded fiberglass reinforced polyester or injected molded nylon.

2. Control loop: nylon bead chain hanging at side of window. Color selected by Architect from manufacturer's standard colors.

3. Chain location: Right hand side when facing window from interior.

D. Shade size: As required for size of windows indicated on Drawings. Verify dimensions of windows at site prior to fabrication. Approximate window size is 4'-0" wide x 6'-0" high

E. Roller: Fabricated from extruded aluminum, galvanized steel, or enameled steel. Diameter, wall thickness, and material selected by manufacturer to accommodate shade type and size. Provide roller idler assembly of molded nylon and zinc-plated steel pin. Provide sliding pin to allow easy

installation and removal of roller.

F. Brackets: Plated stamped steel suitable for mounting to wall or jamb. Provide size compatible with roller size and with fasteners appropriate for installation conditions. Provide bracket covers.

G. Provide 3 7/8" fascia with associated endcaps. Color as selected by Architect from manufacturer's standard colors.

H. Shade slat: Minimum 1/8 by 1 inch aluminum slat encased in heat seamed hem.

2.03 FABRIC

A. Material: SheerWeave Series SW2400, SW2900 or SW2600 as selected by Architect. Meets NFPA 701 fire rating.
   1. PVC coated fiberglass, woven into a full. 35% fiberglass, 65% vinyl on fiberglass. Series models indicate openness 3%, 5% and 10% respectively. Average 11.25 oz./ sq. yd., .017" thick.

B. Color: As selected by Architect from manufacturer's standard colors.

PART 3 - EXECUTION

3.01 PREPARATION

A. Field verify window dimensions prior to fabrication.

B. Coordinate requirements for blocking and structural supports to ensure adequate means for installation of window shades.

3.02 INSTALLATION

A. Install window shades at locations indicated in window shade schedule and approved shop drawings.

B. Install in accordance with shade manufacturer's written instructions and approved shop drawings.

3.03 ADJUSTING AND CLEANING

A. Operate shade through complete cycle of lowering, stopping, and rising to ensure proper operation. Adjust as required for smooth operation.

B. Clean shade assemblies and protect from damage from construction operations. If damage occurs, remove and replace damaged components or entire unit as required to provide units in their original, undamaged condition.

C. Clean under provisions of Section 01 70 00.

3.04 PROTECTION OF FINISHED WORK

A. Protect finished product and work under provisions of Section 01 70 00.

3.05 WINDOW SHADE SCHEDULE

A. Provide shades full height on all exterior windows in Room 107.
(See Alternate No. 1)

END OF SECTION

SECTION 12 32 16

PLASTIC LAMINATE CASEWORK

PART 1 - GENERAL

1.01 SUMMARY

A. Related Documents:
The Drawings and general provisions of the Contract, including General and Supplementary General Conditions, and Division 1 Requirements, apply to the work in this Section.

1.02 SECTION INCLUDES

A. Provide and install all plastic laminate casework, countertops and accessory items as specified herein. Refer to plans for specific details and requirements.

1.03 RELATED SECTIONS

A. Section 06 20 10 – Carpentry and Millwork
B. Section 06 61 16 - Solid Surfacing Material (Quartz)
C. Section 09 65 00 - Resilient Flooring
D. Division 22 - Plumbing

1.04 SUBMITTALS

A. Submit product data, design data and test reports under provisions of Section 01 33 00.

B. Submit shop drawings indicating materials, dimensions, cabinet-cut details, and sink locations.

C. Samples of colors shall be submitted for selection and coordination with other suppliers. Architect may request and retain samples and catalog cuts as required for accessory and special items.

D. Full-sized sample of base cabinet with door and drawer is to be submitted for review and retained until completion of job for verification and compliance of specifications.

E. Sustainable Design Submittals:
1. Provide documentation indicating percentages of post-consumer and pre-consumer recycled content.
2. Identify each regional material along with the location of its harvest, extraction, or manufacture.
3. Submit documentation indicating all wood that originates from forests certified by a Forest Stewardship Council (FSC) accredited certification organization.

1.05 QUALIFICATIONS

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

B. Installer: Company specializing in performing the work of this section with minimum five years documented experience approved by the manufacturer.

1.06 REGULATORY REQUIREMENTS

A. Conform to all local, state, and federal codes.

B. Conform to the RI State Building Code requirements for accessibility. The following special requirements shall be met, unless noted otherwise on the architectural drawings.
1. Countertop height: With or without cabinet below, not to exceed a height of 34 inches A.F.F., (Above Finished Floor), at a surface depth of 24 inches.
2. Kneespace clearance: Shall be minimum 29 inches A.F.F. at apron, and 30 inches clear span width.
3. 12 inch deep shelving, adjustable or fixed: Not to exceed a range from 9 inches A.F.F. to 48 inches A.F.F.
4. Wardrobe cabinets: Shall be furnished with rod/shelf adjustable to 48 inches A.F.F. at a maximum 21 inch shelf depth.
5. Sink cabinet clearances: In addition to above, upper kneespace frontal depth shall be no less than 8 inches, and lower toe frontal depth shall be no less than 11 inches, at a point 9 inches A.F.F.
6. Provide a removable angled knee panel at all accessible sinks

1.07 PERFORMANCE REQUIREMENTS

A. The cabinets shall meet certified product test data in accordance with ANSI A161.1-1980, NEMA LD3-2000, and general static load testing performed and certified by an independent testing agency, covering the following areas of product performance, with these minimum results:
1. Base cabinet construction/racking test: 800 lbs.
2. Cabinet front joint loading test: 425 lbs.
3. Wall cabinet static load test: 2,000 lbs.
4. Drawer front joint loading test: 600 lbs.
5. Drawer construction/static load test: 750 lbs.
6. Cabinet adjustable shelf support device/static load test: 300 lbs.

B. Lamination System: Doors, finished end panels, and other decorative exterior laminate surfaces shall be laminated exterior with .030 inch high-pressure plastic laminate, and interior with .020 inch high-pressure cabinet liner. Lamination with hybrid P.V.A. Type III water resistant adhesive.

C. Structural Cabinet Body: Cabinet backs shall be minimum 1/2 inch thick, inset from rear of body, and fully bound (dadoed) four sides. Provide 3/4 inch thick stiffeners fastened to back/body as specified herein. Back perimeter shall be toe-nailed with mechanical fasteners for tight interior fitment and direct connection of back panel to body, and sealed with full-perimeter high-strength hot-melt adhesive.

D. Interior Structure: All cabinets over 36 inches wide shall be furnished with a mechanically fastened, yet removable, vertical divider to reduce horizontal member/shelf deflection. Wall cabinets shall have a clear inside nominal depth of 12 inches unless detailed otherwise.

E. Shelf Loading: Shelves shall meet the loading/deflection standards of the National Particleboard Association.

F. Structural Drawer Body: Drawer body shall be doweled with 1/2 inch typical bottom, recessed, fully bound (dadoed) and joint-glued all four sides. Provide under body stiffeners as specified herein.

G. Structural Cabinet Support: Cabinet sub-base shall be of a separate and continuous ladder-type platform design, leveled and floor mounted prior to cabinet body placement. Material shall be exterior grade plywood. No cabinet sides-to-floor will be allowed.

H. Quality Standard: Comply with the requirements for modular cabinets in AWI's "Architectural Woodwork Quality Standards."
   1. Provide AWI Quality Certification Program labels and certificate indicating that manufactured wood casework complies with requirements.

I. Formaldehyde binders are not allowed.

J. All adhesives are to be low VOC.

K. All wood components are to originate from forests certified by a Forest Stewardship Council (FSC) accredited certification organization.

1.08 DELIVERY, STORAGE HANDLING

A. Deliver, store, protect and handle products at and to site under provisions of Section 01 60 00.

B. Casework shall be protected in transit. Store under cover in a ventilated building not exposed to weather or extreme temperature and humidity changes. Do not store or install casework in building until concrete, masonry, and drywall/plaster work is dry.

1.09 FIELD MEASUREMENTS

A. Verify that field measurements are as indicated on the shop drawings prior to fabrication.

1.10 COORDINATION

A. Coordinate work of this Section with related work of other Sections as necessary to obtain proper installation of all items under provisions of Section 01 31 00.

1.11 WARRANTY

A. Provide warranty under provisions of Section 01 78 00.

B. All materials shall be guaranteed for a period of 5 years from manufacturer's defects and workmanship.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Subject to compliance with requirements of this Specification Section, provide products listed

herein from one of the following:
1. Case Systems
2. LSI Corporation of America, Inc. a division of Stevens Industries
3. Product custom manufactured to the specifications noted herein.

B. Basis of Design: LSI Corporation of America, Inc. a division of Stevens Industries

C. Substitutions: Under provisions of Section 01 60 00.

2.02 MATERIALS

A. Laminated Plastics/Finishes:
1. High-pressure plastic laminate, .030 inch in thickness, for exterior surfaces shall meet NEMA LD3-2000 VGL standards including thickness.
2. High-pressure plastic laminate color Selection Available:
   a. Standard finish from casework manufacturer's standard stock colors. Minimum of 200 selections available.
   b. Unlimited number of different colors and patterns allowed per project. Number of colors and patterns to be determined by Architect and included in color schedule.
3. Plastic Laminate Balancing Sheet: White high-pressure cabinet-liner, .020 inch in thickness shall meet NEMA LD3-2000 CLS standards. Use for balancing exterior surface laminates.
4. Countertop High-Pressure Plastic Laminate:
   a. High-pressure plastic laminate, .050 inch thickness Color as selected from manufacturer's stock standard patterns and solid colors.
   b. Heavy gauge neutral colored backing sheet for balanced construction.
5. Pressure Fused Laminate:
   a. Melamine resin impregnated, 120 gram PSM minimum, thermofused to core under pressure.
   b. Shall meet NEMA LD3-2000 VGL standards and NEMA LD3-2000 CLS standards.
   c. White pressure fused laminate for cabinet interiors behind door and drawers, and underside of wall cabinets.
      The interiors of all open cabinets and behind glass doors are to be finished with .030 inch high-pressure plastic laminate. Color selected by Architect from manufacturer's standard colors.
   d. Shall be balanced at all concealed surfaces with same thermofused melamine. Unsurfaced coreboard or simple backers not allowed.

B. Core:

1. Particleboard to be of 47 lb. density, and balanced 3-ply construction with moisture content not to exceed 8%. Particle board shall conform to ANSI A208.1-1993, type M-3.

2. Cabinet components shall be of the following minimum core thicknesses:
   a. 1/2 inch: cabinet backs, drawer body, and drawer bottoms.
   b. 3/4 inch: door and drawer face, base, wall, and tall cabinet tops and bottoms, cabinet sides, drawer spreaders, cabinet back rear hangstrips, structural dividers, exposed cabinet backs, and shelves in cabinets.

c. 1 inch: product-specific work surfaces and library stack shelving unless stack is fitted with vertical divider.

C. Edging types:
1. FlatEdge PVC. .020 inch. Solid, high-impact, purified, color-thru, acid resistant PVC edging machine-applied with hot melt adhesives, automatically trimmed face, back and corners for uniform appearance. Manufacturer's option of .030 inch high-pressure plastic laminate if PVC match is unavailable.
2. 3 mm thick PVC. Solid, high-impact, purified, color-thru, acid resistant, pre-lamination primed edging, machine-applied with hot melt adhesives, automatically trimmed, inside/outside length-radiused for uniform appearance, buffed and corner-radiused for consistent design.

D. Edging Locations. Provide the above specified edging types at the following locations.
1. Door/Drawer-Front edging: 3mm PVC
Color and pattern of PVC is to match the color and pattern of the adjacent plastic laminate casework doors and drawers. Submit sample to be approved by Architect.
2. Cabinet body edge, including door/drawer front spacer rail: FlatEdge PVC. Color selected from standard colors.
3. Forward edge of interior body components, interior dividers, shelf, and top edges of drawer body: FlatEdge PVC to match cabinet interior surface color.

E. Hardware
1. Hinges:
a. Heavy duty, five knuckle 2 3/4 inch institutional type hinge shall meet ANSI/BHMA A156.9 Grade 1 requirements. Mill ground, hospital tip, Teflon coated tight pin feature with all edges eased. Hinge shall be full wrap around type .095 inch thick steel. Each hinge shall have minimum of 9 screws, #7, 5/8 inch FHMS to assure positive door attachment.

b. Finish shall be LH-301 ChromeCoat Powder Finish.

2. Pulls:
a. Amerock (or equal), Model: Creased Bow, Part No. BP27016AA, overall length is4 9/16 inches long, finish is anodized aluminum.

3. Drawer Slides:
a. Drawers up to 24" wide:
Knape & Vogt model 8417 (or equal), full extension, self-closing design, ball bearing, epoxy powder coated white finish.
Minimum 100 lb dynamic load rating at 50,000 cycles.
Drawers 24" to 36" wide and file drawers:
Provide Knape & Vogt model 8500 (or equal), heavy duty, full extension, hold-in anti-rebound, ball bearing, anochrome finish.
Minimum 150 lb dynamic load rating at 50,000 cycles.

4. Catches: Catch shall provide opening resistance in compliance with the Americans with Disabilities Act.
a. Provide top-mounted magnetic catch at each base and wall cabinet door.
b. Provide two magnetic catches at each tall cabinet door.

c. Provide one magnetic catch on both leafs of double door base and wall cabinets.
d. Catch housing shall be molded in White.

5. Adjustable Shelf Supports: Shall be LH-354 twin pin design with anti tip-up shelf restraints for both 3/4 inch and 1 inch shelves. Design shall include keel to retard shelf slide-off, and slot for ability to mechanically attach shelf to clip. Load rating shall be minimum 300 lbs. each support without failure. Cabinet interior sides shall be flush, without shelf system permanent projection.

6. Locks: Shall be disc tumbler lock keyed alike per room and master keyed. Dull chrome finish.
   a. Hinged doors and drawers National Lock No. M4-7054.
   b. On all double leaf door base and wall cabinets with a lock, the inactive door is to be secured with an elbow catch or a chain bolt for tall cabinets.
   Both doors will still have a magnetic catch.
   c. Provide a lock on <u>all</u> doors and drawers.

G. Detailed Requirements For Cabinet Construction:

1. Sub-Base:
   a. Cabinet sub-base shall be separate and continuous (no cabinet body sides-to-floor), water resistant exterior grade plywood with concealed fastening to cabinet bottom. Ladder-type jobsite construction of individual front, back, and intermediates, are to form a secure and level platform to which cabinets attach.
   b. Sub-base at exposed cabinet end panels shall be recessed 1/4 inch from face of finished end, for flush installation of finished base material by other trades.

2. Cabinet Top and Bottom:
   a. Solid sub-top shall be furnished for all base and tall cabinets.
   b. At cabinets over 36 inches, bottoms and tops shall be mechanically joined by a fixed divider.
   c. Exterior exposed wall cabinet bottoms shall be Pressure Fused white laminate both sides. Assembly devices shall be concealed on bottom side of wall cabinets.

3. Cabinet Ends:
   a. Holes drilled for adjustable shelves 1 1/4 inches on center.
   b. Exposed exterior cabinet ends shall be laminated with high-pressure plastic laminate, balanced with high-pressure cabinet-liner interior surface.

4. Fixed and Adjustable Shelves:
   a. Thickness shall be 3/4 inch.
   b. All shelves are to be <u>full depth</u> of cabinet.

5. Cabinet Backs:
   a. Cabinet back shall be fully bound (dadoed) into sides, top, and bottom, recessed 7/8 inch from cabinet rear. Rear, unexposed, side of back shall be toe-nailed to cabinet body with mechanical fasteners and solidified with a continuous bead of industrial grade hot melt adhesive.
   b. Hang rails shall be located at rear of cabinet back and fastened to cabinet sides. Provide minimum of 2 at base, 2 at wall, and 3 at tall cabinets.

c. Exposed exterior backs shall be high-pressure plastic laminate balanced with high-pressure cabinet-liner.

6. Door and Drawer Fronts:
   a. Laminated door and drawer fronts shall be 13/16 inch thick for all hinged and sliding doors. Drawer fronts and hinged doors shall overlay the cabinet body. Maintain a maximum 1/8 inch reveal between pairs of doors, between door and drawer front, or between multiple drawer fronts within the cabinet.
   b. Stile and Rail doors shall be 13/16 inch thick with full 1/4 inch plate glass. Available hinged or sliding. All exposed lite-opening edges shall be trimmed and glazed with extruded glazing bead.
   c. Frameless sliding glass doors shall be 1/4 inch thick plate glass with ground and polished edges. Fit with anodized aluminum shoes and nylon rollers.

7. Drawers:
   a. Drawer fronts shall be applied to separate drawer body component sub-front.
   b. Drawer sides shall be doweled and glued to receive front and back, machine squared and held under pressure, to set.
   c. Drawer bottom shall be fully bound (dadoed) into front, sides, and back. Routing, in drawer body for bottom, shall receive continuous glue. Reinforce drawer bottoms with 1/2 inch x 4 inch front-to-back intermediate underbody stiffeners, mechanically fastened. One at 24 inches, two at 36 inches, and over.
   d. Paper storage drawers shall be fitted with full width hood at back.

8. Vertical and Horizontal Dividers: One of the following as indicated by cabinet number:
   a. Natural hardboard 1/4 inch thick, smooth both faces. Secured in cabinet with molded plastic clips.
   b. Pressure Fused laminate 3/4 inch thickness. Sub-dividers secured in cabinet with molded plastic clips or dowels. Structural dividers in cabinets over 36 inches wide secured in cabinet with mechanical euro fasteners.

9. Door/Drawer Front Rail: Provide minimum 3/4 inch x 6 inch x full width cabinet body rails immediately behind all door/drawer and multiple drawer horizontal joints to maintain exact body dimensions, close off reveal, and be locator for lock strikes.

10. Open wall, base and tall cabinets are to be finished on all interior surfaces, including dividers and shelves, with .030 inch high-pressure laminate, color as selected from casework manufacturer's standards. Pressure Fused Laminate is not acceptable.

H. Workmanship:
   1. All exposed exterior cabinet surfaces shall be .030 inch high-pressure laminate, color as selected from casework manufacturer's standards. Laminate surface/balancing liner to core under controlled conditions by approved and regulated laminating methods to assure a premium lamination. Natural-setting hybrid P.V.A. Type III water resistant adhesives that cure through chemical reaction, containing no health or environmentally hazardous ingredients, are required. Methods requiring heat are not allowed; "contact" methods of laminating are not allowed.
   2. Cabinet parts shall be accurately machined and bored for premium grade quality joinery construction utilizing automatic machinery to insure consistent sizing of modular components. End panels shall be doweled to receive bottom and top.

3. Back panel shall be fully bound (dadoed) into, and recessed 7/8 inch from the back of cabinet sides, top, and bottom to insure rigidity and a fully closed cabinet. Cabinet back shall be mechanically fastened from rear of body for tight interior fit and sealed with full-perimeter high-strength hot-melt adhesive.
4. Drawer bottom shall be fully bound (dadoed)and glued into and recessed 1/2 inch up from the bottom of sides, back, and sub-front. Sides of drawer shall be doweled to receive drawer back and sub-front.
5. 3/4 inch thick hang rails shall be mechanically fastened to end panels of all wall, base, and tall cabinets for extra rigidity and to facilitate installation.
6. All cases shall be square, plumb, and true.
7. Provide removable back panels and closure panels for plumbing access at all sink cabinets,

PART 3 - EXECUTION

3.01 EXAMINATION

A. Coordinate work of this Section with related work of other Sections as necessary to obtain proper installation of all items.

B. Verify site dimensions of cabinet locations in building prior to fabrication.

3.02 INSTALLATION

A. Install casework in accordance with manufacturer's instructions.

B. Erect casework straight, level and plumb and securely anchor in place. Scribe and closely fit to adjacent work. Cut and fit work around pipes, ducts, etc.

C. Install all items complete and adjust all moving parts to operate properly.

D. Leave surfaces clean and free from defects at time of final acceptance.

E. Rubber or vinyl coved base is to be installed at toe space of base cabinets. Color and material is to match base on adjacent walls unless noted otherwise.

3.03 MANUFACTURER'S FIELD SERVICES

A. Install casework under the supervision of the manufacturer's representative.

3.04 CLEANING

A. Clean work under provisions of Section 01 70 00.

B. Remove all cartons, debris, sawdust, scraps, etc. and leave spaces clean and all casework ready for Owner's Use.

3.05 PROTECTION OF FINISHED WORK

A. Protect finished work under provisions of Section 01 70 00.

END OF SECTION

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SECTION 22 00 00

PLUMBING

PART 1 – GENERAL

1.01 GENERAL PROVISIONS

A. The Drawings and general provisions of the Contract, including General Conditions, and Division 1 Requirements, apply to the work in this Section.

B. Examine all conditions as they exist at the project, prior to submitting a bid for the work of this section.

1.02 DESCRIPTION OF WORK

A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

1. Plumbing Fixtures and Accessories.
2. Hot and Cold water connection
3. Sanitary waste and vent system
4. Valves.
5. Floor drains.
6. Insulation.
7. Hangers, supports and attachments.
8. Disinfection of water piping
9. All cutting, core drilling and channeling for plumbing equipment for holes 5” in diameter or less.
10. Fire Stopping for plumbing pipe penetration in fire rated construction.
11. Coordination drawings and record drawings and similar requirements.
12. Hoisting Equipment: The Plumbing subcontractor shall furnish, install and maintain in safe and adequate condition all mechanical hoisting equipment, operating personnel and rigging that is necessary for the proper execution of the Work of this Section.
13. Caulking around plumbing fixtures in toilets and counter top faucets.

B. Items To Be Furnished Only: N/A

C. Related Work: The following items are not included in this Section and will be performed under the designated Sections:

1. Section 10 28 13 – TOILET ROOM ACCESSORIES

D. Perform work and provide material and equipment as shown on Drawings and as specified or indicated in this Section of the Specifications. Completely coordinate work of this Section with work of other trades and provide a complete and fully functional installation.

E. Drawings and Specifications form complimentary requirements; provide work specified and not shown, and work shown and not specified as though explicitly required by both. Although work is not specifically shown or specified, provide supplementary or miscellaneous items,

appurtenances, devices and materials obviously necessary for a sound, secure and complete installation.

F. Give notices, file plans, obtain permits and licenses, pay fees and back charges, and obtain necessary approvals from authorities that have jurisdiction as required to perform work in accordance with all legal requirements and with Specifications, Drawings, Addenda and Change Orders, all of which are part of Contract Documents.

1.03 RELATED DOCUMENTS

A. Project Manual Division 0 and Section 1.

1.04 SUBMITTALS

A. Comply with requirements specified in Section 01 33 00 – SUBMITTALS.

B. Material and equipment requiring Shop Drawing Submittals shall include but not be limited to:

1. Plumbing fixtures and trim.
2. Piping.
3. Fittings, unions, flanges, and couplings.
4. Insulation.
5. Water hammer arrestors.
6. No-hub couplings.
7. Hangers, plates, and inserts.

1.05 DEFINITIONS

A. As used in this Section, "provide" means "furnish and install" and "POS" means "Provided Under Other Sections". "Furnish" means "to purchase and deliver to the project site complete with every necessary appurtenance and support," and "Install" means "to unload at the delivery point at the site and perform every operation necessary to establish secure mounting and correct operation at the proper location in the project."

1.06 CONTRACT DOCUMENTS

A. Listing of Drawings does not limit responsibility of determining full extent of work required by Contract Documents. Refer to Architectural, HVAC, Plumbing, Fire Protection, Electrical, Structural, and other Drawings and other Sections that indicate types of construction in which work shall be installed and work of other trades with which work of this Section must be coordinated.

1.07 DISCREPANCIES IN DOCUMENTS

A. Where Drawings or Specifications conflict or are unclear, advise Designer in writing before Award of Contract. Otherwise, Designer's interpretation of Contract Documents shall be final, and no additional compensation shall be permitted due to discrepancies or unclarities thus resolved.

B. Where Drawings or Specifications do not coincide with manufacturers' recommendations, or with applicable codes and standards, alert Designer in writing before installation. Otherwise, make changes in installed work as Designer requires within Contract Price.

C. If the required material, installation, or work can be interpreted differently from drawing to drawing, or between drawings and specs, this contractor shall provide that material, installation, or work which is of the higher standard.

D. It is the intent of these contract documents to have the contractor provide systems and components that are fully complete and operational and fully suitable for the intended use. There may be situations in the documents where insufficient information exists to precisely describe a certain component or subsystem, or the routing of a component. In cases such as this, where the contractor has failed to notify the Designer of the situation in accordance with Paragraph (A) above, the contractor shall provide the specific component or subsystem with all parts necessary for the intended use, fully complete and operational, and installed in workmanlike manner either concealed or exposed per the design intent.

E. In cases covered by Paragraph (D) above, where the contractor believes he needs engineering guidance, he shall submit a sketch identifying his proposed solution and the Designer shall review, note if necessary, and approve the sketch.

1.08 MODIFICATIONS IN LAYOUT

A. Plumbing Drawings are diagrammatic. They indicate general arrangements of mechanical and electrical systems and other work. They do not show all offsets required for coordination nor do they show the exact routings and locations needed to coordinate with structure and other trades and to meet Architectural requirements.
B. In all spaces, prior to installation of visible material and equipment, including access panels, review Architectural Drawings for exact locations and where not definitely indicated, request information from Designer.
C. Check Contract Drawings as well as Shop Drawings of all subcontractors to verify and coordinate spaces in which work of this Section will be installed.
D. Maintain maximum headroom at all locations. All piping and associated components to be as tight to underside of structure as possible.
E. Make reasonable modifications in layout and components needed to prevent conflict with work of other trades and to coordinate according to Paragraphs A, B, C, D above. Systems shall be run in a rectilinear fashion.
F. Where conflicts or potential conflicts exist and engineering guidance is desired, submit sketch of proposed resolution to Designer for review and approval.

1.09 SITE VISIT

A. Before submitting bid, visit and carefully examine site to identify existing conditions and difficulties that will affect work of this Section. No extra payment will be allowed for additional work caused by unfamiliarity with site conditions that are visible or readily construed by experienced observer.

1.10 EXISTING CONDITIONS AND PREPARATORY WORK

A. Before starting work in a particular area of the project, visit site and examine conditions under which work must be performed including preparatory work done under other Sections or Contracts or by the Owner. Report conditions that might affect work adversely in writing through General Contractor to Designer. Do not proceed with work until defects have been corrected and conditions are satisfactory. Commencement of work shall be construed as complete acceptance of existing conditions and preparatory work.

1.11 CODES, STANDARDS, AUTHORITIES AND PERMITS

A. Perform work strictly as required by rules, regulations, standards, codes, ordinances, and laws of local, state, and Federal governments, and other authorities that have legal jurisdiction over the site. Materials and equipment shall be manufactured, installed and tested as specified in latest editions of applicable publications, standards, rulings and determinations of:

1. Local and state building, plumbing, fuel gas mechanical, electrical, fire and health department codes.
2. American Insurance Association (A.I.A.) (formerly National Board of Fire Underwriters).
3. Occupational Safety and Health Act (OSHA).
4. Factory Mutual Association (FM).
5. Underwriters' Laboratories (UL).
6. American National Standards Institute (ANSI).

B. Material and equipment shall be listed by Underwriters' Laboratories (UL), and approved by ASME and AGA for intended service.

C. Plumbing Fixtures and Potable water shall meet both the NSF 61, lead free and NSF 372 test standards via third-party testing and certification.

D. When requirements cited in this Specification conflict with each other or with Contract Documents, most stringent shall govern work. Designer may relax this requirement when such relaxation does not violate ruling of authorities that have jurisdiction. Approval for such relaxation shall be obtained in writing.

E. Most recent editions of applicable specifications and publications of the following organizations form part of Contract Documents:

1. American National Standards Institute (ANSI).
2. American Society of Mechanical Engineers (ASME).
3. National Electric Manufacturers Association (NEMA).
4. American Society for Testing and Materials (ASTM).
5. American Water Works Association (AWWA).
6. National Fire Protection Association (NFPA).

1.12 GUARANTEE AND 24 HOUR SERVICE

A. Guarantee Work of this Section in writing for one year following the date of beneficial occupancy by the User Agency. If the equipment is used for ventilation, temporary heat, etc. prior to initial beneficial occupancy by the User Agency, the bid price shall include an extended period of warranty covering the one-year of occupancy, starting from the initial date of beneficial

occupancy by the User Agency. The guarantee shall repair or replace defective materials, equipment, workmanship and installation that develop within this period, promptly and to Designer's satisfaction and correct damage caused in making necessary repairs and replacements under guarantee within Contract Price.

B. In addition to guarantee requirements of Division 01 and of Paragraph A above, obtain written equipment and material warranties offered in manufacturer's published data without exclusion or limitation, in User Agency's name.

C. Replace material and equipment that require excessive service during guarantee period as defined and as directed by Designer.

D. Provide 24 hour service beginning on the date the project is first beneficially occupied by the User Agency, whether or not fully occupied, and lasting until the termination of the guarantee period. Service shall be at no cost to school. Service can be provided by this contractor or a separate service organization. Choice of service organization shall be subject to Designer and Project Manager approval. Submit name and a phone number that will be answered on a 24-hour basis each day of the week, for the duration of the service.

E. Submit copies of equipment and material warranties to Designer before final payment.

1.13 RECORD DRAWINGS

A. Comply with requirements specified in Section 01 78 00 – Closeout Submittals.
B. Drawings shall show record condition of details, sections, riser diagrams, control changes and corrections to schedules. Schedules shall show actual manufacturer and make and model numbers of final equipment installation.

1.14 BULLETINS, MANUALS, AND OPERATING INSTRUCTIONS, AND PROTECTION

A. Obtain at time of purchase of equipment, three copies of operation, lubrication and maintenance manuals for all items. Assemble literature in coordinated manuals with additional information describing combined operation of field-assembled units, including as-built wiring diagrams. Manual shall contain names and addresses of manufacturers and local representatives who stock or furnish repair parts for items or equipment.

1.15 COORDINATION DRAWINGS

A. This plumbing sub contractor shall prepare coordination drawings clearly showing how their work is to be installed in relation to the other trades such as HVAC, Electrical, Fire Protection and including sections and details, as required under Section 01 33 00 – SUBMITTALS.

1.16 LOCATION OF FIXTURES AND EQUIPMENT

A. The Architect will establish the exact location of all fixtures, equipment, and devices to be located in finished spaces of the building. Such precise locations are, for the most part, indicated on the Architectural Plans of the various spaces, and it shall be the responsibility of this SECTION 22 00 00 Subcontractor to obtain instructions from the Architect for the location of any items whose location is not specifically given on the Architectural Drawings. Any work installed contrary to the Architectural Drawings, or without the prior approval of the Architect,

shall be relocated and any necessary changing or patching of the surrounding work shall be done at the expense of this SECTION 22 00 00 Subcontractor.

1.17 CEILING MARKER SYSTEM

A. At all valves located above ceilings of any type, ceilings shall be marked with tacks firmly attached to the ceiling surface. Tacks shall be part of a complete system, Brady Co. *Valve Finder Ceiling Tacks* or approved equal product from Westline Products or Seton Name Plate Co.

PART 2 - PRODUCTS

2.00 PIPE, FITTINGS AND JOINTS

A. General

1. Pipe and fittings shall conform to the latest ANSI, ASTM, NFPA and AWWA Standards including latest amendments.

2. Each length of pipe, each pipe fitting, trap, material and/or device used in the respective system shall have cast, stamped or indelibly marked on it, the maker's name or mark, weight and quality of the product when such marking is required by the approved standard that applies.

3. Piping and fittings shall be factory coated.

B. Sanitary Drainage Piping Above Floor (Soil, Waste and Vent)

1. Piping 2" and larger shall be no-hub service weight cast iron soil pipe except at urinals and cleanouts and joints just prior to exiting the building which shall be service weight hub and spigot with lead and oakum joints. The pipe shall be legibly marked on the barrel with the manufacturer's name and/or trademark.

2. All cast iron soil pipe and fittings shall conform to the requirements of CISPI Standard 301, ASTM A 888 or ASTM A 74 for all pipe and fittings.Pipe and fittings shall be marked with the collective trademark of the CastIron Soil Pipe Institute or receive prior approval of the engineer. Latest issue of each standard shall apply.

3. Sanitary piping 2” and smaller shall be type “L” copper.

4. Couplings for joining no-hub cast iron soil pipe: Couplings shall have a shield constructed of corrugated 304 stainless steel and provide a shield thickness of 0.16 inches or greater. Shield shall be a minimum width of 3 inches for pipe sizes 1-1/2 inch through 4 inch, and a minimum width of 4 inches for pipe sizes 5 inch through 10 inches. Couplings with at least 4 sealing bands shall require 80 inch pounds of torque per band. Tightening screws shall be 3/8 inch hexagon head. Couplings with only 2 sealing bands on sizes 1-1/2 inch through 4 inches shall require 125 inch pound of torque per band. Gaskets shall be neoprene rubber conforming to ASTM C-564.

5. Joints in copper tubing except as otherwise specified herein shall be made according to manufacturer's specifications using sweat fitting and lead free solder and non-corrosive flux.

6. Connections between earthenware of any fixture and flanges in soil and waste piping shall be made absolutely gas and watertight with closet setting compounds and gaskets which must be absolutely gas and fireproof, watertight, stain proof, containing neither oil nor asphaltum and which will not rot, harden or dry under any extreme climatic change, and must adhere on wet surfaces.

C. Sanitary Drainage Piping Below Floor (Soil, Waste, Vent)

1. Piping below floor shall be service weight cast iron hub and spigot.

2. Joints in cast iron soil piping below ground shall be code approved compression type, made with rubber gaskets conforming to ASTM Specification C564. Joints in cast iron soil pipe and fittings using a double seal, compression type molded neoprene gasket shall be provided with a modified hub as required to provide a positive seal. No-hub pipe will not be allowed below ground. (Adhesive type lubricant shall be used with the resilient gaskets on pipes 5" and larger).

D. Water Piping (For Domestic Cold and Hot water)

1. Buried Water Piping

    1. Under-building-slab and exterior buried piping shall be copper tube, Type K with wrought-copper solder-joint fittings; and brazed joints.

2. Above Ground

    1. 2-1/2 inches and smaller shall be hard drawn Type L copper with wrought or cast copper fittings.
    2. 3 inches and larger may be hard drawn Type L copper with roll grooved mechanical couplings.
    3. Joints in copper tubing except as otherwise specified herein shall be made according to manufacturer's specifications using sweat fitting and <u>lead free</u> solder and non-corrosive flux.

    4. Provide galvanized malleable iron unions, with bronze facings conforming to ANSI B16.39 for sizes 2 inch and smaller.

    5. Provide copper flanges conforming to ANSI B16.5, standard or welding neck pattern.

E. Unions and Flanges

1. Unless otherwise specified herein, unions for copper and brass piping two inches and smaller in diameter shall be 125 SWP, bronze body brass ground joint type. Those larger than two inches in diameter shall be 150 SWP flat faced cast brass flanges conforming to ANSI Standard B16.24.

2. Where brass flanges and ferrous flanges are to be joined, ferrous flanges shall be full faced.

3. Mating of ferrous and non-ferrous flanges shall be separated with rubber gaskets (1/16 inch minimum thickness) and teflon liners installed in the bolt holes. Bolt holes shall be drilled to receive the teflon lines. Physical contact between the ferrous and non-ferrous flanges including the bolts, nuts and washers will not be permitted.

4. Unions for ferrous piping shall be of the same material as the piping to which they connect.

2.01 VALVES AND SUNDRIES

A. General
1. Manufacturer: Subject to compliance with requirements, provide products from one of the manufacturers listed. Nibco, Watts, Apollo or approved equal.
2. Valve Design: Rising stem or rising outside screw and yoke stems.
3. Pressure and Temperature Ratings: As scheduled and required to suit system pressures and temperatures.
4. Sizes: Same size as upstream pipe, unless otherwise indicated.
5. End Connections: As indicated in the valve specifications.

1. Threads: Comply with ANSI B1.20.1.
2. Flanges: Comply with ANSI B15.1 for cast iron, ANSI B16.5 for steel, and ANSI B16.24 for bronze valves.
3. Solder-Joint: Comply with ANSI B16.18.

1) Caution: Where soldered end connections are used, use solder having a melting point below 840 deg. F for gate, globe, and check valves; below 421 deg F for ball valves.

B. Valves in the interior domestic water piping systems (cold water, hot water) system:

1. Acceptable Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, Nibco, Watts, Apollo, or approved equal.

2. Ball Valves
1. Ball Valves, 1 Inch and Smaller: Rated for 400 psi WOG pressure; two piece construction; with bronze body conforming to ASTM B 62, standard (or regular(port, chrome-plated brass ball, replaceable “Teflon” or “TFE” seats and seals, blowout-proof stem, and vinyl covered steel handle. Provide solder ends for domestic hot and cold water service.

2. Ball Valves, 1-1/4 Inch to 2 Inch: Rated for 400 psi WOG pressure; 3 piece construction; with bronze body conforming to ASTM B 62, conventional port, chrome-plated brass ball, replaceable “Teflon” or “TFE” seats and seals, blowout-proof stem, and vinyl covered steel handle. Provide solder ends for domestic hot and cold water service.

C. Sundries

1. Acceptable Manufacturers: Chicago Faucet, Watts, T & S Brass and Bronze Works, Inc., Speakman Co., Josam Manufacturing, Jay R. Smith, Precision Plumbing Products or approved equal.
2. Vacuum breakers shall be full size of line feed. All hose bibbs shall be supplied with vacuum breakers attached to hose thread portion of hose bibb unless they are integral to fixture.
3. Shock absorbers shall be of the mechanical, pre-pressurized type installed where indicated and in accordance with "Standard P.D.I.-WH201." All shock absorbers must be located behind access panels or in readily accessible areas.

2.02 FLOOR AND ROOF DRAINS

A. General

1. Floor drains shall be Jay R. Smith, Josam, MIFAB, or approved equal. Manufacturer's catalog numbers specified herein for drains are intended only as a guide for the type and quality to be furnished under this Section of the Specifications.

    1. Floor Drain (FD1- Finished Areas) shall be equal to Jay R. Smith Figure #2005-A-P.

2.03 HANGERS AND ACCESSORIES

A. General

1. Provide pipe stands, supports, hangers and other supporting appliances as necessary to support work required by Contract Documents. All components of the hanger support system shall comply with the standards set forth in MSS-SP58 and MSS-SP69 (Manufacturers Standardization Society) latest publication.

2.04 INSERTS AND ESCUTCHEONS

A. Inserts shall be individual or strip type of pressed steel construction with accommodation for removable nuts and threaded rods up to 3/4 inch diameter, permitting lateral adjustment. Individual inserts shall have an opening at the top to allow reinforcing rods up to 2 inch diameter to be passed through the insert body. Strip inserts shall have attached rods with hooked ends to allow fastening to reinforcing rods.

B. Unless otherwise specified herein, escutcheons shall be cast brass chrome plated type and provided with a set screw to properly hold escutcheon in place.

2.05 PIPE COVERING (INSULATION)

A. General

1. The pipe covering specified herein for piping system shall be provided to strict accordance with the manufacturer's printed instructions, the best practice of the trade and to the full intent of this Specification.

2. Flame/Smoke Ratings: Provide complete fibrous glass pipe insulation (insulation, jackets, coverings, sealers, mastics and adhesives) with flame spread index of 25 or less, and smoke developed index of 50 or less, as tested by ASTM E 84 (NFPA 255) method.

3. Manufacturer: Subject to compliance with requirements, provide products of Johns Manville "Micro-Lok HP", Knauf Fiber-Glass, Owens Corning or approved equal.

B. Interior Cold, and Hot Water Recirculation pipe insulation:
1. Cold water pipe

1. 1" insulation for all cold water pipe sizes. ASTM E-547, Class I

2. Hot Water Supply, 140°F Hot water Supply.

1. 1" thick insulation for pipe sizes less than pipe size 1.5" and 1.5" thick insulation for pipe sizes equal and greater than pipe size 1.5".
2. ASTM E-547, Class I

3. Fire retardant foil face jackets for ping insulation: ASTM C-921, Type I for piping with temperatures below ambient, Type II for piping with temperatures above ambient. Type I may be used for all piping at installation option.
4. Encase piping fittings insulation with one piece premolded PVC fitting covers, fastened as per manufacturer's recommendations.

5. Encase exterior piping insulation with aluminum jacket with weatherproof construction.

6. Staples, Bands, Wires, and Cement: As recommended by insulation manufacturer for applications indicated.

7. Provide product document submittals according to the LEEDv4-S rating system. The product must achieve IEQ Credit 2 Low emitting Materials rating requirement.

2.06 CLEANOUTS

A. Cleanouts shall be Jay R. Smith, Josam, MIFAB or approved equal.
B. Bodies of cleanout in hub and spigot or no-hub piping shall be standard pipe size conforming in thickness to that required for pipe and fittings, and shall extend not less than 3/4 inch above the hub of the pipe. The cleanout plug shall be of cast brass and shall be provided with a raised nut 3/4 inch high. Cleanouts in threaded waste piping shall be cast iron drainage "T" pattern 90 degree branch fittings with extra heavy brass screw plugs of the same size as the pipe.

C. Floor cleanouts shall be as follows:

1. General purpose flush finished floor cleanout with adjustable top shall be equal to Jay R. Smith Series 4026.

2.07 PLUMBING FIXTURES

A. In general, the work of this Article shall include, but not be limited to:

1. Plumbing fixtures and trim.
2. Faucets and flushometers.
3. Stops and supplies.
4. Traps and tailpieces.
5. Drain outlets.
6. Mixing valves.
7. Shower assemblies.
8. Flow controls.
9. Carriers and supports.
10. Lavatory insulators.

B. Fixtures and Trim

1. Acceptable Manufacturers: Submit manufacturers not listed below for review and approval as specified for substitutions in this Section.

    1. Vitreous China: Toto, Eljer, American Standard, Crane, Kohler or equal.
    2. Faucets: Toto, Chicago Faucet Co., Kohler or T & S Brass or equal.
    3. Self Closing Faucets: Chicago Faucet Co., Sloan, Kohler, Symmons or equal.
    4. Sensor Faucets: Chicago Faucet Co., Hydrotek, Sloan or equal.
    5. Mop Service Basins: Crane, Fiat , Stern Williams or equal.
    6. Carriers and Supports: Jay R. Smith, Wade, or equal.
    7. Thermostatic Mixing Valves: Leonard Valve Co., Powers Process Controls, Symmons, Chicago Faucets or equal.
    8. Flush Valves: Sloan, American Standards, Hydrotek or equal.
    9. Stops and Supplies: Chicago Faucet Co., Kohler or McGuire.
    10. P-Traps: McGuire, Sanitary-Dash, or Jameco.
    11. Handicap Lavatory Insulation: McGuire, TCI Products or Truebro.

2. Fixture Trim and Accessories: Provide fixtures complete with floor mounted fixture carrier supports; faucets, flushometers; drain outlets, tailpieces, P-traps and stops and supplies.
    1. Color and Finish: All trim exposed to view shall be polished chrome plated, and all fixtures and toilet seats shall be white unless specified otherwise.
    2. Drain Outlets: Provide drain outlet of the same manufacturer as the fixture or faucet trim with chrome plated 17 gauge minimum weight tailpiece.
        1) Provide 1-1/4 inch tailpiece on lavatories.
        2) Provide 1-1/2 inch tailpiece on sinks.
        3) Provide offset drain outlets on handicapped use lavatories and sinks.

3. P-Traps: Cast brass adjustable P-trap with cleanout plug, ground joint and 17 gage minimum weight extension with escutcheon.
    1. Provide McGuire No. 8090 1-1/4 inch by 1-1/2 inch on lavatories.
    2. Provide McGuire No. 8089 1-1/2 inch by 1-1/2 inch on sinks.

4. Stops and Supplies: Provide stops and supplies of the same manufacturer as the fixture or faucet trim, or provide McGuire Model 170-LK loose key angle stop with 5 inch long 2 inch nominal copper sweat extension, bell escutcheon, and 3/8 inch O.D. by 12 inch flexible riser.

5. Faucets: Chrome plated cast brass with stainless steel seats and monel stems. Gooseneck spouts shall be interchangeable and convertible rigid/swing type. Handles shall be interchangeable with square handle broachings.

6. Flushometers: Diaphragm operated cast-brass body, brass or copper pipe or tubing inlet with wall flange and tailpiece with spud, screwdriver check stop, vacuum breaker, and brass lever handle actuation except where other variations are specified.

7. Fixture Supports: Provide floor mounted fixture support carriers for wall mounted fixtures including but not limited to: water closets, lavatories, scrub sinks, urinals, and clinical sinks.

8. Fixture carriers shall support at least 250 pounds on the front rim of the fixture for 5 minutes.
   1. Water Closets: Jay R. Smith Series 200-Y
   2. Urinals: Jay R. Smith 637.
   3. Lavatories: Jay R. Smith 700-M31.
   4. Wheel Chair Lavatories: Jay R. Smith 700-27-M31.

9. Toilet Seats: Provide extra heavy-duty, commercial/industrial type, elongated, open front, solid white injection molded plastic with integral bumpers; and self sustaining stainless steel check hinges.
   1. Acceptable Manufacturers: Bemis, Beneke, or Church.

10. Handicap Lavatory and Sink Insulation: Shall be provided on water supplies and waste piping below handicapped use lavatories and sinks.
    1. Acceptable Manufacturers: McGuire, TCI Products or Truebro.

C. Fixture Description

1. P-1 Water Closet, Equal to TOTO CT708EG. Ceramic glaze, vitreous china wall hung, white, elongated wall outlet water closet and1-1/2" top spud connection. Provide 1.28 automatic infrared sensor activated toilet flush valve. The flush valve power shall be self- contained through a use hydropower. The valve shall be equal to TOTO TET1LA with manual override. Provide combination drainage fitting and chair carrier to suit. Provide extra heavy duty solid plastic seat with check hinges (open front). Water closet shall be in compliance to the applicable section of ASME A112.19.2/ CSA B45.1

2. P-1A Water Closet (Barrier Free) Same as P-1, except mounting in accordance with architectural barriers board.

3. P-1B Water Closet, Equal to TOTO CT705ELNG. Ceramic glaze, vitreous china floor mounted, white, elongated ADA compliant water closet and 1-1/2" top spud connection. Provide 1.28 automatic infrared sensor activated toilet flush valve. The flush valve power shall be self- contained through a use hydropower. The valve shall be equal to TOTO-TET1LA with manual override. Provide combination drainage fitting and chair carrier to suit. Provide extra heavy duty solid plastic seat with check hinges (open front). Water closet shall be in compliance to the applicable section of ASME A112.19.2/ CSA B45.1

4. P-2 Urinal: Wall hung, 0.5 gpf vitreous china urinal with the following features:
   1. Urinal with concealed integral trap, Top spud. Equal to TOTO UT447E
   2. Flush valve shall be self-powered hydroelectric, sensor activated, 0.5 gpf flush valve with over button. Equal to TOTO TEU1LA#CP.
   3. ADA compliant, Vitreous China fixture, 3/4" I.P.S top spud inlet.
   4. Stainless Steel Urinal Drain Cover

5. P-2A Urinal (Barrier Free) Same as P-2, except mounting in accordance with architectural barriers board.

6. P-3: Sink will be part of the countertop provided by G.C. Provide ADA compliant sensor activated .5 gpm faucet. The faucet to be self-generating hydropowered equal to TOTO TEL155-D10ET with Thermostatic mixing Valve. Provide 4" cover plate, chrome plated brass grid strainer w/ 1 ¼ outlet tube and P trap.

7. P-4 Floor Service Sink: Mop Receptor Fiat precast terrazzo mop basin, 24" x 24" x 12" with 6" drop front, stainless steel threshold, flange on wall sides. Fiat Model TSB-3010. Chicago 897 wall mounted service sink faucet w/ vacuum breaker spout. Wall hook, 24" long mop hanger with 3 spring clips.
   Provide 6' stainless steel braded water supply hose with pressure bleeder device and dual vented check valve (ASSE1055B approved) for secondary back flow preventer to soap dispenser connection. Installation shall be as per the plumbing code requirement. Provide check valve in hot and cold water pipe near connection point.

ACCESS PANELS

A. Furnish access doors and frames for walls and ceilings to applicable trades for installation. Size as required for access and maintenance, minimum 16 by 16 inches.

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

   1. J. L. Industries, Inc, Inc.
   2. Karp Associates, Inc.
   3. Larsen's Manufacturing Company.
   4. Milcor Inc.

C. Flush Access Doors and Trimless Frames: Fabricated from steel sheet.

   1. Locations: Wall and ceiling surfaces as applicable.
   2. Door: Minimum 0.060-inch-thick sheet metal, set flush with surrounding finish surfaces.
   3. Frame: Minimum 0.060-inch-thick sheet metal with suitable bead flange.
   4. Hinges: Continuous piano.
   5. Lock: Cylinder, keyed alike.

D. Fire-Rated, Insulated, Flush Access Doors and Trimless Frames: Fabricated from steel sheet.

   1. Locations: Wall and ceiling surfaces as applicable.
   2. Fire-Resistance Rating: Not less than that of adjacent construction.
   3. Temperature Rise Rating: 250 deg F at the end of 30 minutes.

4. Door: Flush panel with a core of mineral-fiber insulation enclosed in sheet metal with a minimum thickness of 0.036 inch .
5. Frame: Minimum 0.060-inch thick sheet metal with suitable bead flange.
6. Hinges: Continuous piano.
7. Automatic Closer: Spring type.
8. Lock: Self-latching device with cylinder lock, keyed alike.

2.01 FIRE STOPPING

A. Seal openings of fire rated construction with a material or product that has been tested at an independent testing laboratory, such as UL, FM, etc. Fire stopping shall conform to ASTM E-814 and UL 1479, with fire ratings equal to or exceeding the fire rating of the construction involved. Fire stopping shall be UL classified, and shall be similar to the 3M brand Fire Barrier Penetration Sealing Systems, GE Silicones, Calpico Inc or approved equivalent. Fire stopping of this type shall also be utilized for openings through smoke rated construction.

B. If desired by the Contractor and approved by local codes, the "Pro-Set" piping penetration system also may be utilized. Penetration system shall be UL certified and shall be the "Pro-Set" System A. Firestop coupling (sleeve) shall be filled with ceramic fiber material to provide insulation and fire stopping. System shall be capable of maintaining a 3-hour fire rating. Penetration system shall be secure, waterproofed, fire rated and smoke proof and shall allow for pipe expansion and contraction

C. Smoke proof and Seal all plumbing pipe penetration in corridor wall regardless it is rated or unrated wall construction.

2.02 SLEEVES AND PENETRATIONS

A. Piping penetrations through fire rated construction shall comply with a listed fire rated assembly as detailed in the UL Fire Resistance Directory. Pipe sleeves through floors, exterior walls and fire-rated construction shall be galvanized Schedule 40 steel pipe. Pipe sleeves through non-fire-rated partitions shall be 26 gauge galvanized steel.

1. Sleeves Through Exterior Below Grade Foundation Walls and Floor Slabs on Grade: Provide galvanized Schedule 40 steel with continuous weld slop on welding flange water stop. Provide waterproof caulking assembly by Link-Seal or Sure-Seal.

2. In areas where pipe is exposed, install sleeves flush with the finish floor, except in mechanical rooms, and janitor's closets extend sleeves at least 4 inches above finish floor.

3. Annular Space Requirements: Sleeves shall be sized to provide a total clearance of approximately 1 inch around pipe including insulation cover. Annular space around fire rated through penetrations assemblies shall be in compliance with the Listed Assembly.

4. Packing between the pipe and sleeve in fire rated construction shall be a combination of listed insulation and fire-proof caulk.

B. Where piping passes below grade beams and footings, provide a ductile iron sleeve three sizes larger than the pipe being served. Sleeve shall be a minimum of six feet in length.

2.03 VALVE TAGS

A. Upon completion of piping installation work provide valve tags on all valves installed under the work of the mechanical sections. Valve tags shall be at least 1-1/2 inch diameter brass or engraved plastic with 1/4 inch high lettering for service designation over 2 inch high consecutively numbered valve identification. Engraved valve tags shall be color coded as specified for piping identification. Coordinate valve tag numbers with the City of Woburn's facility management program. Provide service designation prefix as scheduled:

1. Plumbing Systems: Prefix:

1.	Domestic Cold Water	CW
2.	Domestic Hot Water	HW
3.	Domestic Hot Water Circulation	HWR

B. Valve tags on plumbing systems may be engraved laminated plastic tags color-coded to match the pipe identification marks.

C. Identify Non-Potable water outlets with permanently attached yellow color-coded marker or 4-inch high triangle tag reading: Water Unsafe.

PART 3 – EXECUTION

3.01 GENERAL

A. All precautions shall be taken to avoid cutting, interrupting or damaging in any way the existing concrete slabs in the building.

3.02 IDENTIFICATION

A. All equipment and each length of pipe fitting, trap, fixture, control panel, starter and device used in the systems shall have a permanently attached nameplate or be cast, stamped or indelibly marked with the manufacturer's mark or name, the weight, type and class. The nameplates shall be kept clean and readable at all times.

3.03 DISINFECTION, CLEANING AND ADJUSTING

A. Disinfection

1. Each potable water system (cold and hot water) shall be cleaned and disinfected by this Contractor. Cleaning and disinfection shall be performed after all pipes, valves, fixtures and other components of the systems are installed, tested and ready for operation.

2. All hot and cold water piping shall be thoroughly flushed with clean potable water, prior to disinfection, to remove dirt and other contaminants. Screens of faucets shall be removed before flushing and re-installed after completion of disinfection.

3.04 SYSTEMS

A. Sanitary Waste System

1. The Plumbing subcontractor shall be responsible for checking each pipe for alignment, center line elevation and invert grade for underground installations.

2. At times when work is not in progress, open ends of pipe and fittings shall be securely closed to the satisfaction of the Project Manager so that no trench water, earth or other substance will enter the pipe or fittings. Any section of a building drainage system that is found defective in material, alignment, grade or joints before acceptance shall be corrected to the satisfaction of Project Manager. Pipe laid through rock excavation shall rest on a six-inch layer of well-compacted sand.

3. Branch connections to each drainage system shall be made with "Wye" and long turn "Tee Wye" fittings. Installation of short radius 1/4 bends, common off-sets, double hub fittings and saddles will not be approved. Installation of short "Tee Wye" fittings will be permitted for vertical piping only, and only where space conditions will not permit the use of long turn fittings. Only fittings conforming to the Code shall be installed.

4. The changes in direction of each drainage system shall be made with "Wye" branches and 1/8 bends. Provide long sweep bends at bottom of stacks with a vertical cleanout just above the floor at places where a "Wye" and 1/8 bends and end cleanouts cannot be installed.

5. Every fixture shall be separately trapped and the traps must be vented unless an approved battery vented system is being installed. Floor drains shall be considered as a fixture.

6. Vents shall be connected to the discharge of each trap in the sanitary system, thence carried individually to a point above the flood level of the fixture before connecting with any other vent pipes. Pitch the branch vents back to the fixture.

7. Collect individual vent pipes together in branch vent lines and connect to vent stacks. Wherever possible, vent stack offsets shall be made with 45 degree fittings. The vents passing through the roof shall be a minimum size of four inches in diameter.

8. Cleanouts shall be provided in drainage piping at changes in directions, at foot of stacks or other required points accessible for cleaning or rodding out.

9. Cleanouts shall be of the same size as the pipe installed in up to four inches in diameter and not less than four inches in diameter for piping larger than four inches in diameter.

10. The maximum horizontal distance between cleanouts in piping four inches in diameter and smaller shall not be more than 50 feet apart. In piping five inches in diameter and larger, cleanouts shall not be more than 100 feet apart.

11. Traps on sanitary piping not integral with fixtures and in accessible locations shall be provided with a brass trap screw protected by the water seal, and will be regarded as a cleanout.

12. Test tees with brass cleanout plugs shall be provided at the foot of all vertical soil, waste and storm drainage stacks and at each floor. Wherever cleanouts on vertical lines occur concealed behind finished walls, they shall be extended to back of finished wall, and a wall plate shall be provided.

B. Cold and Hot Water Piping

1. Vacuum breakers shall be installed on supplies to each piece of equipment to prevent back-siphonage.

2. Branch lines from water service or main lines shall be taken off the top or bottom of main, using such crossover fittings as may be required by structural or installation conditions. All water service pipes, fittings, and valves shall be kept a sufficient distance from other work to permit finished covering to be not less than 1.5 inches from other work and not less than 1.5 inches between coverings on the different services.

3. Provide shock absorbers at special equipment, tops of the risers, at each individual or each group of fixtures.

4. Water piping shall be run parallel and graded evenly to the drainage points. There shall be a 2 inch drain valve provided for each low point in the piping so that all parts of each water system can be drawn off.

5. Piping connections to equipment shall be provided with unions or flanges to permit convenient disassembly for alterations and repairs.

6. No piping shall be installed in a manner to permit back-siphonage or any flow of water from sanitary or drainage systems into the water systems or their distribution piping under any conditions.

7. Where flanges are installed in the water systems, red rubber gaskets shall be installed between each pair of flanges.

8. Piping systems shall be kept clean during all phases of work. Open ends of incomplete piping shall be protected to prevent the entrance of foreign materials.

9. Pipe shall be cut accurately to measurements established at the site and shall be worked into place without springing or forcing.

10. Provide copper-plated friction clamps on the old water supplies to each water closet and urinal flushometer. Friction clamp shall be firmly clamped to the pipe and shall be firmly attached to the adjacent wall structure.

3.05 GENERAL INSTALLATION REQUIREMENTS

A. Piping Installation

1. Install piping approximately as shown on the drawings and as directed during installation by the Designer's representative.

2. Piping shall be installed as straight and direct as possible, forming right angles or parallel lines with building walls, other piping and be neatly spaced.

3. Piping or other apparatus shall not be installed in such a manner as to interfere with the full swing of the doors and access to other equipment.

4. The arrangement, positions and connections of pipes, fixtures, drains, valves, and the like, indicated on the Drawings shall be followed as closely as possible.

5. It shall be possible to drain the water from all sections of each cold and hot water piping system. Pitch piping back to drain valves.

6. Small fittings shall be taper thread. Lampwick, cord, wool or any other similar material shall not be used to make up thread joints.

7. Screwed pipe and copper tubing shall be reamed smooth before installation.

8. All exposed piping in connection with fixtures shall be chrome plated. Where chrome-plated piping is installed, cut and thread pipe so that no unplated pipe threads are visible when work is completed.

9. Reducing fittings, unless otherwise approved in special cases, shall be provided in making reduction in size of pipe. Bushings will not be allowed unless specifically approved.

10. Remove and replace with new materials, any copper or brass piping (chrome-plated or unplated) showing visible tool marks.

11. Vertical risers shall be firmly supported by riser clamps, properly installed to relieve all weight from the fittings.

12. Any piece of pipe six inches or less in length shall be considered as a nipple.

13. All water service piping shall be kept a sufficient distance from other work to permit finished covering to be not less than 1.5 inches from other work and not less than 1.5 inches between the coverings (insulation) on the different services.

B. Pipe Covering Installation

1. Before pipe covering is applied, all pressure tests shall have been performed and approved by the Local Plumbing Inspector.
2. Pipe covering shall be applied over clean, dry surfaces.
3. Pipe covering shall be continuous and shall be carefully fitted with side and end joints butted firmly and tightly together and finished as specified herein.
4. Pipe covering and auxiliaries shall be kept dry during storage and application.
5. Adhesives, cements and coatings shall not be applied when the ambient temperature is below 40 degrees Fahrenheit.
6. Valve bodies shall have covering applied up to the stem.
7. It is the intent of this Specification that all vapor barriers be sealed and be continuous throughout. Staples shall not be used on vapor barrier jackets.

8. Where pipe covering ends occur at equipment or fixtures, end caps on the covering shall be provided.

C. Installation of Sleeves, Inserts and Escutcheons (New and existing floors and walls)

1. Sleeves in floors shall be set one (1) inch above the finished floor surface or as indicated on the Architectural Drawings.
2. Sleeves through interior masonry or non-masonry walls or partitions shall be set flush with the finished surfaces of the wall or partition.
3. Field drilling for inserts required for work under this Section of the Specifications shall be provided by this Contractor.
4. Each interior wall or partition sleeve shall be packed with foam or glass wool to within one inch of each face of wall, and the remaining portion of each end of sleeve to be sealed with U.L. listed fire proof caulking compound equal to the rating of the partition.
5. Escutcheons shall be installed around all exposed insulated or bare pipe, except water closet starts or bends passing through a finished floor, wall or ceiling. Escutcheons shall fit snugly around the bare pipe or insulated pipe.

D. Valve Installation

1. Location of Valves: There shall be valves where indicated on the drawings and where specified as follows:

   a. Each fixture supply shall have a separate angle stop or straight stop finished like the pipe it services.
   b. Each piece of equipment shall have isolation valves for each service connected.
   c. At the foot of each riser, on the inlet and outlet side of control valves.
   d. At the low points of each water system including trapped sections, provide a tee with 2 inch branch and valve with 3/4 inch hose end adapter and attached chain with cap.
   e. Valves shall be located to permit easy operation, replacement or repair.

E. Floor Drain Installation

1. Install floor drains in accordance with manufacturers written instructions and in locations indicated.

2. Install floor drains at low points of surface areas to be drained, or as indicated. Set tops of drains flush with low point finished floor.

3. Trap all drains connected to the sanitary sewer.

4. Install drain flashing collar or flange so that no leakage occurs between drain and adjoining flooring. Maintain integrity of waterproof membranes, where penetrated.

5. Position drains so that they are accessible and easy to maintain.

F. Installation of Trap Primers

1. Install trap primers with piping pitched towards drain trap, minimum of 1/8 inch per foot (1 percent). Adjust trap primer for proper flow.

G. Installation of Plumbing Fixtures

1. General:

   a. Refer to Architectural Drawings for locations and mounting heights of all plumbing fixtures, counter-sinks, water fountains and showers.

   b. Provide with all plumbing fixtures, all trim, supports, fittings, connections and all incidentals necessary to make a complete installation in accordance with plumbing codes and the Contract Documents.

   c. All visible hanger nuts and all escutcheons shall likewise be chrome-plated over nickel plate.

2. Examination:

   a. Examine roughing-in for potable cold water and hot water supplies and soil, waste, and vent piping systems to verify actual locations of piping connections prior to installing fixtures.

   b. Examine walls, floors, and cabinets for suitable conditions where fixtures are to be installed.

   c. Do not proceed until unsatisfactory conditions have been corrected.

3. Fixture Roughings

   a. Install rough plumbing including fixture carriers and supports, valves and water hammer arrestors within chase tolerances. Supply roughing through finish walls and at hose bibbs and shower heads shall be secure and free of movement. Locate valves and water hammer arrestors within 12 inches of approved access panel location.

   b. Align exposed waste and supply pipe roughings with fixture connections within 1 inch tolerance. Provide flush valves in alignment with the fixture, without vertical or horizontal offsets. Obtain fixture manufacturer roughing data sheets for recommended roughing dimensions.

   c. Provide fixture templates for casework contractor for counter mounted sinks and lavatories.

      1) Rough handicapped use water closets to locate the flush valve handle on the wide side of the toilet stall.

d. Secure fixture supports to floor slab construction with lag bolts and metal expansion shields to support at least 250 pounds on the front rim of the fixture for 5 minutes.

e. Mounting Heights: Coordinate with Architectural Details

4. Fixture Supports

a. All fixtures (including drinking fountains) shall be supported and fastened to the building structure. The method of support for each type fixture shall be specified herein, except when the fixture designations on the Contract Drawings indicate modifications.

b. Wall hung water closets shall be generally supported on combination drainage fittings and chair carriers and with foot supports fastened to the floor slab with expansion lag screws.

c. Urinals shall be supported by floor mounted carrier with support plate, bearing plate, adjustable extension, tubular uprights, block bases and chrome-plated trim.

d. Installations shall be complete with all necessary bolts, nuts and washers, iron or brass connecting nipples between fixtures and piping system of the proper length and graphite non-asbestos gaskets for closet connections.

e. Where wall hung fixtures are secured to masonry walls or partitions, they shall be fastened with 1/4 inch through bolts provided with nuts and washers at back. Bolt heads and nuts shall be hexagon and exposed bolts, nuts, washers and screws shall be chromium-plated brass.

f. Where secured to concrete or brick walls, they shall be fastened with brass bolts or machine screws in lead sleeve type expansion shields and shall extend at least three inches into solid concrete or brick work, except fixtures specified to be supported or chair carriers.

5. Installation of Fixtures

a. Mount fixtures level at elevations shown on architectural drawings. Refer to toilet room elevations and casework details.

b. Install handicapped use fixtures in accordance with the requirements to the Architectural Access Board Code and ANSI A117.1. Insulate hot water supply and waste piping under lavatories.

1) Where urinals are provided: Install one urinal with the rim mounted above the finish floor in compliance with the handicapped code. Coordinate architectural drawing for mounting height.

c. Grout wall and floor mounted fixtures watertight where the fixtures are in contact with walls and floors.

d. Caulk deck-mounted trim at the time of assembly, including fixture and casework mounted. Caulk self-rimming sinks installed in casework.

6. Fixture Trim:

a. All materials specified to be chromium plated shall be thoroughly cleaned and polished before plating, and plate shall be heavily, thoroughly and evenly applied, guaranteed not to strip or peel.

b. Where escutcheons are not furnished with plumbing fixtures, this Contractor shall supply them. Escutcheons shall be the type and material specified herein.

c. Each fixture shall be separately trapped using the type and size of trap specified herein and required by the Plumbing Code.

d. Unless otherwise specified, faucets and all exposed fittings shall be chromium plated. Chromium plating for brass shall be applied on a first plating of nickel.

e. All fixtures requiring hot and cold water shall have the cold water faucet on the right hand side of the fixture and the hot water faucet on the left hand side of the fixture.

f. All brass shall conform to brass tubing and shall be not less than No. 17 gauge.

7. Adjustments and Cleaning

a. After completion of the installation work and equipment start-ups, perform the necessary adjustments to systems installed under this Section. Submit verification that systems are operating at the specified temperatures and pressures.

b. Operate and adjust faucets and controls. Replace damaged and malfunctioning fixtures, fittings, and controls.

c. Operate and adjust disposers, hot water dispensers, and controls. Replace damaged and malfunctioning units and controls.

d. Adjust water pressure at drinking fountains, electric water coolers, and faucets, shower valves, and flushometers having controls, to provide proper flow and stream.

e. Replace washers of leaking and dripping faucets and stops.

f. Adjust flush valves, open fixture stops, and clean faucet aerators.

g. Set aquastats on water heaters and circulation pumps.

h. Temperature adjustments: Adjust pressure balanced mixing valves at showers to provide a maximum temperature of 112 degree F. Adjust metering faucets in public toilet rooms to provide a maximum temperature of 110 degree F.

i. Clean fixtures, fittings, and spout and drain strainers with manufacturers' recommended cleaning methods and materials.

8. Protection

a. Provide protective covering for installed fixtures and fittings.

b. Do not allow use of fixtures for temporary facilities, except when approved in writing by Project Manager.

3.06 INSPECTION AND TESTS

A. General

1. All labor, materials, instruments, devices and power required for testing shall be provided by the Plumbing Subcontractor. The tests shall be performed in the presence and to the satisfaction of the Designer and such other parties as may have legal jurisdiction. No piping in any location shall be closed up, furred in, or covered before testing and approval by the Local Plumbing Inspector and Project Manager.

B. Specific

1. Cold and Hot Water Piping System:

a. Upon completion of the roughing-in and before setting fixtures and final connections to all equipment, all water piping systems shall be tested to a hydrostatic pressure of 150 pounds per square inch.

b. Each systems test shall be maintained for eight hours without a drop in pressure. These tests to be witnessed by Local Plumbing Inspector and Owner’s Project Manager.

c. After testing, provide complete adjustment of all parts of each water system until design distribution or balancing is obtained throughout.

3.07 MATERIALS AND WORKMANSHIP

A. Work shall be neat and rectilinear. Piping shall run concealed except in mechanical rooms and areas where no hung ceiling exists. Install material and equipment as required by manufacturers. Installation shall operate safely and without leakage, undue wear, noise, vibration, corrosion or water hammer. Work shall be properly and effectively protected, and pipe openings shall be temporarily closed to prevent obstruction and damage before completion.

B. Except as specified otherwise, material and equipment shall be new. Provide supplies, appliances and connections necessary for complete and operational installation. Provide components required or recommended by OSHA and applicable NFPA documents.

C. References to manufacturers and to catalog designation, are intended to establish standards of quality for materials and performance but imply no further limitation of competitive bidding.

D. Finish of materials, components and equipment shall be as approved by Designer and shall be resistant to corrosion and weather as necessary.

E. The owner will not be responsible for material and equipment before testing and acceptance.

3.08 CONTINUITY OF SERVICES

A. Do not interrupt existing services without Owner's Project Manager's approval.

B. Schedule interruptions in advance, according to Owner's Project Manager's instructions. Submit, in writing, with request for interruption, methods proposed to minimize length of interruption.

C. Interruptions shall be scheduled at such times of day and work so that they have minimal impact on User Agency's operations.

3.09 PAINTING

A. Equipment shall have shop coat of non-lead gray paint. Hangers and supports shall have one coat of non-lead red primer. Complying with IEQ requirements specified under section 090007-Painting. Machinery such as pumps, fans, etc., shall be stenciled with equipment name. Stencil shall be at least 6" high for large equipment, 2" high for small equipment. Finish painting, including painting of various piping and duct systems, shall be done under other Sections.

3.10 SYSTEM SHUTDOWNS

A. Coordination shutdowns of existing systems with the Project Manager and submit a written request at least ten working days in advance. Minimize system shut downs as much as possible. Submit a list of all effected areas, the proposed work to be performed, and the expected length of the shut-down including time for retesting.

B. Provide temporary services to maintain active system during extended shut-downs as required for demolition and construction phasing.

3.11 CORE DRILLING

A. Do not core new or existing concrete structure without written approval from the Structural Engineer.

B. Perform all core drilling required for the proper installation of this Section. Locate all required openings and prior to coring. Coordinate the opening with the other Trades and obtain approval from the Structural Engineer.

C. Thoroughly investigate the existing conditions in the vicinity of the required opening prior to cutting. Take care so as not to disturb the existing building systems. Damage to existing

conditions incurred during core drilling shall be corrected to the Owner Project Manager's satisfaction with no additional expense to the contract.

3.12 OPERATION AND MAINTENANCE TRAINING REQUIREMENTS

1) Refer to Specification Section 01 70 00 – Execution Requirements.

2) Training Preparation Conference: Before operation and maintenance training, CxA shall convene a training preparation conference to include Owner's operation and maintenance personnel, Contractor, and subcontractors. Perform the following:

1. Review installed systems, subsystems, and equipment.
2. Review instructor qualifications.
3. Review instructional methods and procedures.
4. Inspect and discuss locations and other facilities required for instruction.

B. Training Modules: Develop an instruction program that includes individual training modules for each system, subsystem, and equipment.

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SECTION 26 00 00

ELECTRICAL REQUIREMENTS

SECTION 1 - GENERAL

1.01 RELATED DOCUMENTS:

A. The General Conditions of the Contract for Construction including Supplementary Conditions and General Requirements shall apply fully to the work specified in this section and to all work specified under all sections of Division 26, Electrical.

B. Examine all other sections of the specifications and drawings for any alternates that may affect this section and for work to be performed in connection therewith.

1.02 DESCRIPTION OF WORK:

A. The work to be provided under this section shall include, but not necessarily be limited to all complete and operational electrical systems and items in accordance with these specifications and the accompanying drawings. Provide all supervision, labor, materials, equipment, machinery and any and all other items necessary, but not limited to, completing the following systems:

Branch Circuits
Lighting
Miscellaneous outlets and wiring
Hand Dryers (See specification section 10 28 13)
Demolition

B. All items of equipment are specified in the singular, however, the Contractor shall provide and install the number items of equipment as indicated on the drawings and as required for complete systems.

C. With submission of bid, give written notice to the Architect of any materials or apparatus believed inadequate or unsuitable, in violation of laws, ordinances, rules, and any necessary items or work omitted. In the absence of such written notice, it is mutually agreed that the Contractor has included the cost of all required items in his proposal, and that he will be responsible for the approved satisfactory functioning of all systems, equipment and devices without extra compensation.

D. It is the Electrical Contractors responsibility to verify all conditions relating to equipment dimensions and locations. Any and all construction methods required due to low ceilings in equipment locations, obstructions, routing of conduit/wiring runs in or around the structure, obstructions which have to be overcome, etc. are the responsibility of the Electrical Contractor. All equipment locations on the drawings are diagrammatic, exact and final locations shall be determined and coordinated in the field by this Contractor. The electrical contractor is responsible for all field conditions and shall include such in his bid.

E. All electrical equipment and components furnished by other sections of the specifications and delivered for installation under this section of the specifications shall be clearly marked for

location. The section supplying the equipment and components shall be responsible for all required tests after the electrical connections are completed.

F. Cutting and patching as applicable to this section of the specification.

G. Installation of fireproofing material in and around all sleeves, at fire rated wall and floor penetrations and other areas as required by the Building and Electric Codes.

1.03 DEFINITIONS:

A. The word "provide" is defined to mean "furnish and install complete with all accessories."

B. The word "wiring" is defined to mean "wire installed in raceway including boxes and fittings" and/or Metal Clad Cable_as defined in other portions of this section of the specifications.

C. The word "contractor" or "this contractor" is defined as the electrical contractor.

D. The words "by others" is defined to mean "not by division 26 but by another division of the contract documents."

E. The word "equal" is defined to mean "to possess the same performance qualities and characteristics and fulfill the utilitarian function without any decrease in quality, durability and longevity."

F. The words "satisfactory operation" is defined to mean "operation as specified."

G. "UL" is defined to mean "Underwriters Laboratories Inc.".

H. "R.S.C." or "RSC" is defined to mean threaded thick-walled rigid galvanized steel conduit. "E.M.T. or EMT is defined to mean electric metallic tubing (thin walled steel conduit).

1.04 INTENT:

A. It is the intent to cover all work and materials necessary for installing complete, ready for continuous use, all electrical systems as shown on the accompanying drawing, or as hereinafter described.

B. In the event that there is a conflict on the drawings, between the drawings and the specifications or within the specifications, the most stringent requirements with the highest cost and value shall be carried in the bid. Upon award of the contract the electrical contractor shall ask for a review of the conflict for a formal interpretation.

C. Sizes of conduit/wiring and running of it may be shown but it is not intended to show every offset and fitting, nor every structural difficulty that will be encountered during the installation of the work. If the alignment of the conduit/wiring has to be varied from that shown on the drawings, where necessary because of slight architectural changes, structural or Architectural conditions or to avoid the work of other trades, it shall be done without extra expense to the Owner. It is the Contractors responsibility to coordinate and layout the building wiring system to suit field conditions. Provide all necessary fittings, J.B.'s, etc. as

required. Where wiring is not indicated the Contractor is responsible for correctly wiring the equipment, lighting, devices, etc. in accordance with the Electric Code and other sections of this specification. Circuit numbers are indicated to show the intent of the wiring system and to indicate the limit of the number of items per circuit.

D. This Contractor is responsible to examine the Architectural, Structural and other drawings, and investigate field conditions, in order to determine any height restrictions, structural difficulties, etc. which may be encountered and include the cost of overcoming same in the bid for any and all required equipment, fittings and construction methods necessary to install the equipment in the general locations indicated on the drawings. In instances where equipment cannot be installed where indicated on the drawings the Contractor shall contact the Engineer, prior to construction in order to review other possible locations.

1.05 LEGAL AUTHORITIES, CODES AND REGULATIONS:

A. Where the term "Electric Code" or "Code" is used in this section of the specifications and drawings, it shall mean the MOST current published edition of the National Electric Code and the latest edition of the State of Rhode Island Electric Code. In addition, all work pertaining to Life Safety System shall be done in accordance with the Life Safety Code NFPA 101- most current Rhode Island referenced edition, NFPA 72 Fire Codes and all other applicable NFPA Standards. All controls, signage, systems, equipment, etc. shall conform to the requirements of "ADA", "UFAS" and all other applicable civil laws and codes pertaining to the handicap.

B. All work shall be executed in accordance with the Electric Code, State Building and Fire Safety Codes, Federal, State and Local Rules and Regulations each Authority having jurisdiction enforces. Also, inspection forms, permits and approvals required for this section of work shall be obtained and all associated fees and charges required by all Authorities.

1.06 COOPERATION AND COORDINATION:

A. Cooperate and coordinate with all work of other divisions of the contract documents in executing the work of this division. Refer to other sections of the contract documents for the location of equipment in relation to this work.

1.07 QUALITY ASSURANCE:

A. For the actual fabrication, installation and testing of the work of this section use only thoroughly trained and experienced personnel who are completely familiar with the requirements for the work and with the installation recommendations of the manufacturers of the specified items.

B. In acceptance or rejection of installed electrical work, no allowance will be made for lack of skill on the part of the installers. Retain the services of a foreman who shall be in attendance at the project site during the progress of the work. The foreman assigned to the project at the start of construction shall remain until construction completion, unless circumstances arise which necessitate a replacement foreman - the Engineer and Architect shall be notified in advance of any change of foremen during the project.

C. All material shall be new and shall conform to requirements of, and be listed by, the Underwriters' Laboratories, Inc., or Factory Mutual, for that which standards have been established.

D. Industrial standards pertinent to electrical work being installed shall be considered minimum requirements, over and above those required by federal, state, and local Authorities.

E. It is this Contractors responsibility to check and verify all electrical equipment and components for correct characteristics that are provided from other sections of the specifications for installation under this section such as starters, fan speed control switches, etc.

F. Storage of equipment such as switches, fixtures, panelboards, wire, etc. is not to remain outside, exposed to weather, in damp locations, but shall be stored in warm, dry, safe storage until ready for use.

G. This Contractor shall be responsible for their workers to protect all walls, floors, ceilings, including existing, and other work installed under other sections of the specifications while installing this work, and protect this work from damage during and after installation and deliver clean and in first class condition. Repair or replace any of this work or work of other sections of the specifications damaged by workmen employed under this section, without causing additional costs to the owner.

1.08 TEST AND MAINTENANCE:

A. Apply such tests as to insure the proper and desired operation of all electrical equipment, controls and wiring after all electrical materials and equipment are in place and connected. Replace all defective work and adjust such systems as the Architect shall direct or as required for proper and satisfactory operation. All meters, equipment and tools used for testing shall be provided under this section of the specifications. Instruct in use of all systems and apparatus, such persons as the Owner shall designate.

1.09 GUARANTEES AND WARRANTIES:

A. Guarantee all material, equipment, labor and systems as required by the General Conditions, Supplementary Conditions and General Requirements of the Contract for Construction and thereafter as per common law. Minimum Guarantees and Warranties for basic materials and labor shall not be less than a period of one year from date of project completion and acceptance by the Owner, Architect and Engineer. Guarantees and Warrantees in excess of one year by the equipment suppliers shall be in effect for their entire duration.

B. Upon determination that work covered by Warranty has failed, replace or rebuild the work to an acceptable condition complying with the requirements of the Contract Documents. The Electrical Contractor is responsible for the cost of replacing or rebuilding defective work regardless of whether the Owner has benefited from use of the work through a portion of its anticipated useful life (labor and material cost). Refer to other portions and sections of the specifications for additional requirements.

C. See other portions and sections of the specifications for additional systems and equipment that require a guarantee or warrantee that is longer than one year.

1.10 DRAWINGS:

A. The accompanying drawings are intended to be supplementary to the specifications but any work indicated, mentioned or implied in either, is to be considered as specified in both.

B. All work shown on the drawings is intended to be approximately correct to scale, but detailed drawings, calculated and measured dimensions are to be followed in all cases. The Electrical Contractor shall check locations of all equipment and check dimensions with the proposed locations so all obstacles to be overcome will be figured into the bid. Refer to Architectural, Structural, Mechanical, Fire Protection, Plumbing, and other contract drawings for building construction details and dimensions. Refer to Architectural reflected ceiling plans, when available, for exact locations of lighting fixtures. If this Contractor finds a conflict with equipment locations notify the Engineer immediately. The electrical contractor is responsible for all field conditions and shall include such in his bid.

C. The electrical systems and equipment layouts are generally diagrammatic, exact and final locations shall be determined and coordinated in the field by this Contractor. In most cases equipment circuitry is indicated by panelboard designation and circuit number. It is this Contractors responsibility to wire the system in accordance with the National Electric Code. No more than (4) Four current carrying conductors (excluding the ground conductors) shall be installed in any raceway or cable assembly - see other portions of the specifications. The routing of wiring, in some cases is indicated, but it is not intended to show every offset and fitting, nor every structural difficulty or obstacle that will be encountered during the installation of the work. If the alignment of conduit has to be varied from that shown on the drawings, where necessary on account of slight architectural changes, structural conditions, field conditions, space restrictions or to avoid the work of any other trades, it shall be done without extra expense to the Owner. Provide all necessary equipment, fittings, L.B.'s, Junction Boxes, Wireways, etc. which are required to overcome space restrictions, special construction, obstacles, height restrictions, etc.

D. The work outlined on these drawings is subject to actual field conditions.

E. In the event that the drawings or specifications are revised to indicate changes in the work, either by sketch or written form, this Contractor shall evaluate changes promptly. Before installation of any item or performance of any work indicated by revisions this Contractor shall notify, in accordance with other sections of the specification, of any addition or deduction to the Contract Price. Contractor shall not proceed with changes without proper authorization. All changes to the Contract Price shall have the following information forwarded: Each different item of material itemized as line items with unit costs including Quantities listed as Each, L.F. (lineal foot), CLF (hundred lineal feet) or other accepted abbreviations, and cost extensions for both material and labor charges and the hourly rate of labor. Lists which only indicate the items as "material" and "labor" without a breakdown of each item of material with associated labor cost will not be acceptable. If the Electrical Contractor fails to provide the information in the requested format and the electrical engineer is required to do a partial or full estimate (formal or informal) the electrical contractor will be responsible for compensating the electrical engineer for all time spent estimating the revisions to verify pricing at the engineers standard hourly rates.

1.11 RECORD DRAWINGS:

A. Maintain accurate records of all deviations in work as actually installed from work indicated on the drawings. On completion of the project, two (2) complete sets of marked-up prints shall be delivered to the Architect.

1.12 MATERIAL AND EQUIPMENT SCHEDULES:

A. Within 10 days after date of award of contract and before any materials, fixtures, devices or equipment are purchased, submit in writing to the Architect, a complete list in triplicate, of specified materials, fixtures, devices and equipment to be incorporated in the work. After one copy of this list is returned showing items approved or rejected, submit within 15 days catalog numbers, cuts, diagrams, drawings and such other descriptive data as outlined in the specifications.

B. As part of the base bid the Contractor shall operate all existing branch circuit breakers in all existing panelboards to identify the equipment and/or load served. All existing panelboards shall have an updated schedule installed in them which shall indicate all the new work and additions to the panel and all existing loads on existing circuit breakers not affected by the new work. Directory information shall be the same format as indicated in the previous paragraph. Directory card holders shall be installed in existing panels if there is not one existing. Coordinate this work with the Owners representative so as not to interfere with the operation of the facility.

1.13 EXISTING CONDITIONS AND CONSTRUCTION SITE AND BUILDING CONDITIONS:

A. Visit the project site, prior to bidding, and be thoroughly acquainted with the provisions of the contract documents and all surrounding conditions with reference to the various phases of work to be performed. Failure to do so shall not be justification for relief from responsibility of performing the work necessary for a complete and proper installation.

B. It is the Electrical Contractors responsibility to verify all conditions relating to equipment dimensions and locations. Any and all construction methods required due to low ceilings in equipment locations, obstructions, routing of conduit/wiring runs in or around the structure, obstructions which have to be overcome, etc. are the responsibility of the Electrical Contractor. All equipment locations on the drawings are diagrammatic, exact and final locations shall be determined and coordinated in the field by this Contractor. The electrical contractor is responsible for all field conditions and shall include such in his bid.

C. Remove such existing accessories and equipment as directed in the work area, in areas to be demolished, or applicable to new work and required under the work. All salvaged-surplus material, which the Owner has requested to keep, is to remain his property and shall be stored on the site, by this Contractor, where directed. All other salvaged or surplus material shall become the property of this Contractor and shall be promptly removed from the site.

D. Upon completion of each phase of the electrical installation, remove all surplus and salvaged material and debris, clean, polish and leave in perfect condition all electrical components and equipment.

E. Deliveries shall be scheduled so as to avoid the storage of materials and equipment in the way of vehicular and personnel traffic required for the proper operation of the existing facilities.

1.14 WORK IN EXISTING BUILDING:

A. Portions of the building will be occupied by the Owner through-out the construction. All work shall be performed in such a manner that there shall be no interference with the operation of the existing facilities. All required shut downs of the electric service or any other system, such as fire alarm, shall be scheduled with the Owner so as not to interfere with the Owners operation of the facility.

PART 2 - PRODUCTS:

2.01 MATERIALS - GENERAL

NOTE: SEE PART 3 - EXECUTION FOR ADDITIONAL REQUIREMENTS.

A. Materials provided under this section shall be new, be the best of their respective kinds and shall comply with the specifications.

B. Samples and shop drawings of all material shall be submitted for approval as required by the Architect. See section "Submittals" for additional information.

2.02 WIRE AND CABLE:

NOTE: SEE PART 3 - EXECUTION FOR ADDITIONAL REQUIREMENTS.

A. All wire and cable shall be copper and shall comply with the standards of and be listed by the Underwriters' Laboratories, Inc.(UL), the ASTM and the I.P.C.E.A. as applicable. Wire and cable for interior lighting and power systems shall be type THWN/THHN insulation for 600 volts.

B. Wire shall be supplied in different colors for the different phases in accordance with the latest published edition of the electric code, articles 210-4(d), 210-5, and other pertinent articles. conductors #8 and larger shall have colored tape on each end of the conductors and in each junction box identifying the phase it is connected to.

C. Where terminal strips are used for various systems (electric, fire alarm, low tension systems, etc.) brady tags shall be installed on each conductor to identify the corresponding conductor on each side of the terminal strip (to insure proper retermination if conductors are removed from the terminal strip for any reason).

D. 120/208 volt, 3 phase, 4 wire systems, Black, Red and Blue for the ungrounded conductors and white for neutral.

E. Green shall be used for ground.

F. Isolated ground shall be green with a yellow stripe or other identifying stripe and a tag identifying it at each junction box (provide Thomas Betts TY-RAP identification cable ties), panelboard and/or outlet box and at the main system ground.

G. Conductors of different voltage systems, emergency wiring systems and other systems shall not be installed in the same raceway, junction box, pull box, etc.

H. All wire and cable shall be as manufactured by Triangle Wire and Cable, P.W.C., Collyer Insulated Wire Company or American Flexible Conduit Co. (AFC) or equivalent. All conductors No. 10 gauge or smaller shall be solid and No. 8 gauge and larger shall be stranded unless otherwise noted. All joints and splices of No. 10 AWG or smaller wire and cable shall be made with UL listed wire nuts or compression type connectors. All joints or splices for No. 8 AWG or larger shall be made with UL listed mechanical compression connectors - see section "WIRE AND CABLE CONNECTORS". After the conductors have been made mechanically and electrically secure, the entire joint or splice shall be covered with two layers of UL listed rubber tape and two layers of UL listed PVC electrical tape to provide a minimum insulation value of 600 volts.

I. Wiring runs shall be concealed in finished areas of the building.

J. Wiring method for all exposed vertical wiring runs and horizontal wiring runs in unfinished areas, wiring which may be subject to physical damage and boiler wiring shall be E.M.T. or R.S.C. as applicable - see conduit section.

K. Wiring which is located above ceilings in areas used for environmental air (air plenums) shall be type "MC" cable, conduit and wire or other type of cable/wire complying with the requirements of the Electric Code for use in air plenums.

L. Metal-clad sheathed cable, Type "MC", with full size green ground wire may be used on interior branch circuits, where run concealed (except in concrete or block walls), unless otherwise indicated - BX is not acceptable. The outer jacket of type "MC" cable shall be listed for use as a supplemental ground path.

M. Support all cables types "MC" from the structure at regular intervals so there will be NO sagging of cables to provide a neat mechanical appearance. The cable shall be installed so as NOT to lay on the ceiling or ceiling tiles, ductwork, piping, etc. Supports shall be secured at intervals not exceeding 6 feet and within 12 inches of outlet/junction box. Support of cable SHALL NOT BE from the suspended ceiling wire system. Cables shall be installed in conformance with the Electric Code. All type "MC" cables shall be UL listed.

N. Branch circuit wiring in all common spaces and areas as required by the Electric Code shall be metal-clad sheathed copper cable, Type MC, with green (full size) ground. BX IS NOT ACCEPTABLE.

2.03 WIRE AND CABLE CONNECTORS:

NOTE: SEE PART 3 - EXECUTION FOR ADDITIONAL REQUIREMENTS.

A. All joints and splices of No. 10 AWG or smaller wire and cable shall be made with UL listed wire nuts or compression type connectors.

B. After the conductors have been made mechanically and electrically secure, the entire joint or splice shall be covered with two layers of UL listed rubber tape and two layers of UL Listed PVC electrical tape.

C. No more than four (4) current carrying conductors, inclusive of the neutral, shall be placed in any single conduit or cable assembly.

D. If the electrical contractor combines wiring runs in conduit without consulting the engineer and installation of the proper gauge conductor to compensate for derating, the wiring run will be determined unusable and shall be removed and all wiring properly installed at the expense of the electrical contractor.

2.04 OUTLET BOXES:

NOTE: SEE PART 3 - EXECUTION FOR ADDITIONAL REQUIREMENTS:

A. All outlet boxes for all wiring methods shall be UL listed and shall be galvanized 4" square with proper raised covers, unless otherwise required for the device or equipment to be mounted on or in the box. Where the boxes are cut into existing walls for flush mounting and type "mc" cable is used 2" x 4" or gang boxes may be used, unless otherwise noted, called for or required. Where boxes are cut into existing walls they shall be properly secured so there is no movement when the device is operated of a plug inserted. All wall outlet boxes shall be set in wall to match finish line of walls. wall outlets for wall mounted lighting fixtures (wall sconces, etc.) shall be 3-1/2" or 4" octagon with stud and plaster ring unless otherwise required by the fixture to be installed - contractor shall verify the type, size and style of box required for wall mounted fixtures prior to installation. outlet boxes shall be ul listed for their use.

B. All boxes shall be as manufactured by RACO, Steel City, Appleton, or equivalent.

2.05 JUNCTION AND PULL BOXES:

NOTE: SEE PART 3 - EXECUTION FOR ADDITIONAL REQUIREMENTS.

A. Junction or pull boxes shall be UL listed and shall be galvanized, code gauge steel and minimum size as required by the Electric Code. Junction or pull boxes larger than 4 inch square shall be furnished without knockouts with holes being field cut as required. Covers shall be secured with bronze button head screws. This Contractor is responsible for proper sizing of all junction and pull boxes in accordance with the number of conduits, conductors, etc. to meet the requirements of the National Electric Code. Any and all boxes with open knockouts shall have knockout seals installed in conformance with the Electric Code.

2.06 RECEPTACLES AND MISCELLANEOUS DEVICES:

NOTE: SEE PART 3 - EXECUTION FOR ADDITIONAL REQUIREMENTS.

A. Receptacles and miscellaneous devices shall be as specified in the symbol list on the drawings and shall be UL listed. All receptacles shall be hard use or extra hard use specification grade, commercial grade and residential grade will not be accepted and will be removed and replaced by the electrical contractor at their expense if installed. they shall be of the type, rating and number of poles indicated and required for the anticipated purpose. They shall be as manufactured by Leviton, Hubbell or Pass and Seymour.

B. Receptacles shall be installed with the grounding connection up above the hot and neutral connections.

C. Receptacles shall be installed securely in the outlet box, so there will be no movement of the device. If the device moves, when pressed on, the Contractor shall correct the problem. Where required, provide shims (such as "B-Line "Retainer Leveler") between the device and the outlet box to hold the device firmly in place flush with wall surface. The plate shall not be used as the means of holding the device in place.

D. All colors of receptacles and miscellaneous devices shall be as selected by the Architect. Catalog numbers represent the type and style of the device specified for installation and does not represent the color choice. If the color installed by this Contractor is not acceptable to the Architect they shall be replaced at no additional cost to the Owner, at the Contractors expense. Colors selected shall be of the standard colors of gray, ivory, white, brown. Colors shall vary in accordance with the room or space finish. The Architect reserves the option of choosing multiple colors for use in the various spaces in accordance with the various color schemes used within the structure.

2.07 WIRING DEVICE PLATES:

NOTE: SEE PART 3 - EXECUTION FOR ADDITIONAL REQUIREMENTS.

A. Device plates shall be UL listed and shall be unbreakable type, Leviton "80700" or "80400-N" (decorator style) unbreakable nylon series, Pass and Seymour (P & S) "SRP" unbreakable nylon series or Hubbell "P" unbreakable nylon series, or stainless-steel type 302. Stainless Steel type 302 shall be used in areas where plates may be subject to damage such as equipment storage rooms, mechanical rooms, warehouse spaces, etc. Special plates and plates requiring engraving shall be stainless steel type 302. Plates shall be as manufactured by Leviton, Pass and Seymour (P & S) or Hubbell.

B. All plates shall be unbreakable nylon - any breakable plastic plates which are installed shall be removed and replaced by the electrical contractor at their expense if installed.

C. All fire alarm wiring shall be in e.m.t. or R.S.C. conduit - cable shall not be used – provisions shall be made by this contractor for installing conduit concealed above all ceilings and within all walls in all finished areas. Note that if the authority having jurisdiction approves the use of type red armor "FPL/MC" cable, in writing, they may be used. provide letter from the department to the architect.

2.08 LIGHTING:

SEE PART 3 - EXECUTION FOR ADDITIONAL REQUIREMENTS.

A. Provide lighting fixtures, equipment and lamps for all lighting outlets as shown on the drawing(s) and listed in the fixture schedule. All lighting fixtures shall be UL listed. All painted finishes shall be approved by the architect before fixtures are purchased. All yokes, plaster frames, straps, mounting plates, nipples, brackets, etc., shall be supplied where required for proper installation and to suit type of ceiling construction. the contractor shall be responsible for verifying the ceiling type and ordering the fixtures according to the type of ceiling being installed.

B. Where supra fine reduced size suspended ceiling grid, standard "t" bar, or other suspended type ceiling is being installed this contractor shall inform the lighting representative of the

various areas so the proper fixtures will be ordered. Provide "earthquake clips" for holding the ceiling grid to the lighting fixture housing. These clips shall be provided for each fixture or downlight style fixture. Where fixtures are surface mounted on ceiling grid tiles this contractor shall provide a length of unistrut to be placed on the back of the ceiling tile and secure fixture through the tile to the unistrut. The unistrut shall then be supported from the structural ceiling with threaded rod so the ceiling tile can be positioned and fitted properly in the grid.

C. The fixtures shall be of the type approved for use by the utility company rebate program for those fixtures which can qualify without changing the intent of the project. Verify with the lighting fixture manufacturer's representative the types of fixtures to be used to be eligible for the rebate and incorporate same in those fixtures which would otherwise qualify.

D. The contractor shall provide to the owner/client all cost for lighting fixtures and lamps, including invoices, if requested by the owner/client, so all necessary documentation for the utility company rebate program as outlined by the utility company publication will be complied with.

E. Any and all rebates for lighting shall be paid directly to the owner by the utility company. This contractor shall cooperate with the utility company to the extent required to insure the owner obtains a rebate for all applicable lighting fixtures and exit signs. (note: the contractor is not eligible to receive the rebate and is not to take credit in his bid for any products which do have a rebate from the electric utility company).

PART 3 EXECUTION:

3.01 GENERAL

A. The electrical systems and equipment layouts are generally diagrammatic, exact and final locations shall be determined and coordinated in the field by this Contractor. In most cases equipment circuitry is indicated by panelboard designation and circuit number. It is this Contractors responsibility to wire the system in accordance with the National Electric Code. No more than (4) Four conductors shall be installed in any raceway or cable assembly - see other portions of the specifications. The routing of wiring, in some cases is schematically indicated, but it is not intended to show every offset and fitting, nor every structural difficulty or obstacle that will be encountered during the installation of the work. If the alignment of conduit/wiring has to be varied from that shown on the drawings, where necessary on account of slight architectural changes, structural conditions, field conditions, space restrictions or to avoid the work of any other trades, it shall be done without extra expense to the Owner. Provide all necessary equipment, fittings, LB's, Junction Boxes, Wireways, etc. which are required to overcome space restrictions, special construction, obstacles, height restrictions, low ceilings, high ceilings requiring staging, etc. All exposed conduit shall be secured tight to the ceiling and/or wall surfaces and shall be run at right angles to and parallel with the directions of the walls - diagonal runs will not be accepted and will be replaced at the Electrical Contractors expense. It is the Electrical Contractors responsibility to verify routing of all wiring runs and install same so as not to interfere with the structure or the work of other trades.

B. It is the Electrical Contractors responsibility to verify all conditions relating to equipment dimensions and locations. Any and all construction methods required due to low ceilings in

equipment locations, obstructions, routing of conduit/wiring runs in or around the structure, obstructions which have to be overcome, etc. are the responsibility of the Electrical Contractor. All equipment locations on the drawings are diagrammatic, exact and final locations shall be determined and coordinated in the field by this Contractor. The electrical contractor is responsible for all field conditions and shall include such in his bid.

3.02 FEEDERS AND BRANCH CIRCUITS:

A. As part of this contract this Contractor shall operate each circuit breaker in each existing panelboard to identify the load/equipment served (lighting, receptacles, etc.). Provide new typed directories in the panelboards showing the utilization of each circuit and new stick on numbers on each circuit breaker. Directory shall contain information as outlined in the "equipment identification" section of this specification. The Contractor shall mark up a print with the Owners room/area designations and use these designations in the panelboard schedule.

B. All necessary fittings, LB's, condulets, junction and pull boxes shall be installed in runs to facilitate wire pulling and conduit installation and shall be in accordance with the Electric Code. These boxes and fittings shall be provided whether or not shown. Obtain approval of location and type from the Architect prior to installing same.

C. All conduit on exposed work shall be run at right angles to and parallel with the surrounding walls and shall conform to the shape of the ceiling. Conduit shall be secured tight to the wall and/or ceiling surfaces and shall not hang down from these surfaces. No diagonal runs shall be permitted. Bends and offsets shall be avoided as far as possible. Where bends cannot be avoided, condulet fittings shall be used. Conduit in all cases shall be run straight and true, satisfactory to the Architect. Where conduits must pass through structural members, permission shall be first obtained from the Architect and then a provision will be made by the General Contractor. All thick-walled rigid steel conduits shall have double locknuts (one inside and one outside the box, enclosure, etc.). All conduits (Rigid Steel and/or E.M.T.) 1.5 inch and larger shall have grounding bushings properly installed and terminated in accordance with the Electric Code.

D. All type "MC" shall be properly secured in accordance with the Code, utilizing U.L. Approved cable staples specifically made for the type of cables installed. These cables may only be used in areas designated in other parts of this specification. Support cable from the structure at regular intervals so there will be NO sagging of cables to provide a neat mechanical appearance. The cable shall be installed so as NOT to lay on the ceiling or ceiling tiles, ductwork, piping, etc.

E. All cable types "MC" shall be secured at intervals not exceeding 6 feet and within 12 inches of the outlet/junction box which the cable is terminated at. All terminations shall be made utilizing U.L. Approved connectors made specifically for the type of cables installed.

F. Raceways shall be installed and terminated to exclude dirt, plaster, moisture and foreign material from entering, while the project is in the process of construction. All thick-walled rigid steel conduits shall have double locknuts (one inside and one outside the box, enclosure, etc.). All conduits (Rigid Steel and/or E.M.T.) 1.5 inch and larger shall have grounding bushings properly installed and terminated in accordance with the Electric Code. Prior to installation of electrical conductors, all raceways shall be cleaned in accordance with

approved standards. All empty conduits, both interior and exterior, shall have a pull wire installed in them. This contractor shall pull this string through the conduit, with another pull in string or rope, from end to end to prove the conduit clean and clear. This shall be done in the presence of the Architect, Owner, Engineer, General Contractors Foreman, Utility Company representatives and/or the Owner or their representative.

G. All raceways shall be complete in every respect before electrical conductors and/or cables are installed. No splices or joints will be permitted in either feeders or branches except at outlets or at accessible junction boxes.

H. Provide expansion fittings in all conduits passing through all building expansion joints and in other areas in accordance with manufacturers recommendations for the type of conduit used and the length of the conduit run.

I. Provide sleeves for the installation of wiring runs (raceways, cables, etc.) through Fire Rated and bearing walls, all ceilings, all floors, etc. Seal openings between wiring run and inside surface of sleeve and around sleeve with a U.L. listed (3) three hour rated fire proofing material approved for this purpose. Install fireproofing material as instructed by the manufacturer and to meet the requirements of the fire rating required at the penetration. Fireproofing material shall be type acceptable to the Architect - It is the Electrical Contractors responsibility to meet the required fire rating regardless of acceptance of material by the Architect.

J. Wiring runs shall be installed concealed in all finished portions of the building even if runs have to be relocated. Relocation of wiring runs shall be reviewed with the Architect.

K. Outlets shall be located approximately where indicated on the drawings and shall be properly centered where located in paneled work or other special interior finish. The Architect reserves the right to relocate outlets, using the same amount of material, before actual construction begins, without expense to the Owner. See general notes for additional requirements.

L. Verify all dimensions, electrical characteristics, location and method of connection to all types of equipment, devices, appliances and accessories prior to installing any runs - see other portions of the specifications for Contractor responsibilities. When indicated, verify the number of wires indicated on the various systems wiring runs and report any discrepancies to the Engineer. For circuitry indicated by circuit number only the Contractor is responsible for layout with the proper number of conductors in accordance with the Electric Code and these specifications. For appliances and equipment furnished under other divisions of work verify the type and characteristics of the wiring runs. Responsibility to see that all systems and equipment function correctly and as intended is included in this division of the contract documents.

3.03 GROUNDING:

A. Where type “MC” cable is used the armor shall be type approved as a supplemental ground path. In no case shall a cable assembly which does not have the underwriters laboratories inc. (UL) listing for the outer jacket meeting the requirements for a supplemental ground path be used. in addition to the outer jacket there shall be a full size ground wire as part of the cable assembly.

B. Isolated ground receptacles shall be wired with an isolated insulated ground conductor to the panelboard isolated insulated ground bar. This isolated ground shall not be in contact with anything other than the isolated ground screw on the receptacle and the insulated isolated ground bar in the panelboard. In addition to the isolated ground a second ground conductor (bond wire) shall be installed for grounding of the box, raceway system, etc. and shall terminate on the bonded ground bar in the panelboard.

3.04 SUBMITTALS:

A. After first checking for compliance and making all necessary notations and corrections, submit for approval four (4) sets (unless other quantity of data is required by the Architectural Specifications) of shop drawings, product data, wiring diagrams (where applicable) on all component parts of the following equipment and systems:

Wall switches, receptacles and other wiring devices and plates.
Lighting Fixtures
Occupancy Sensors
Hand Dryer (See specification section 10 28 13)

B. ALL SUBMITTALS SHALL BE CLEAR AND READABLE AND SHALL NOT BE COPIES OF FAX.
FAX COPIES WILL BE AUTOMATICALLY DISAPPROVED.

END OF SECTION