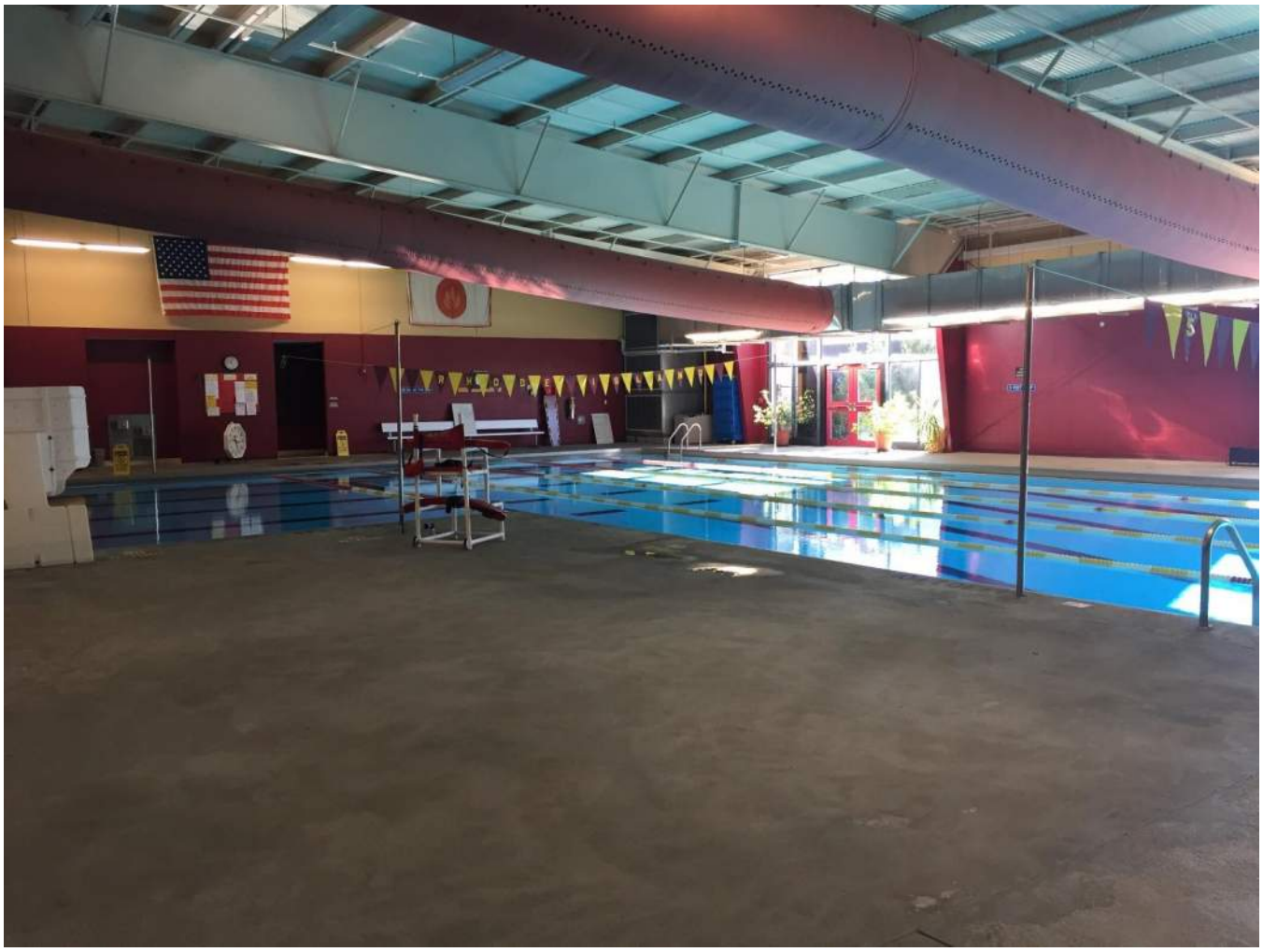
RHODE ISLAND COLLEGE



PROJECT MANUAL

Recreation Center Pool Repairs

Brewster Thornton Group Architects, LLP

Issue Date: October 18, 2019

00 01 01 – TITLE PAGE

Owner:

State of Rhode Island Board of Education, Rhode Island College, and State of Rhode Island

User Agency:

Capital Projects Administration
Rhode Island College
600 Mount Pleasant Avenue
Welcome Center Suite 300
Providence, RI 02908
Phone: (401) 456-9885

Design Agent:

Brewster Thornton Group Architects, LLP
317 Iron Horse Way, Suite 202
Providence, RI 02908
Contact: Nathaniel J. Ginsburg
Email: Nateg@BrewsterThornton.com
Phone: (401) 861-1600

Pool Consultant:

Counsilman-Hunsaker
10733 Sunset Office Drive, Suite 400
St. Louis, MO 63127
Contact: Carl Nylander
Email: CarlNylander@chh2o.com
Phone: (314) 894-1245

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END OF SECTION

00 01 15 – LIST OF DRAWINGS

GENERAL

Dwg. No	Drawing Title	Date
G0.0	COVER SHEET	10/18/19

POOL

Dwg. No	Drawing Title	Date
SP0.0	EXISTING POOL REFERENCE PLAN	10/18/19
SP0.1	POOL DEMOLITION PLAN	10/18/19
SP1.0	POOL PIPING PLAN	10/18/19
SP2.0	POOL & MECHANICAL DETAILS	10/18/19
SP3.0	POOL STRUCTURAL DETAILS	10/18/19

END OF SECTION

00 31 00 – AVAILABLE INFORMATION

PART 1 - GENERAL

1.1 EXISTING CONDITIONS

A. Certain information relating to existing surface and subsurface conditions and structures is available to bidders but will not be part of the Contract Documents, as follows:

B. Rhode Island College Swimming Pool Assessment report generated by Counsilman-Hunsaker / Brewster Thornton Group Architects, LLP, dated April 15,2019.

1. An amended copy of this document follows this page.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

Rhode Island College
Swimming Pool Assessment

Counsilman · Hunsaker
AQUATICS FOR LIFE

BREWSTER THORNTON GROUP ARCHITECTS LLP

April 15, 2019

OVERVIEW

Rhode Island College (RIC) commissioned the team of Counsilman-Hunsaker and Brewster Thornton Group Architects to provide an assessment of the existing indoor competition pool on campus. The assessment was to have a specific focus on the pool interior finishes and the water loss from the structure and/or piping. A site visit was completed by Carl Nylander of Counsilman-Hunsaker and was conducted on February 15, 2019 to evaluate in-person the existing facility.

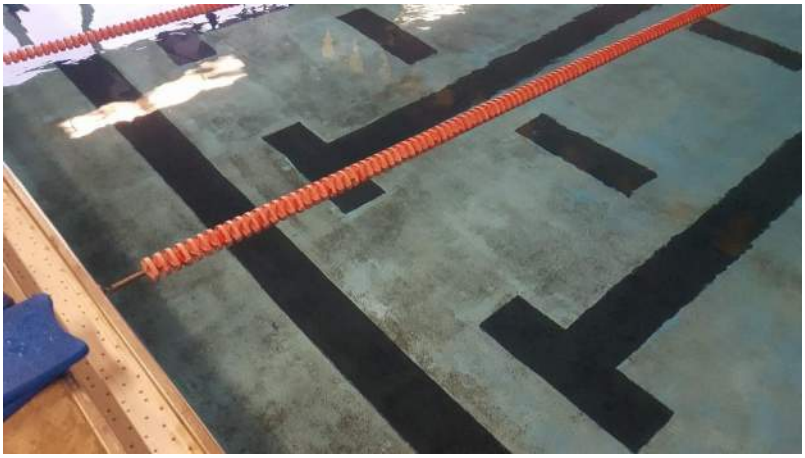
The pool is an "L-shaped" lap pool with five 25-yard lanes in each direction. In the primary direction the pool slopes from 11'-0" at the starting end to between 4'-0" and 4'-6" at the turning end. In the other direction, the lanes are shallower and at the shallowest end, the pool appears to be used primarily for recreation with an 8'-0" wide x 4'-0" step entry to a water basketball and water volleyball area. These shallow water lap lanes transition from 3'-0" at the stair entry to 4'-6" to 5'-0" deep at the opposite end.

The pool has a water surface area of approximately 4,057 SF and a volume around 170,000 gallons. Limited construction as-built information was available and most of the dimensions and calculations were based on field observations and assumptions based on industry expertise from observing similar facilities of this time period.

The pool was originally constructed in 1970 as an outdoor pool with a skimmer perimeter overflow system. In the late 1980s, the College acquired the land adjacent to campus, including the outdoor swimming pool. In 1989 the pool was enclosed as part of the existing recreation center. As part of the enclosure project, the original skimmer perimeter overflow system was cut off and replaced with a stainless steel perimeter overflow gutter system with an integral supply tube for the filtered water return.

Over the last several years, the pool has experienced water loss. The domestic water refilling the pool is constantly running and the College has estimated that approximately 1" of water is lost every day, which equates to approximately 2,500 gallons.

The pool hasn't been repainted in approximately 5 years and the water loss has reportedly



increased since then. Despite this observation, the interior pool paint does not provide a true waterproofing finish. Swimming pools can be constructed to be water-tight if designed and constructed properly. The American Concrete Institute (ACI) has a standard (350) for liquid-containing vessels. These concrete structures are designed with robust reinforcement and shell properties to limit the amount of cracking and can be constructed to lose just 0.1% of a pool's volume over a 24 hour period. This amounts to approximately 170 gallons for a pool with the dimensions of the RIC pool (about 6.8% of the water reportedly being lost by the RIC pool today). Then a pool can be finished with a true waterproofing product or membrane to limit the 0.1% of water being lost through the bare concrete. Below an all tiled pool finish, a roll-on membrane product such as Laticrete's Hydroban or Mapei's Aquadefense is appropriate. For pools with a paint or marcite plaster finish, a spray-applied waterproofing product such as Aquron's CPSP can be used with good results.

That amount of water loss over time can cause issues to the subgrade and stability of the structure. Often in similar situations, ground penetrating radar (GPR) is utilized on the floor slab to determine if there are any pockets or voids where backfill may have been washed away. However, even with the amount of water lost from the pool system, the perimeter gutter still appeared to be skimming at 100% of the pool's perimeter. Assuming that 80% of the recirculation rate is returning through the gutter system (368 GPM), there would be areas of the gutter handhold that are dry if the pool was out of level more than 13/128" (a little less than 1/8") around the 308 ft perimeter of the pool. This observation suggests that the subgrade remains in good condition, despite the high amounts of water that are lost daily, unless the pool is structurally on helical piles or anchored in a more robust way.

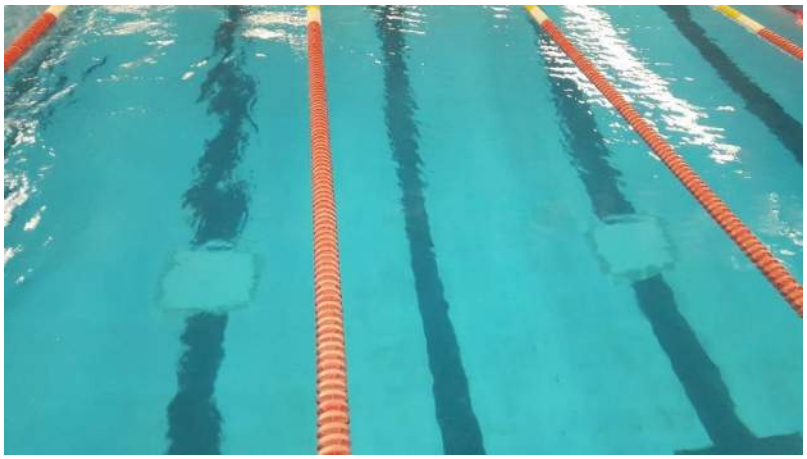
The College commissioned a diver to conduct a dye test to determine the primary sources of water loss. Divers inject dye into common leak points to observe whether or not the colored dye is being pulled into the cracks or joints. It is not uncommon for pools to leak over time at the interface of a stainless steel gutter with a concrete pool wall, especially if the joint isn't regularly

maintained with caulk replacement. In addition, pools of this size are advised to be poured monolithically as structural joints are another common leak source and maintenance headache over time. Finally, leaks at the penetrations into the pool shell (e.g. underwater lights, drains, and any floor or wall inlets) are also common leak sources within an existing pool. The diver who examined the RIC pool reportedly observed leaks at the gutter and construction joints.

Dye tests will typically focus on the pool shell and not the piping systems. To verify the integrity of the below-grade piping, the pipes need to be capped, placed under hydraulic pressure, and monitored for any drop in pressure. This is typically accomplished once the pool is drained. The existing piping from the main drains to the surge tank is assumed to be cast iron. Cast iron piping is typical for swimming pool construction in 1970. Today, most swimming pool recirculation piping, including buried lines, are PVC, which are superior for longevity. Over time, cast iron corrodes due to pool chemical exposure causing restricted flow in the pipes and eventual failure. The diver who examined the RIC pool reportedly removed the main drain covers and observed significant corrosion and mineral growth, enforcing the assumption that the drain lines are cast iron.

Staff reported that it was not believed there were hydrostatic relief valves in the main drain sumps. Hydrostatic pressure can be catastrophic to a pool shell. If the ground water is above the floor slab of the pool when a pool is emptied, the uplift force can pop the pool out of the ground. The presence of hydrostatic relief valves can relieve this hydrostatic pressure by opening in the presence of high ground water allowing for the ground water to seep into the pool through perforated collection tubes below the sumps and equalize with the ground water neutralizing the vertical force.

Hydrostatic relief valves (HRVs) are recommended in all main drain sumps, even those where the presence of ground water is nowhere close to the underside of the pool shell. If water is leaking through the pool or piping, water can become perched under the pool and create a similar uplift force that could result in a complete failure of the pool structure. While staff reported that it wasn't believed HRVs were in the main drains, they also reported that when the pool was drained last, water infiltrated into the drain sumps which required a sump pump to remove. It should be confirmed HRVs are in place. But from the reported experience during the last pool draining, it is assumed that HRVs or a similar system is currently installed allowing ground water to come into the emptied pool.



The main drains were outfitted with Virginia Graeme Baker (VGB) compliant drain covers. The existing sumps were covered with 30" x 30" Aegis covers from Evoqua/Neptune Benson. These

are rated for flow rates up to 1432 GPM and are convenient in existing applications because they can be installed over any drains smaller than 24" square by anchoring directly to the floor slab. The federal regulations also state that the covers require replacement at the end of their rated life. The Aegis covers are rated for 15 years. Since the VGB law was passed by the federal government approximately 10 years ago, the drain covers will likely require replacement in about 5 years. The specific expiration and replacement date should be provided on the drain covers for confirmation.

While the pool interior finishes, materials, and water loss was the original focus of the pool assessment, Counsilman-Hunsaker also examined the condition of the overall mechanical and chemical treatment systems for the competition pool.

POOL RECIRCULATION EQUIPMENT

The pool continues to operate with what was reported to be the pool's original filter system. The filter exhibited some signs modest external corrosion. It is a single cell vertical sand filter with 33.2 SF of filter area and a sand bed depth of approximately 28" above a gravel under bed. The resulting filtration rate is 13.9 GPM/SF based upon the flow observed on site and appropriate for this installation based on current standards. Vertical sand filtration is not common in current new pool design domestically. If a facility utilizes high-rate sand filtration, the tanks are nearly always horizontal in orientation which allows for more efficient installations. However, vertical sand filters have a greater sand bed depth and can offer superior filtration. It is recommended that the sand be replaced about every 7 years. Staff reported that this was last done 5 years ago. During these periods, the laterals and filter internals should be inspected visually along with the condition of the interior lining of the tank. Most filter tanks see a useful life of 25-30 years. Staff reported that the filter was replaced with the 1989 renovation, putting the operational age at nearly 30 years old. It should not be expected that the filter will last more than another 5-10 years without a failure that would result in an extended shutdown of the pool. It is recommended to get a filter replacement within the College's maintenance budget over this time period to limit the impact on pool operations and scheduling. Please refer to the appendix of this report for discussion on new filtration tank options as well as opinions of cost.

A single end suction centrifugal Griswold pump is utilized for recirculating the pool water. The pump's impeller was reportedly replaced nearly two years ago. Based on the analog GF Signet flow meter, the pump's flow rate is designed for 460 GPM which would result in a pool turnover

of 6.16 hours. It is probable that the observed flow rate and/or the calculated volume are slightly off since the pool recirculation system was likely designed for a 6.0 hour turnover. The piping within the pump pit was Schedule 80 PVC. The surge tank hatch was unable to be removed, but it's assumed that piping is Sch 80 PVC as well since it's accessible and immediately on the other side of the pump pit wall. Between the surge tank and the furthest main drain is approximately 50 feet and this piping is what is assumed to remain of the original construction and is still cast iron.

The pool mechanical room contains one large commercial gas-fired pool heater and a smaller residential Hayward pool heater. The commercial heater is not used due to incomplete installation. However, gas was just brought to the unit and it was anticipated that it would be fully installed in the near future. The residential pool heater that has been used up until now has required replacement every 3 years on average and is able to maintain the desired pool temperature. However, if the pool needs to be fully drained and heated, it would likely take close to a week or more to achieve the desired operating temperature.

Based on the pool size and volume, the daily maintenance heat load is approximately 350,000 BTUH assuming an 89% efficient boiler, a 50 degree domestic water temperature, a pool operating temperature of 82 degrees, and a natatorium air temperature of 84 degrees. Under these same assumptions, the pool would require 1,200,000 BTUH to heat up in 48 hours for a full re-fill after it's drained, and 835,000 BTUH if the heat-up duration is increased to 72 hours.

The natatorium dehumidification system was recently replaced with a large commercial model. Reportedly, it maintains the air temperature and relative humidity within the natatorium at appropriate levels (ASHRAE recommends an air temperature 2 degrees above the water temperature to control evaporative losses and a relative humidity of 60%) and condensation has been eliminated from the exterior windows. However, no rejected heat is taken from the dehumidifier to the pool itself. This is likely due to site constraints and difficulty making this piping connection. In most similar installations, the rejected dehumidification heat can meet the

daily maintenance heat demand of the pool. If this free heat is not used for the pool, other sources requiring heat should be examined (e.g. hot water boilers for showers, etc.).

POOL CHEMICALS & WATER CHEMISTRY

Sodium hypochlorite, or liquid chlorine, is used as the primary sanitizer for the pool. The liquid chlorine is stored in individual drums that are regularly replaced. Liquid chlorine will contain 12% to 15% free available chlorine when delivered and has a shelf life of 30 days before this percentage decreases approximately 3%. This is more of an issue with larger bulk tanks and not individual small drums like what RIC uses. It appears that getting replacement drums to this closet is a small challenge with the other equipment and obstacles along the route. A bulk tank would likely be more convenient. It should be assumed that between 4-5 gallons of liquid chlorine is required per day based on the pool volume and size. A bulk tank should be sized for a 30 day supply due to the aforementioned shelf life concerns. Therefore, a 150 to 200 gallon double-walled bulk tank would be appropriate in this application. It may be challenging getting the bulk tank to the sanitation room around the existing filter and equipment. And refilling this tank would need to be evaluated. Often, they are refilled from a remote fill port near a service drive on the exterior of the building. (Note a larger single bulk tank was observed next to the filter tank unused. But this was just a single walled poly tank.)

Secondary containment is also required but not provided in the existing sanitation room. A bulk tank offers an outer, double shell for this purpose. If it is more practical to keep operating with the individual drums, then they should be stored on a spill platform(s) with 100% capacity.

The door to the chlorine closet was open at the time of the site visit and the tops to the chlorine drums were not sealed. The liquid chlorine in this condition will off-gas and start to corrode all un-coated ferrous metals.

All tanks should remain sealed and the door to the closet shut. These rooms are recommended to be independently exhausted to the exterior and under negative pressure relative to the adjacent spaces to prevent chemical off-gassing from migrating to attack other systems and hardware. NFPA signage is recommended for the chemicals stored on site along with appropriate material safety data information.

Liquid chlorine is typically the least expensive from a first-dollar cost approach compared to other commercial pool sanitation methods. It does not contain calcium (like solid chlorine systems) and therefore calcium chloride needs to be added when calcium hardness needs to be raised in the pool.

The pH of liquid chlorine is approximately 11. Since the pool's pH is recommended to be maintained between 7.2 and 7.6, a pH buffering agent is needed to reduce the pH level. RIC uses carbon dioxide, CO_2, for this purpose. The CO_2 is stored in multiple 50 lb cylinders that are replaced manually when emptied. Based on the pool size and volume, it is anticipated that RIC should use close to 8 lbs of CO_2 per day. (Note that these chemical consumption estimates are with no water losses and assuming typical evaporation and splash-out losses.)

Similar to liquid chlorine, bulk CO_2 storage is available, most commonly in 450 lb or 600 lb tanks. These bulk tanks are convenient since the tanks don't need to be manually switched out every 5-7 days. But the retro-fit challenge is similar. Bulk tanks need to be filled remotely and there are constraints with CO_2 remote fills. The bulk tank should be within 50 feet of the fill point, typically on the exterior of the building near a service drive. If this is not practical, there are automatic switch-overs that can be used with multi-cylinder applications.

Carbon dioxide is most effective as a pH buffering agent when the domestic potable water has low total alkalinity levels, typically less than 80 ppm. The source water from the pool fill was tested on site and was 20 ppm. So, CO_2 is more appropriate than an acid.

Carbon dioxide is an asphyxiating gas. Since it is odorless and colorless, it is recommended that a CO_2 monitor be installed close to where the tanks are stored.

The pool's water chemistry was manually tested on site to determine whether the water was balanced, corrosive, or scaling at the time of the site visit. The pH was measured to be 7.2, the ORP read 800 mV from the water chemistry controller, the water temperature was 82 degrees, the total alkalinity was 40 ppm, calcium hardness at 80 ppm, and the chlorine was 1.0 ppm. All water chemistry parameters were within recommended range with the exception of calcium

hardness. Typically, it is advised to be maintained between 200-400 ppm. As mentioned previously, with liquid chlorine systems, pool water can often require regular supplementation of calcium chloride. The chlorine was at 1.0 ppm which is the minimum residual allowed by code. It is recommended to raise the minimum level at the water chemistry controller to 1.5 ppm, especially with the multiple small drums used on site. When one drum gets emptied, there should still have a little room for the chlorine levels to drop in the pool and still remain within acceptable range per code.

Based on the above water chemistry parameters, the pool's Langlier Saturation Index (LSI) was calculated to be -1.0. An LSI of 0.0 is ideal and a range of +0.3 to -0.3 is generally viewed as acceptable. Water is only able to hold so much calcium in suspension and will by its nature seek equilibrium at which point neither etching nor scaling will take place. At -1.0, the water is under saturated, corrosive and requires rebalancing. The sequence of adding chemicals to achieve balance should first be to raise the total alkalinity, then raise the pH, and finally raise the calcium hardness.

00 40 00 – STATE PROCUREMENT DOCUMENTS

Procurement documents are provided under separate cover.

END OF SECTION

00 43 00 – BID BOND

See AIA Document A310-2010, attached as the following page.

END OF SECTION

AIA® Document A310™ – 2010

Bid Bond

CONTRACTOR:
(Name, legal status and address)

SURETY:
(Name, legal status and principal place of business)

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.purchasing.ri.gov

BOND AMOUNT: $

PROJECT:
(Name, location or address, and Project number, if any)

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

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.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

Init.
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User Notes:

(1718963276)

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this day of ,

	(Contractor as Principal) *(Seal)*
(Witness)	*(Title)*
	(Surety) *(Seal)*
(Witness)	*(Title)*

Init.
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User Notes: (1718963276)

00 50 00 – CONTRACTING FORMS

PART 1 - GENERAL

1.1 COPYRIGHT

A. Contractor is responsible for obtaining a valid license to use all copyrighted documents specified or included in the Project Manual.

1.2 AGREEMENT AND CONDITIONS OF THE CONTRACT

A. See Section 00 5200 for the Agreement form to be executed.

B. See Section 00 7200 for the General Conditions.

1.3 FORMS

A. Use the following forms for the specified purposes unless otherwise indicated elsewhere in the Contract Documents.

B. Bond Forms:

1. Performance Bond and Payment Bond Forms: AIA A312

C. Release of Lien:

1. Release of Liens Form: AIA G706A
2. RIC Waiver of Liens Form 01 20 00

D. Insurance certificate, supplementary attachment:

1. ACORD Certificate of Insurance Form: AIA G715

1.4 REFERENCE STANDARDS

A. AIA G706A – Release of Liens: 1994.

B. AIA A312 - Performance Bond: 2010 and Payment Bond: 2010.

C. AIA G715 – ACORD Certificate of Insurance: 1991.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

00 51 00 – NOTICE OF AWARD

RI State Purchasing shall issue the Notice of Tentative Award.

END OF SECTION

00 52 00 – AGREEMENT FORM

PART 1 - GENERAL

1.1 AGREEMENT FORM

A. The Agreement Form to be utilized on this project is AIA Document A101-2017 as amended, a copy of which follows this page.

B. Agreement made as of the date of issue of the Purchase Order for this Work.

C. This Agreement is entered into as of the date of the applicable Purchase Order and is assumed as executed once the Purchase Order is issued.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 EXECUTION OF THE AGREEMENT

A. Following the issuance of the Notice of Tentative Award, the user Agency, Design Team and Contractor shall convene a Pre-Award Conference. Meeting minutes from the Pre-Award Conference and acceptance of the minutes by the Contractor shall be incorporated into the Contract.

B. The User Agency will transmit the A101-2017 to the Contractor for signature. The Contractor will sign and return the contract to the User Agency, who then transmits it to the RI State Purchasing Office for final signatures.

END OF SECTION

AIA® Document A101™ – 2017

Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

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 AgencyOne Capitol Hill, Second Floor Providence, Rhode Island 02908-5855
401.578.8100 (telephone); 401.574.8387 (facsimile)
www.puchasing.ri.gov

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

Rhode Island College
600 Mt Pleasant Ave
Providence, RI 02908
Tel: (401) 456-9885
www.ric.edu

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

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

600 Mt Pleasant Ave
Providence, RI 02908

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

The Owner and Contractor agree as follows.

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.

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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(Paragraph Deleted)

The Owner and Contractor agree as follows.

TABLE OF ARTICLES

1 THE CONTRACT DOCUMENTS

2 THE WORK OF THIS CONTRACT

3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

4 CONTRACT SUM

5 PAYMENTS

6 DISPUTE RESOLUTION

7 TERMINATION OR SUSPENSION

8 MISCELLANEOUS PROVISIONS

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
(Paragraph Deleted)

date set forth in a notice to proceed issued by the User Agency.

(Paragraphs Deleted)

§ 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.

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[ ] 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:

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.

(Paragraph Deleted)

(Table Deleted)

§ 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.

(Table Deleted)

§ 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:

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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:
(Paragraph Deleted)

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.

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 30 th working day following written approval by the Owner.

(Paragraph Deleted)

§ 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

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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.

(Paragraph Deleted)

§ 5.1.7.1.1 Deleted.

(Paragraph Deleted)

§ 5.1.7.2 Deleted.

(Paragraph 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:
(Paragraph Deleted)

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 Within 10 working days of receipt of any progress payment from the Owner, the Contractor must pay its Subcontractors the full amount included for each such Subcontractor within the Contractor's Application for Payment in accordance with the provisions of AIA A201 - 2007, General Conditions of the Contract for Construction as modified by the
Owner.

§ 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.

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§ 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.

(Paragraph Deleted)

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 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.

(Paragraph Deleted)

§ 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.

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§ 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)

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

Kevin Fitta, P.E., Director Capital Projects
Rhode Island College
600 Mt Pleasant Ave
Providence, RI 02908
Tel: (401) 456-9885
Email: kfitta@ric.edu

§ 8.2.3 The Design Agent's representative:
(Name, title, address, email address, and other information for the preferred methods of contact)

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

§ 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.

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§ 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.

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

(Table Deleted)

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

.6 Specifications

(Table Deleted)

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

.7 Addenda, if

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any, issued pursuant to the Solicitation form a part of the Solicitation and are available on the Division of Purchases website at www.purchasing.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:

(Paragraph Deleted)

.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.

(Paragraph Deleted)

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

(Table Deleted)

.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.purchasing.ri.gov), and applicable federal and local law, all of which are fully incorporated into this Agreement by this reference.

(Table Deleted)

(Paragraph Deleted)

§ 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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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)*

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00 55 00 – NOTICE TO PROCEED

RI State Purchasing shall issue the Purchase Order. The User Agency shall issue the Notice to Proceed, per AIA A101-2017 §3.1.

END OF SECTION

00 61 00 – BOND FORMS

The RI State Purchasing Notice of Tentative Award indicates the required bonding forms for this project.

END OF SECTION

00 65 00 – CLOSEOUT FORMS

PART 1 - GENERAL

1.1 CLOSEOUT FORMS

A. The following forms are required as part of the closeout documentation:
   1. Transmittal on Contractor's letter head for each package of documents transmitted.
   2. Upon Substantial Completion, the User Agency shall provide copies of the AIA Documents indicated in Section 01 74 19.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

00 72 00 – GENERAL CONDITIONS

PART 1 - GENERAL

1.1 GENERAL CONDITIONS

A. The General Conditions to be utilized on this project are AIA Document A201-2007 as amended, a copy of which follows this page.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 EXECUTION OF THE GENERAL CONDITIONS

A. The User Agency will transmit the A201-2007 to the Contractor. The contractor shall initial and return to the User Agency, who then transmits it to the RI State Purchasing Office.

END OF SECTION

AIA® Document A201™ – 2007

General Conditions of the Contract for Construction

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

THE OWNER:
(Name, legal status and address)

(Paragraphs deleted) 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)
(Paragraph deleted)
www.purchasing.ri.gov

THE USER AGENCY

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

Rhode Island College
600 Mt Pleasant Ave
Providence, RI 02908
Tel: (401) 456-9885
(Paragraph deleted)
www.ric.edu

(Paragraphs deleted)

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

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.

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TABLE OF ARTICLES

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2 OWNER

3 CONTRACTOR

4 DESIGN AGENT

5 SUBCONTRACTORS

(Paragraphs deleted)
6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

(Paragraphs deleted)
7 CHANGES IN THE WORK

8 TIME

(Paragraphs deleted)
9 PAYMENTS AND COMPLETION

10
(Paragraphs deleted)
PROTECTION OF PERSONS AND PROPERTY

11 INSURANCE AND BONDS

12 UNCOVERING AND CORRECTION OF WORK

(Paragraphs deleted)
13 MISCELLANEOUS PROVISIONS
(Paragraphs deleted)
14 TERMINATION OR SUSPENSION OF THE CONTRACT

(Paragraphs deleted)
15 CLAIMS AND DISPUTES
(Paragraphs deleted)

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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 following order of priority:

.1 Modifications (if any).
.2 The Purchase Order.
.3 The Agreement.
.4 The Solicitation, including any Addenda, and the Specifications and Drawings
.5 The Supplementary Conditions (if any).
.6 The General Conditions.
.7 The Bid Proposal.

§ 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

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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.

§ 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.

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§ 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.

§ 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

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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.

§ 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.

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§ 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 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.

§ 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

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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.

§ 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

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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 State of Rhode Island, and each executive, legislative, judicial, regulatory, and administrative body of the state, and any political subdivision thereof, including without limitation, any department, division, agency, commission, board, office, bureau, committee, authority, educational institution, school, water, and fire district, and other agency of Rhode Island state, municipal, and local government that exercises governmental functions, any other governmental authority, and any quasi-public corporation and/or body corporate and politic, including without limitation, the User Agency, their elected and appointed officials, members, employees, and agents, the Design Agent, the Design Agent's Consultants, Subconsultants, and Subcontractors, and agents and employees and any of them from and against any and all claims, demands, damages, liabilities, judgments, losses and expenses, including but not limited to attorneys' fees and costs of mediation, arbitration, and/or litigation, arising out of or resulting from performance of the Work, and/or the obligations of the under the Contract Documents, but only to the extent caused by the acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not any such claim, demand, damage, liability, judgment, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 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.

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§ 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.

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.

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§ 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 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.

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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.

§ 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.

§ 5.2 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

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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 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.

(Paragraph deleted)

§ 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.

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§ 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 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.

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

§ 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:

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.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.
.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.
.5 Overhead and profit is to include the Contractor's project management and supervisory costs, all administrative expenses and personnel, change estimate preparation, mobilization, setup & breakdown, meetings, all safety related costs, cleanup costs and storage costs pertaining to the changes in the work.
.6 The fee increase to any permit required by the additional work is allowed to be added to the Change Order costs. However, the Contractor is required to submit proof that the additional fee was paid to the presiding authority.
.7 In order to facilitate checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including labor, materials and Subcontracts. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are Subcontracts, they shall be itemized also.

§ 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. All suppliers, vendor and subcontractor goods shall also have the detailed itemization as indicated above.

§ 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..

(Paragraph deleted)
§ 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.

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§ 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.

§ 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

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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 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

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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 The Contractor shall 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.

§ 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.

§ 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.

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§ 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 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.

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§ 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 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.

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§ 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.

§ 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

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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 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.

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§ 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.

§ 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

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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.

§ 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 (2) 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.

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§ 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 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

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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.

§ 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.

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§ 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.

§ 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

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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

§ 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.

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§ 14.3.2 The
(Paragraphs deleted)
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.

§ 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.

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§ 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.

§ 15.1.6
(Paragraphs deleted)
Deleted.

§ 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.**

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(Paragraphs deleted)
§ 15.4.4 Deleted.

§ 15.4.4.1 Deleted.

§ 15.4.4.2 Deleted.

§ 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.

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00 73 43 – PREVAILING WAGE RATES

The State of Rhode Island Department of Labor, Division of Professional Regulation General Decision Modification document is an integral part of the Bid Documents for use in fulfilling prevailing wage rate requirements. A copy is available linked to the web site of the State of Rhode Island Department of Administration, Division of Purchases. Contractors working on RI Prevailing Wage projects must adjust employee hourly rates every July 1 in accordance with updated Davis Bacon rates. These rates may be obtained at the following website:

www.wdol.gov/dba.aspx

The Division of Purchases Web Site Address is: http://www.purchasing.ri.gov/RIVIP/Info.asp

The link for the US Government prevailing wage tables is:
http://www.purchasing.ri.gov/bidinfo/geninfo/geninfo.aspx

Applicable Rhode Island labor laws may be found at: http://www.dlt.ri.gov/pw/

END OF SECTION

00 91 13 – ADDENDA AND MODIFICATIONS

PART 1 - GENERAL

A. As of the time of publication of this Project Manual, no Addenda had been issued.

B. Should Addenda be issued during the Bid Period, they will augment this Document and become a part of the Project Manual.

C. Such Addenda and Modifications when issued, with reference to the Project Manual, the General Conditions, Supplemental General Conditions, Drawings or Specifications, shall be inserted following this page and become integral parts of the Contract Documents.

END OF SECTION

01 10 00 – SUMMARY

PART 1 - GENERAL

1.1 PROJECT

A. The Project consists of the construction of the following types of work:

1. Provide all labor, materials, equipment and services necessary to renovate the existing competition pool. This work shall include the structure and installation of pool finishes as well as all products listed in Part 2 of Section 131100.

1.2 CONTRACT DESCRIPTION

A. Contract Type: A single prime contract based on a Stipulated Price as described in Document 00 50 00 – Contracting Forms.

1.3 DESCRIPTION OF WORK

A. Scope of demolition and removal work is shown on drawings.

B. Scope of alterations work is shown on drawings and/or as specified herein.

C. Pool Modifications: Provide all labor, materials, equipment and services necessary to renovate the existing competition pool. This work shall include the structure and installation of pool finishes as well as all products listed in Part 2 of Section 131100.

1.4 SCHEDULE

A. 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.

B. Ordering of products, coordination and preparatory work shall commence within 7 days of receipt of Purchase Order.

C. Construction at the site can commence 3/9/20 and shall be agreed upon with the User Agency.

D. Substantial completion date is 6/4/20. This is the date to which liquidated damages may apply and may only be adjusted as provided for in the Contract Documents. Contractor shall be responsible for completing the submittals required for issue of a Purchase Order in a timely manner. No extension will be granted for purchasing delays.

E. Final Completion is 6/19/20. This date represents the completion of all outstanding punchlist items and complete demobilization of the site.

F. Cooperate with User Agency to minimize conflict and to facilitate the facility's operations.

1.5 ITEMS TO BE SALVAGED

A. NONE.

1.6 SUBCONTRACTOR CERTIFICATION REQUIREMENTS

A. Network/IT wiring to be installed by Panduit PCI Certified vendor and technicians. This includes wire runs and terminations.

B. Security Systems shall be installed by Bosch Certified vendor and technicians.

C. Door Access Hardware shall be wired and installed by DSX Certified venders and technicians.

D. Forbo certification for Flotex flooring installations.

E. See individual Specification sections.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 14 00 – COORDINATION OF WORK WITH USER AGENCY

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Contractor Use of Site and Premises.

B. Utility and Building Services Outages and Shutdowns.

C. Construction Requirements in Occupied Buildings.

D. Construction Activities in Occupied Spaces.

E. Time Restrictions and Working Hours.

F. Schedule Coordination.

1.2 CONTRACTOR USE OF SITE AND PREMISES

A. User Agency intends to continuously occupy the facility. Work areas will be made available as mutually agreed to during project scheduling.

B. Construction Operations: Limited to areas noted on Drawings. Coordinate with Site Utilization Requirements. Include in the Base Bid all costs of this coordination, including all premium time wages that may be required to meet these requirements and project schedule. Cost of all work done during second or third shifts or on weekends and holidays shall be included in the bid price. Contractor is responsible for protection and restoration of existing conditions including, but not limited to hardscape, landscape and lawns.

C. Arrange use of site and premises to allow:

1. Adjacent projects to progress as planned for the User Agency.
2. Use of street and adjacent properties by the Public.
3. Continued operation of the facility.

D. For activities requiring closure of parking lots, roadways and/or walkways, seven (7) days' notice is required. Refer to Section 01 50 00 Temporary Facilities and Controls for further information.

E. Provide access to and from site as required by law and by User Agency:

1. Maintain appropriate egress for workforce and users of the facility.
2. Do not obstruct roadways, sidewalks, or other public ways without permit. Provide necessary signage and barriers to direct pedestrians around work areas.
3. Barriers and signage must be provided by the contractor <u>to the satisfaction of the User Agency</u> to separate the work area from occupied areas. Efforts must be taken to limit dust, noise and odors from escaping the work area. Proper separation and protection of interior spaces shall be established and maintained during the project, to the satisfaction of the User Agency.
4. Contractor is responsible for protecting existing mechanical systems from being infiltrated by construction dust by covering any air intakes with plastic garbage bags and securing with duct tape or another method approved by the User Agency. Coordinate any required system shutdown and protection with the User Agency.
5. Contractor is responsible for cleaning construction dust and/or debris from public areas and daily or at the request of the User Agency. Work areas within the building shall be kept tidy at all times.
6. Contractor shall provide and maintain walk-off mats at all entrances to the work site from occupied areas.
7. Provide temporary barriers disallowing entrance to the pool area from adjacent locker rooms.

1.3 UTILITY AND BUILDING SERVICES OUTAGES AND SHUTDOWN:

A. Prevent accidental disruption of utility services to other facilities. Contractor is responsible for restoration and damages resulting from unplanned disruptions to utilities.

B. For life safety systems interruptions or shutdowns, including but not limited to fire sprinklers and fire alarm system, seven (7) days' written notice to User Agency and authorities having jurisdiction shall be provided. Contractor to utilize Fire Sprinkler and Alarm System Impairment Notification Forms found in Section 00 73 02. Contractor is responsible for providing Fire Alarm Technician or support personal to provide the necessary bypassing or fire watch as required for fire sprinkler or other life safety shutdowns.

C. Electrical, plumbing, network and other utility shutdowns shall be scheduled off hours. Contractor shall provide written request for utility shutdown at least 72 hours in advance.

D. When construction activities impact ventilation, heating or air conditioning to occupied building spaces, the contractor shall provide the necessary equipment to maintain proper ventilation rates and a temperature of 68° heating and 72° cooling. Prior to the decommissioning of equipment, the contractor shall submit a plan for temporary HVAC services, including unit location, utility connection, ductwork tie in and other logistical considerations.

E. Refer to Section 01 17 90 Utility Shutdowns for more information.

1.4 CONSTRUCTION REQUIREMENTS FOR OCCUPIED BUILDINGS:

A. User Agency intends to continuously occupy the facility. Work areas will be made available as mutually agreed to during project scheduling.

B. The Building and surrounding areas will be occupied during construction. The Contractor shall be solely responsible for initiating, maintaining and supervising safety, security and protection programs and shall comply with all applicable laws, ordinances, rules and regulations concerning safety of people and the protection of property.

C. Barriers and signage must be provided by the contractor to the satisfaction of the User Agency to separate the work area from occupied areas. Appropriate signage, approved by the User Agency, shall be placed at all potential entrances to the Project Site and maintained throughout the project.

D. Efforts must be taken to limit dust, noise and odors from escaping the work area. Proper separation and protection of interior spaces shall be established and maintained during the project, to the satisfaction of the User Agency. Contractor shall provide and maintain walk-off mats and plastic barriers at work site entries.

E. Contractor shall provide appropriate masking of building supply air intakes to protect indoor air quality and limit transfer of odors. Contractor to coordinate with User Agency regarding shut down of appropriate units as work continues.

F. Contractor to provide air scrubbing and/or negative air machines to prevent odors from escaping the Project Site.

G. During the progress of the Work, the Contractor shall so conduct his work that as little inconvenience as possible is caused to the occupants. At the close of the work each day, the Contractor shall pick up and stow all equipment and miscellaneous material leaving the site in a neat and safe condition.

H. The Contractor shall repair or replace, at his own expense, with new any item, surface, or object that is damaged by the Contractor or damaged because of the Contractor's actions during the course of the Work and during any guarantee period.

I. Site and building conditions shall be restored to their condition as they were at the start of the Work. Before commencing work, the Contractor shall report any existing damage to the Architect in writing to assure that the Contractor will not be liable for preexisting damage.

J. Contractor is responsible for cleaning construction dust and/or debris from public areas and daily or at the request of the User Agency. Work areas within the building shall be kept tidy at all times.

K. Refer to Section 01 50 00 – TEMPORARY FACILITIES AND CONTROLS for more information.

1.5 CONSTRUCTION ACTIVITIES IN OCCUPIED SPACES

A. The Project Site is defined as the immediate rooms under construction at a given time. Any work in vertically or horizontally adjacent classrooms, hallways, MEP/IT/FP spaces and grounds outside the footprint indicated on the Site Utilization Plan shall be considered as being outside the Project Site. Areas outside the project site are identified as Occupied Spaces.

B. The safety of building occupants and construction workers is paramount. All construction activities within Occupied Spaces shall be marked with cones and caution tape. Computer generated signage shall be provided indicating the path of travel around construction zones and shall also be posted at stairwell doors indicating where internal construction activities may take place.

C. Activities which require work in Occupied Spaces shall be specifically and clearly indicated on the Two-Week Look-Ahead and confirmed with the User Agency at least two (2) business days in advance.

D. Sufficient time to clean up work zones shall be allocated at the end of the shift. All construction activities within the building shall be thoroughly vacuumed, wet mopped and cleaned to the satisfaction of the User Agency at the end of each shift.

E. Use of exterior occupied spaces will be permitted during off-hours as permissible provided such use is coordinated with the User Agency at least 72 hours in advance.

F. All construction materials, tools and debris must be removed from occupied building spaces once construction activities have ended for the day. Occupied spaces must be returned to original conditions to the greatest extent possible by 8am weekdays. If it is not feasible to do as such, notify the User Agency immediately. With approval, the area shall be cordoned off with cones and caution tape and computer-generated signage shall be posted to the satisfaction of the User Agency.

1.6 TIME RESTRICTIONS AND WORKING HOURS

A. Include in the Base Bid all costs of this coordination, including all premium time wages that may be required to meet these requirements and project schedule. Cost of all work done during second or third shifts or on weekends and holidays shall be included in the bid price.

B. Disruptive Activities & Work Restrictions the College uses the following categories to indicate work activities allowable during certain time periods:

1. No Work: on site work is prohibited to take place during this time. Workers are prohibited from the site without prior notification to the User Agency. In order to ensure the safety of occupants and preserve the educational experience, work **MAY NOT** take place during the time periods specified in Paragraph C, below.
2. Quiet Work: vibration producing work may not occur. Work that generates noise or odors that would escape the project site and cause disruption to occupant in adjacent Occupied Spaces is prohibited. Disallowed activities include but are not limited to: demolition of block and concrete, use of jackhammers, saw cutting, hammer drilling, connecting to building structure, mechanical fastening and other work activities which provides loud noises or vibrations that are constant in nature. Use of heavy solvents, odious paints and other irritants which cannot be contained through mechanical or physical barriers prohibited. Work in Occupied Spaces prohibited unless specific, written authorization is requested and granted.
    a. It is the sole discretion of the User Agency to determine if activities are considered disallowed during quiet work periods. The designation of disallowed activities is contingent on location within the job site and the activities of the occupants.

b. The contractor my request a "disturbance test" which may allow for some disallowed activities to take place during quiet work times. Contractor may request with 24-hour notice to run a limited test to determine if a specific activity in a set location can be performed during quiet work periods. The User Agency will observe the impact on the occupied areas and determine if the activity take place. Waivers resulting from disturbance tests will be valid for a set period of time, based on construction activities and occupant usage.

3. No Restrictions: normal construction activities may take place. No restrictions on noise or vibrations. Utility shutdowns may occur following proper notifications.

C. Working Hours

1. Contractor is expected to plan and execute the work on schedule within the parameters indicated above. Regular working hours for contractors are between 7:00 a.m. and 4:00 p.m., Monday through Friday. Work that is to take place outside of these timeframes are to be reflected on the Two-Week Look-Ahead.
2. Contractor is permitted to work holidays, nights and weekends if it is communicated two (2) business days in advance.
3. In the event of adverse weather, the College is open unless a State of Emergency is called by the Governor. The College is not responsible for lost time due to weather. Contractor to communicate with Project Manager regarding the college's status.
4. Special Work Hours are called for the following activities:
   a. No Work Hours: the contractor will have no working hour restrictions beyond coordinating their start time with the staff to gain access.

1.7 SCHEDULE COORDINATION

A. The contractor shall provide, in writing, via email, by noon on Thursdays the two-week project look-ahead which lists in detail the planned activities, locations of disturbance, scheduled subcontractors and working hours for the forthcoming Sunday-Saturday. The same shall be provided for the second week, but as a working draft. The document shall list out any utility shutdowns or other activities which require review and approval of the User Agency. Failure to provide the Look Ahead may result in a reduction of payment of general requirements line item in the following pay requisition.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 17 90 – UTILITY PLANNING AND INTERRUPTIONS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. This section details the minimum coordination requirements for system connections and service interruptions that may be required for new construction and renovation projects.

B. Requirements.

C. Outage Types.

D. Outage Planning.

E. Outage Requirements.

F. Scheduling.

G. Outage Coordination

1.2 REQUIREMENTS

A. If a project or contract work requires the shutdown or de-energizing of any campus utility or building system, Contractor shall notify, in writing, the User Agency's Project Manager at least ten (10) calendar days in advance of the planned outage. User Agency's Project Manager shall be responsible for contacting Facilities Operations and scheduling a meeting to review the shutdown. (Refer to Scheduling section).

B. In general, Contractors are not allowed to operate valves open or closed or energize and de-energize switches without prior coordination and approval from the User Agency. Exceptions to this policy are for new construction or within buildings that are closed for total renovation, where the utilities affected are within the construction zone and have been verified ahead of time not to have an adverse effect on other building or campus operations.

C. Chilled water, high temperature hot water and steam shutdowns can be scheduled only during off-peak seasons with limited exceptions such as an emergency repair.

D. Contractors shall coordinate to have the building fire alarm system disabled prior to performing any work, such as cutting or welding that may cause inadvertent operation of the fire alarm system, ("Hot Work") and arrange for it to be enabled at the completion of the work.

E. "Hot work" permits are required prior to any cutting and welding operations within buildings; follow all policy safety precautions.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 OUTAGE TYPES

A. There are three general types of outages, depending upon the impact that the work will have on existing building infrastructure and campus utilities. The level of planning and detail coordination required varies for each, as noted below.

1. Independent Outages:

a. Independent outages typically have no impact on existing campus utilities, operating communications infrastructure, building occupants or building systems. Examples include

work within new building construction or "gut" building renovations, or installation of new campus utilities not yet in service.

b. For independent outages, the Contractor shall contact the User Agency's Project Manager to coordinate the outage scheduling, as well as outage notification, to other College departments and building Users affected by this work. Facilities Operations support is not required for this type of outage.

2. Minor Outages:
   a. Minor outages typically have a limited impact on existing campus utilities, including operating communications infrastructure within the project site or running through the site; building occupants or building systems. Examples include fire alarm zone lock-outs for welding or other "Hot work" permits, to suit the installation of new fire alarm devices, or for branch line water shut-offs to suit connections of new plumbing fixtures.
   b. For Minor outages, limited College coordination is required; the Contractor shall contact the User Agency's Project Manager to coordinate the outage scheduling with Facilities Operations and the College's trade staff. Details of the outage work will be developed as a general scope of work.
   c. Project Manager will also coordinate the outage notification to other College departments and building Users affected by this work. Minimum outage notification times are required and an outage coordination meeting prior to the outage is required to review outage scope and details (See Scheduling section).
3. Major Outages:
   a. Major outages typically have a significant impact on existing campus utilities, communication systems and infrastructure, building occupants or building systems. Examples include shut down of building electrical power systems, central heating and cooling systems, shutdown of BAS and fire alarm systems, or shutdown of campus water, heating and chilled water systems.
   b. For Major outages, significant coordination is required for both the Contractor and the User Agency. Determination of major outages will be made in the Project Planning phase. Details of the outage work, and general outage scheduling will be developed during the design phase as an outage checklist (OCL).
   c. During the construction phase, Contractor shall coordinate outage scheduling with the User Agency's Project Manager who will contact Facilities Operations to coordinate the required to support the outage work, as well as develop work orders for Trades support.
   d. User Agency's Project Manager will also coordinate the outage notification to other College departments and building Users affected by this work. Minimum outage notification times are required and an outage coordination meeting prior to the outage is required to review outage scope and details (See Scheduling section).

3.2 OUTAGE PLANNING

A. The Contractor will utilize the Utility & Critical System Outage Checklist deliverables provided in the Design phase and incorporate all required outages into their project construction schedule as milestone activities.

B. The Contractor shall utilize and update the draft Utility & Critical System Outage Checklist(s) (OCLs) (as developed by the Design Agent) based on their proposed project schedule and plan for construction.

C. The updated Utility & Critical System Outage checklist shall be used for required outage coordination review meetings to review and confirm the outage impacts and resources required to support the outage from the College, the project team or others. Updated outage checklists shall clearly identify:
   1. Project impacts (what buildings, utility systems and/or system loads are impacted by the work).

2. Any updates determined in the course of Contractor's physical walkdown and verification of what systems and equipment are affected by the proposed shutdown.
3. Outage schedule (time/date of when work will be performed and outage durations), including contingency communications for work that will extend beyond schedule;
4. Required prep work to be completed or to be in place prior to support the actual outage work (install portable generator(s), pipe flushing procedures, filling and venting procedures, etc.).
5. Brief description of the actual outage work and essential tasks being performed during the outage (Switches or valves being opened/closed, piping connections, etc.);
6. Note key coordination issues that need to be included as a part of the outage (need for portable generators to maintain power, street closure(s), police details, etc.).
7. For hydronic systems, include how system draining, flushing, refilling and venting will be accomplished.
8. For building electrical system outages, include copies of the panelboard schedules for all affected electrical equipment (panelboards, switchboards, motor control centers, etc.).
9. Review and identify any potential outage impact that may affect ongoing critical Research and Academic activities: i.e.: campus water and/or electrical services; building ventilation and exhaust systems, BAS controls, etc.
10. Listing of key contacts and phone numbers for the Contractor, Facilities Operations, Information Technology Services (ITS) DPS staff, and affected building staff.

D. As a prerequisite of outage planning and preparations, it is the responsibility of the Contractor to perform their own visual inspection and walk down to verify what utilities and systems will be physically affected by the shutdown. This effort shall be made after review of available Record documentation, and consultations with the Design Agent, User Agency's Project Manager and Facilities Operations, as well as other affected College departments, such as Environmental Health & Safety, Informational Technology, etc. The intent of the physical inspection and walkdown is to:
   1. Verify known systems and system loads that will be affected by the outage.
   2. Identify any other undocumented systems and loads that may be affected by the proposed outage.
   3. Verify locations of existing system isolation switches, valves, bypasses, and temporary services.

3.3 OUTAGE REQUIREMENTS

A. Facilities Operations shall be notified for all interruptions that affect building fire alarm and detection systems, fire suppression systems (fire sprinklers, kitchen hood suppression systems, dry systems, clean agent or Halon suppression systems), fire pumps and water distribution lines that connect to fire suppression systems.

B. For Research facilities, Facilities Operations shall be notified of all interruptions affecting: fume hoods, HVAC supply and exhaust systems, Potable and non-Potable water systems, electrical, heating and cooling systems and Process cooling systems.

C. The College's Information Technology Services (ITS) office requires notification for all communications systems and infrastructure outages and interruptions that affect telephone or network services.

D. Proper Lockout/Tagout procedures shall be followed by both the Contractor and College's staff.

3.4 SCHEDULING

A. Outage dates shall be coordinated with the College's Academic calendar and identified blackout (no outage work) periods. Outages will occur off hours unless otherwise approved by the User Agency.

B. Independent Outages: Per the User Agency's discretion.

C. Minor Outages: normal workday hours; 48-hour minimum advance notice. Weekend/off-hours; 72-hour minimum advance notice. Actual outage scheduling is subject to User Agency's staff availability.

D. Major Outages: As determined by draft Utility & Critical System Outage checklist: minimum (2) week notice after approval; (4) weeks is preferred for major shutdowns.

E. The User Agency's Project Manager will assist the Constructor in the scheduling, as well as the notification of, related building Users and other College departments affected by this work.

F. Steam Shutdowns must be coordinated through the Project Manager. Facilities Management will perform all steam shutdowns. The contractor must provide a minimum of ten (10) calendar days' notice to the Project Manager for a pre-scheduled shutdown. The pre-scheduling must take place as far in advance as practicable, and no later than 30 days in advance.

3.5 OUTAGE COORDINATION

A. The Project Manager shall coordinate the shutdown details required for the project with the Facilities and Operations staff, the project team, Campus Police, and the Building Users (as required by the particular system interruption).

B. A coordination meeting shall be held with representatives of the Contractor, affected building Users, and other concerned parties to review the planned outage sequences and timing. Facilities Operations staff will generally advise of what campus operations and building Users will be affected by the proposed outage or shutdown; the Project Manager is in turn responsible to contact all the affected groups to determine the proper time for the shutdown and any special requirements to be provided during the shutdown.

C. A Utility and Critical System Outage Checklist (OCL) is required to be filled out for each major outage by the Design Agent and Contractor, with support from the Project Manager. The checklist includes relevant pre-outage work required prior to the outage, sequence(s) of work to be performed during the outage, expected outage times and durations, and key contact (cell phone) information for the Contractor, Facilities Operations staff, other affected College Department staff and affected Users. The completed checklist requires sign-off from the Facilities Operations Director.

D. The Project Manager will submit the signed outage checklist to Facilities Operations, who will then assign to the appropriate staff to perform and monitor the shutdown. The Project Manager will also formally notify all affected parties of the planned outage date(s) by e-mail and physical posting of the impacted buildings.

END OF SECTION

01 20 00 – PRICE AND PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Sales tax exemption.

B. Allowances.

C. Testing and inspection allowance.

D. Unit prices.

E. Alternates.

F. Schedule of values.

G. Applications for payment.

H. Change procedures.

I. Defect assessment.

J. Warranty inspection retainage.

K. Waiver of Lien Form

L. MBE Compliance Form

1.2 TAX EXEMPTION

A. The State of Rhode Island is exempt from payment of any federal or state excise, transportation, or sales tax. Refer to A201-2007 General Conditions §3.6.2.

1. Place exemption certificate number on invoice for materials incorporated in the Work of the Project.
2. Furnish copies of invoices to Owner.
3. Upon completion of Work, file a notarized statement with Owner that all purchases made under exemption certificate were entitled to be exempt.
4. Pay legally assessed penalties for improper use of exemption certificate number.

1.3 ALLOWANCES

A. Refer to A201-2007 §3.8 for Allowance provisions. General Contractor overhead and profit, bonding and other fees should be calculated into the Contract Sum and may not be assessed on Allowance Usage.

B. Design Agent Responsibility:

1. Consult with Contractor for consideration and selection of products, suppliers, and Installers.
2. Select products in consultation with User Agency and transmit decision to Contractor.
3. Prepare Change Order to account for the use of allowance.

C. Contractor Responsibility:

1. Assist Design Agent or its Consultants in selection of products, suppliers and installers.
2. Obtain proposals from suppliers and installers and offer recommendations.
3. On notification on selection by Design Agent, execute purchase agreement with designated supplier and installer.
4. Arrange for and process shop drawings, product data, and samples. Arrange for delivery.

5. Modify the Schedule of Values to provide line items for each approved use of an allowance.
6. Promptly inspect products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.

D. Schedule of Allowances: Allowances
1. Please refer to the Bid Form for the list of Allowances.

1.4 TESTING AND INSPECTION ALLOWANCE

A. All costs of regularly scheduled testing are included in the Base Bid. See Bid Form for allowance to cover costs of additional testing to be provided when directed by the User Agency.

B. See Section 01 40 00 and its attachment for testing requirements.

1.5 UNIT PRICES

A. See Section 01 22 00.

1.6 ALTERNATES

A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at the User Agency's option. Accepted Alternates will be identified in the Purchase Order.

B. Coordinate related work and modify surrounding work as required.

C. Schedule of Alternates: See Section 01 23 00.

1.7 SCHEDULE OF VALUES

A. Refer to A201-2007 General Conditions §9.2 for Schedule of Values provisions. Contractors are encouraged to submit the Schedule of Values as soon as practical after contract commencement, but within the duration indicated in the General Conditions.

B. Schedule of Values (SOV) shall only be accepted on an original AIA Form G702 - Application and Certificate for Payment and AIA G703 - Continuation Sheet.

C. Format:
1. Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the major specification Section.
2. At a minimum, provide line items under the heading General Conditions for: Site Mobilization, Bonds, Insurance, Permits, Construction Schedules, Temporary Facilities, Project Management & Supervision, General Cleaning, and Dumpsters & Trash Removal. The Design Agent and User Agency reserves the right to request further breakout beyond those requested here.
3. At a minimum, provide line items under the heading Closeout for: Final Cleaning, Monetized Punchlist (zero value at start of contract), Administrative Closeout, Owner's Manual, Project Record Documents and Warranty Retainage (.5%). The Design Agent and User Agency reserves the right to request further breakout beyond those requested here.
4. Per A101-2017 §5.5, out of state firms shall also include a "Foreign Company" line item valued at 3% of the Contract Sum.
5. Provide separate line items for Labor and Materials where the value is greater than $10,000.
6. Provide separate line items where multiple vendors or subcontractors are providing services.
7. No single line item shall exceed twenty percent (20%) of the total contract.
8. Identify each Allowance as a line item.
9. Identify each Alternate as a line item.

D. Submit for review and approval to the Design Agent and User Agency the Schedule of Values prior to the first Application for Payment. Indicate in the email the intended date for each progress payment, typically the last day of the month. The first Application for Payment will not be accepted until the SOV is approved.

E. Revisions:

1. Once approved, the SOV shall only be revised to accommodate changes to the Contract Value.
2. Revise SOV to list changes to the contract value for which a revised Purchase Order has been issued. Provide a heading for the Change Order Number and list Change Order Proposals comprising said Change Order as individual lines on the SOV.
3. As Allowances are used, under the heading for the appropriate allowance, list Change Order Proposals charged to the Allowance as individual lines on the SOV. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by the unit cost to achieve the total for the item.

1.8 APPLICATIONS FOR PAYMENT

A. See General Conditions §9.3 for Applications for Payment provisions. Contractors shall submit for payment on a monthly basis.

B. Prepare a draft version “pencil copy” of each application.

1. The Pencil Copy shall be distributed via email ten (10) calendar days prior to the established date for progress payment for review by Design Agent and User Agency’s representative.
2. Accompanying the Pencil Copy, Contractor shall provide a summary list of all sub-contractors who performed work on the site for the month.
3. Design Agent and User Agency’s representative shall review the Pencil Copy and request adjustments as appropriate.
4. Contractor shall make agreed revisions and prepare final for payment

C. Submitting for Payment

1. Prepare one (1) original of the approved AIA Form G702 - Application and Certificate for Payment and AIA G703 - Continuation Sheet, accompanied by three (3) copies.
2. Individually sign and notarize and emboss with notary's official seal, the original and each of the three (3) copies. Deliver to Design Agent for further processing and distribution.
3. Applications not including original copyrighted AIA G702, and G703 Forms, will be rejected, and returned for re-submittal.
4. Applications not properly signed and notarized will be rejected and returned for re- submittal.

D. An Application for Payment is not considered acceptable per the Prompt Payment Policy until the signed, notarized and certified AIA G702 and G703 Forms with ALL required enclosures are received. Applications submitted without the following items described in this section and its attachments will be returned for resubmittal. These items shall be sent via email to the User Agency’s Representative. Failure to provide items listed below with the Application for Payment submission will result in a delay in processing and may result in a reduction in the amount of said Application for Payment.

1. Transmittal letter as specified for Submittals in Section 01 33 00.
2. Updated construction schedule prepared per Section 01 33 00.
3. Statement signed by the Contractor's firm principal certifying that there are no unidentified outstanding claims for delay.
4. Beginning with the second Application for Payment, Certified Monthly Payroll Records for all workers on site for the previous month.

a. Forms for the submission of Certified Payroll Records may be found from the Rhode Island Prevailing Wage Website in either PDF or Excel formats. These forms must be used on monthly submittals.

5. Beginning with the second Application for Payment, Contractor's right to payment must be substantiated by documenting, on a copy of the RIC Waiver of Lien Form included in this Project Manual, that payment monies due, less retainage not exceeding five (5) 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.
6. Affidavits attesting to off-site stored products with insurance certificates as requested.
7. Digital Photographs as specified in Section 01 33 00. Provide as a link.
8. Updated Submittal Log.
9. Identify Apprenticeship hours required under RIGL 37-13-3.1 for all contracts over $1million in value.
10. A Minority Utilization Report for minority subcontractors must be included. Use the form provided.
11. Additional Substantiating Data: When the User Agency or Design Agent requires additional substantiating information from the review of the "pencil copy," submit data justifying dollar amounts in question.

1.9 CHANGE PROCEDURES

A. Refer to AIA A201-2007 General Conditions §7.

B. 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.

C. Types of Change Proposals

1. Stipulated Sum Change Order: Based on Proposal Request and Contractor's Change Proposal as approved by Design Agent. All quotations shall include detailed material costs and labor hour and rate breakouts.
2. 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 which 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.
3. Time and Material Change Order: Submit an itemized account and supporting data after completion of the change, including timeslips signed by User Agency's representative, within the time limits indicated in the Conditions of the Contract. The Design Agent will determine the change allowable in the Contract Sum and Contract Time as provided in the Contract Documents. Only User Agency-representative-signed timeslips will be considered.

D. The Design Agent 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 the Change Proposal within fifteen (15) calendar days.

E. The Contractor may propose changes by submitting a Change Proposal request to the Design Agent and User Agency, 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.

F. For all Change Proposals, maintain detailed records of work done on a Time and Material basis. Submit timeslips daily for verification and sign-off by User Agency's representative on-site. Provide full information required for an evaluation of the proposed changes, and to substantiate costs for the changes in the Work.

G. 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.

H. Construction Change Directive: refer to General Conditions §7.3. Design Agent may issue a directive, on AIA Form G713.

I. For Minor Changes, §7.4: The Design Agent 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.

J. Change Order Forms: AIA G701 Change Order.

K. Execution of Change Orders: The Design Agent will issue Change Orders for signatures of the parties as provided in the Conditions of the Contract. Electronic signatures are acceptable. Design Agent shall also issue a Letter of Justification to accompany the Change Order.

1. The approved Change Order amount shall include all compensation to the Contractor, including but not limited to Overhead and Profit, General Conditions, Material, Labor, Equipment and other costs. Following the execution of the Change Order, no additional compensation for the work covered in the Change Order shall be considered.

L. 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. 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.
2. Promptly enter changes in the Project Record Documents.
3. Update Schedule of Values and Subcontractor List as required.

1.10 DEFECT ASSESSMENT

A. Refer to General Conditions §12.2. Replace the Work, or portions of the Work, not conforming to specified requirements.

B. If, in the opinion of the Design Agent, it is not practical to remove and replace the Work, the Design Agent 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 Design Agent.

D. The defective Work will be partially repaired to the instructions of the Design Agent, and the unit sum will be adjusted to a new sum at the discretion of the Design Agent.

1.11 WARRANTY INSPECTION RETAINAGE

A. One-half of one percent of the cost of the Work will be retained from Final Payment for duration of twelve (12) months from date of Substantial Completion. This shall be included in the Schedule of Values. If, after ten months, all systems including mechanical and electrical,

are determined by the User Agency to be properly functioning, the Warranty Inspection Retainage will be released.

B. If, after twelve (12) months, there are found to be modifications, adjustments, or corrections necessary to be made to address any system or product malfunction, in order to fulfill specified performance or requirements of such systems or products, release of the warranty inspection retainage will be delayed until such malfunctions are rectified.

C. If, after twelve (12) months from the date of Substantial Completion, all systems have not been fully addressed, the User Agency may utilize the Warranty Inspection Retainage to hire others to execute necessary modifications, adjustments, or corrections.

1.12 WAIVER OF LIEN FORM

A. RIC Document 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.

1.13 MBE COMPLIANCE

A. The MBE Compliance Form is included after this section. Contractors shall work with the RI Office of Diversity, Equity & Opportunity to ensure that all participation and reporting requirements are met.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

RHODE ISLAND COLLEGE

Capital Projects Administration
600 Mount Pleasant Ave, Welcome Center Suite 300, Providence, RI 02908

WAIVER OF LIEN FORM MATERIAL OR LABOR

Construction Project Title: _____

General Contractor: _____

Subcontractor/Supplier: _____

DUNS No.: _____

Application / Certificate for Payment No.: _____

Paid Through Date: _____

Schedule of Values Line Item No.: _____

Description of Work Heading: _____

Total Payments Received, Including Current Payment: _____

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 Application and Certificate for Payment.

Dated at this _____day of_____, 20____

Company: _____

Signature: _____

Printed Name: _____

Title: _____

END OF ATTACHMENT

Office of Diversity, Equity and Opportunity (ODEO)
MBE Compliance Office
1 Capitol Hill, 3rd Floor
Providence, RI 02908

(401) 574-8670
http://odeo.ri.gov/

Pursuant to RIGL 37-14.1 as well as the regulations promulgated thereto, the MBE Compliance Office requires that you complete the following table. Please note that these figures will be verified with the MBEs identified. If there are outstanding issues, such as retainage or a dispute, please indicate and attach supporting documentation for same. Also note that copies of invoice and cancelled checks for payment to all MBE subcontractors and suppliers are required.

Contractor/Vendor Name:
Project Name & Location:
Original Prime Contract Amount: $_____ Current Prime Contract Amount: $_____ % Complete: _____

MBE/WBE Subcontractor	Original Contract Amount	Change Orders	Revised Contract Value	% Completed To Date	Amount Paid To Date	Amount Due	Retainage %	Retainage Amount	Explanation

I declare, under penalty of perjury, that the information provided in this verification form and supporting documents is true and correct.

_____ Signature

_____ Date

_____ Printed Name

Notary Certificate:

Sworn before me this _____ day of _____ , 20___.

_____ Notary Signature

_____ Commission Expires

END OF ATTACHMENT

01 22 00 – UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for unit prices.

B. Related Requirements:

1. Section 01 20 00 "Price & Payment Procedures" for procedures for submitting and handling Change Orders.

1.3 DEFINITIONS

A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

B. Excavation quantities shall be measured on a volume basis as computed from original in-place position. Fill quantities shall be measured on a volume basis as computed from in-place position.

C. No removed material shall be calculated against more than one category of allowance.

1.4 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit.

B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

C. User Agency reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at User Agency's expense, by an independent surveyor acceptable to Contractor.

1.5 SCHEDULE OF UNIT PRICES

A. Provide cost per lineal foot to supply and install 6 in. Schedule 80 PVC pipe.

B. Please refer to the Bid Form for the list of Unit Costs. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 23 00 – ALTERNATES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Description of alternates.

1.2 ACCEPTANCE OF ALTERNATES

A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at User Agency's option. Accepted alternates will be identified in the Contract Documents.

B. Coordinate related work and modify surrounding work to integrate the Work of each alternate.

1.3 SCHEDULE OF ALTERNATES

A. Alternate #1: Provide an all-ceramic tile finish to the interior of the pool in lieu of marcite plaster.

B. Alternate #2: Replace the existing filtration tank with a new vertical sand filtration system with manual backwash and plumb into the existing recirculation loop.

C. Refer to the Bid Form for the grouping of the Alternates for pricing purposes. Please note the Bid Form Alternate Lists may purposefully exclude individual Alternates identified on the drawings.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 30 00 – ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Pre-Award Meeting.

B. Site Administration.

C. Coordination and Project Conditions.

D. Preconstruction Meeting.

E. Site Utilization Plan.

F. Preconstruction Video.

G. Site Mobilization Meeting.

H. Progress Meetings.

I. Digital Photographs of Progress.

J. Pre-installation Meetings.

1.2 PRE-AWARD MEETING

A. Following the issuance of the Notice of Tentative Award from the RI State Purchasing Office, the Design Team, User Agency and Contractor shall convene as soon as possible for a Pre-Award Meeting.

B. The Architect shall prepare meeting minutes and provide to the User Agency in Microsoft Word format within two (2) business days of the meeting. The User Agency shall review and make edits as required and transmit to the Contractor for review and acceptance. Upon the receipt of an email indicating the Contractor's acceptance of the minutes, the User Agency shall prepare the AIA Contract and General Conditions.

C. Agenda

1. Introductions.
2. Roles, responsibilities and lines of communications.
3. Site utilization expectations.
4. Anticipated schedule.
5. Thorough Scope Review, using form generated by the User Agency and Design Agent. Form shall become part of the Contract Documents.
6. Discussion of inspections, testing, verification and commissioning.
7. Review of pre-award and post-contract documents, deliverables and requirements.

1.3 SITE ADMINISTRATION

A. Maintain a daily attendance log to include the names of all project employees and guests to the site. Each guest signing the log should indicate a brief description of the reason for the visit, the guest's employer or organization. The log sheet, or sheets, must clearly indicate the Project Name, and the name of the general Contractor. Each line in the log should allow for the name of that employee, the employee's job title (use terminology used by prevailing wage job title), and the name of that employee's employer. This log shall be kept on a uniform form prescribed by the Director of Labor and Training. Such log shall be available for inspection on the site at all times by

the Purchaser, Owner, User Agency, and/or the Director of the Department of Labor and Training and his or her designee. Provide copies when requested.

B. Daily Attendance Form

1. Maintain Daily Attendance Form acceptable to the Department of Labor and Training for all projects with a contract value over $1 Million. Submit as requested.

1.4 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.

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 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.

D. Coordinate the completion and cleanup of the Work of the separate Sections in preparation for Substantial Completion and for portions of the Work designated for the User Agency's partial occupancy.

E. After the User Agency's occupancy of the premises, coordinate access to the site for correction of defective Work and the Work not in accordance with the Contract Documents to minimize disruption of the User Agency's activities.

1.5 PRECONSTRUCTION MEETING

A. The Design Agent will schedule a meeting after a Purchase Order is issued to the Contractor.

B. Attendance Required: User Agency's Representative, Design Agent, and Contractor.

C. Agenda:

1. Distribution of the Contract Documents.
2. Review of submission of contractually required deliverables: Superintendent Qualifications, procurement timeline and list of Subcontractors, list of products, submittal log with timelines, schedule of values, project schedule, site safety procedures and mobilization schedule.
3. Designation of the personnel representing the parties in the Contract and the Design Agent.
4. The procedures and processing of requests for information, site access, field decisions, submittals, substitutions, applications for payments, proposal requests, Change Orders, and Contract closeout procedures.
5. Scheduling.

D. The Design Agent shall record the minutes and distribute copies within two (2) days of the meeting to the participants, with copies to the Contractor, User Agency, other participants, and those consultants affected by the decisions made.

1.6 SITE UTILIZATION PLAN

A. Refer to Drawings for approximate area for site staging.

B. Refer to Section 01 50 00 Temporary Facilities and Controls for specific requirements.

C. A Site Utilization Plan shall be submitted by the Contractor within ten (10) business days of issuance of the Purchase Order for approval by the User Agency.

1.7 PRECONSTRUCTION VIDEO

A. Conduct a pre-construction survey of the project side and areas immediately adjacent to the site. Submit two (2) copies of the video on DVD to the User Agency.

1.8 SITE MOBILIZATION MEETING

A. The Design Agent will schedule a meeting at the Project site prior to the Contractor's occupancy and may occur at the same time as the Preconstruction meeting noted above.

B. Attendance Required: The User Agency, Design Agent, Contractor, the Contractor's Superintendent, and major Subcontractors.

C. Agenda:

1. Use of the premises by the User Agency and the Contractor.
2. The User Agency’s requirements and partial occupancy.
3. Construction facilities and controls provided by the User Agency.
4. Temporary utilities provided by the User Agency.
5. Security and housekeeping procedures.
6. Schedules.
7. Application for payment procedures.
8. Procedures for testing.
9. Procedures for maintaining the record documents.
10. Requirements for the start-up of equipment.
11. Inspection and acceptance of the equipment put into service during the construction period.

D. Contractor shall record the minutes and distribute the copies within two days after the meeting to the participants, with copies to the Design Agent, User Agency, other participants, and those consultants affected by the decisions made.

1.9 PROGRESS MEETINGS

A. Schedule and administer the meetings throughout the progress of the Work at weekly intervals while work is in process.

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 User Agency, Design Agent, and Consultants 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 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. Contractor shall record the minutes and distribute the copies within two days after the meeting to the participants, with copies to the Design Agent, Consultants, User Agency, participants, and others affected by the decisions made.

1.10 DIGITAL PHOTOGRAPHS OF WORK PROGRESS

A. Submit minimum 12 digital photographs of construction progress each month. Include both jpg. and reduced-size pdf versions for email use. Refer to Price and Payment Procedures 01 20 00

B. Include an additional minimum of 12 photographs documenting underground utilities when installed in relationship to visible site features.

C. Include photographs of important in-wall or ceiling utilities before close-in at appropriate stages of construction.

D. See Section 01 78 00 for close-out copy requirements of these files.

1.11 PREINSTALLATION MEETINGS

A. When required in the individual specification Sections or listed below, convene a pre-installation meeting at the site prior to commencing the Work of the Section. Pre-installation Meetings:
   1. The following items of work will require pre-installation meetings:
      a. None

B. Require attendance of the parties directly affecting, or affected by, the Work of the specific Section.

C. Notify the Design Agent 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 copies to the Design Agent, User Agency, participants, and those Consultants affected by the decisions made.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 33 00 – SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Submittal procedures.

B. Site superintendent.

C. Construction progress schedules.

D. Subcontractor list.

E. Proposed products list.

F. Product data.

G. Shop drawings.

H. Samples.

I. Test reports.

J. Design Data.

K. Certificates.

L. Manufacturer's instructions.

M. Manufacturer's field reports.

N. Erection drawings.

1.2 SUBMITTAL PROCEDURES

A. Per General Conditions §3.10.2, a Submittal Schedule (Log) shall be submitted. To ensure timely execution of the work, Contractor is encouraged to submit the Submittal Schedule for review within seven (7) calendar days of issuance of the Purchase Order. The Submittal Log shall list all required submittals, organized by division and section, with a proposed date for each item to be submitted. This shall coordinate with the construction schedule.

1. As the project progresses, update the Submittal Log with 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.
2. Update the Submittal Log with each submission and response.
3. Issue copy of the updated Submittal Log electronically with each Application for Payment or upon request by the User Agency.

B. Preparation and transmission of submittals:

1. Identify all variations from the Contract Documents and any Product or system limitations which may be detrimental to a successful performance of the completed Work.
2. Allow space on the submittals for the Contractor's, Design Agent’s, and Consultant's electronic review stamps.
3. Transmit each submittal with a dated Design Agent-accepted transmittal form.
4. Sequentially number the transmittal form. Mark revised submittals with an original number and a sequential alphabetic suffix.
5. Identify the Project, Contractor, subcontractor and supplier; the pertinent drawing and detail number, and the specification Section number, appropriate to the submittal.

6. Apply a Contractor's electronic stamp 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.
7. Transmit printed copies and electronic PDF copy of each submittal to the Design Agent for review and comment as outlined in Section.

C. Submittal Review & Resubmission
1. For each submittal, allow fifteen (15) calendar days for review.
2. When revised for resubmission, identify the changes made since the previous submission.
3. Distribute copies of the reviewed submittals as appropriate. Reproduce as necessary to inform subcontractors without internet download capabilities. Instruct the parties to promptly report any inability to comply with the Contract requirements.
4. Produce additional copies as required for the Record Document purposes as described in Section 01 78 00.

1.3 SITE SUPERINTENDENT

A. Immediately after the issuance of the Purchase Order, Contractor shall submit the name, email, cell phone, resume of the proposed site superintendent for review and approval by the Design Agent and User Agency.

B. The site superintendent shall be familiar with the drawings and specifications.

C. No substitution or replacement of the site superintendent shall be made without notifying the Design Agent and User Agency.

1.4 CONSTRUCTION PROGRESS SCHEDULES

A. Submit initial progress schedule in duplicate within ten (10) days of issuance of Purchase Order for Design Agent and User Agency. Upon receipt of reviewed comments, Contractor to submit detailed schedules within five (5) days.

B. Distribute copies of the reviewed schedules to the Project site file, subcontractors, suppliers, and other concerned parties. Instruct the recipients to promptly report, in writing, the problems anticipated by the projections indicated in the schedules

C. Submit updated schedules with each Application for Payment, identifying changes since previous version as follows:
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.

D. Submit a computer-generated horizontal bar chart with separate line for each major portion of the Work or operation, identifying the first workday of each week.

E. 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 duration. Critical path items shall be clearly identified.

F. Indicate an estimated percentage of completion for each item of the Work at each submission.

G. Provide a separate schedule of submittal dates for shop drawings, product data, and samples, including User Agency-furnished Products and Products identified under Allowances, if any, and the dates reviewed submittals will be required from the Design Agent. Indicate the decision dates for selection of the finishes.

H. Indicate the delivery dates for User Agency furnished Products, and for Products identified under Allowances.

1.5 SUBCONTRACTOR LIST

A. Provide subcontractor list per General Conditions §5.2.1. For each subcontractor, provide contact name, phone number, trade and email. Indicate the SOV line item(s) for which the subcontractor will be providing and if labor will be provided.

1.6 PROPOSED PRODUCTS LIST

A. Within ten (10) days of issuance of Purchase Order, 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.

1.7 PRODUCT DATA

A. Product Data: Submit to the Design Agent 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.

B. Submit one (1) printed copy and one (1) electronic PDF copy for review. The Design Agent will retain the reviewed printed copy for record and return the reviewed electronic PDF copy to the Contractor for distribution.

C. 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.

D. Indicate the product utility and electrical characteristics, the utility connection requirements, and the location of utility outlets for service for functional equipment and appliances.

E. After a review distribute in accordance with the Submittal Procedures article above and provide copies for record documents described in Section 01 78 00.

1.8 SHOP DRAWINGS

A. Shop Drawings: Submit to the Design Agent 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. Submit two (2) printed copies and one (1) electronic PDF copy for review. The Design Agent and /or Consultants will retain the reviewed printed copies for record and return the reviewed electronic PDF copy to the Contractor for distribution.

C. Indicate the special utility and electrical characteristics, the utility connection requirements, and the location of utility outlets for service for functional equipment and appliances.

1.9 SAMPLES

A. Samples: Submit to the Design Agent 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 Design Agent for aesthetic, color, or finish selection.
   2. Submit samples of the finishes in the colors selected for the Design Agent's records.
   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 at least the number of samples specified in the individual specification Sections; the Design Agent will retain two samples.

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.

1.10 TEST REPORTS

A. Submit (1) electronic PDF lab reports in accordance with Section 01 40 00.

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 DESIGN DATA

A. Submit (1) electronic PDF data for the Design Agent’s knowledge as contract administrator for the User Agency.

B. Submit information for the limited purpose of assessing conformance with the information given and the design concept expressed in the Contract Documents.

1.12 CERTIFICATES

A. When specified in the individual specification Sections, submit (1) electronic PDF certification by the manufacturer, installation/application subcontractor, or the Contractor to the Design Agent 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 Design Agent and its Consultants.

1.13 MANUFACTURER'S INSTRUCTIONS

A. When specified in the individual specification Sections, submit (1) electronic PDF copy of instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to the Design Agent for delivery to the User Agency 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.

1.14 MANUFACTURER'S FIELD REPORTS

A. Submit (1) electronic PDF of reports for the Design Agent's benefit as contract administrator for the User Agency.

B. Submit the report within 30 days of observation to the Design Agent for the limited purpose of assessing conformance with the information given and the design concept expressed in the Contract Documents.

1.15 ERECTION DRAWINGS

A. When specified in the individual Specification sections, the trade contractors shall submit (1) electronic PDF copy of erection drawings for review prior to proceeding with fabrication and/or construction.

B. Erection drawings shall be prepared in accordance with the latest edition of the respective trades' codes of standard practice.

C. All erection drawings shall be fully developed by the trade contractors or by agents of the contractors. CAD files, photocopies, or other reproductions of the contract drawings in whole or in part shall not be used by the trade contractors or their agents for the preparation and development of erections drawings without the expressed written consent of the Design Agent.

1.16 SUBMITTAL LIST

A. Refer to individual specification sections.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 35 23 – HOT WORK PROCEDURE

PART 1 - GENERAL

1.1 PURPOSE

A. To establish regulations and rules for the safe uses of open flames and spark producing equipment in state owned or leased facilities. Applicable regulations pertinent to this guide include OSHA 29 CFR 1910.252-.255 and NFPA 51B, and the insurers Hot Work Requirements.

1.2 POLICY

A. Fire Protection

1. Contractors and employees shall comply with the regulations set forth in this policy to ensure the safe use of open flames and spark producing equipment.
2. When performing work within a state facility with a cutting torch or when using welding, brazing or soldering equipment a hot work permit is required to be filled out and precautions followed. The Hot Work Permits are available (free of charge) directly from the state's property insurer.
3. Prior to the start of the hot work operation, the contractor is to coordinate deactivation of related of the alarm system necessary to prevent false alarms prior to the start of the hot work operation with the User Agency.
4. Upon completion of the project the fire alarm system will be restored to operational status.
5. During the hot work operation, the following precautions will be followed:

b. A fire watch will be required by the individual responsible for authorizing the hot work operation.

c. Welding leads and burning hoses are to be kept out of walkways as much as possible

d. Inspect all leads, grounds, clamps, torches and cylinders before use. Be sure all fittings, couplings and connections are tight.

e. In gas welding and cutting, mixtures of fuel gas and air or oxygen must not be permitted except prior to consumption.

f. Only approved apparatus must be used, and portable cylinders of compressed gas must be properly secured to prevent upset.

g. Use proper ventilation in the work area.

h. All exposed combustible and flammable material within 35 feet of the point of operation should be removed where possible. Otherwise, protect with Approved welding pads, blankets and curtains, fire resistive tarpaulins or metal shields.

i. Cutting or welding on pipes or other metal in contact with combustible walls, partitions, ceilings or roofs shall not be undertaken if the work is close enough to cause ignition by conduction.

j. All hoses and leads will be inspected frequently and will be replaced as necessary.

k. A cutting or welding prohibition will be required whenever an area contains or may contain flammable/explosive vapors. The prohibition can only be lifted when the area has been purged and cleaned and the area has been tested and shown to be free of a flammable/explosive mix.

1.3 RESPONSIBILITY

A. Supervisor

1. Supervisor will train their employees in the potential fire hazards associated with hot work.
2. Supervisor will initiate a hot work permit prior to assigning work.

3. The supervisor will obtain confirmation that:
   a. Available sprinklers, hose streams and extinguishers are in service and operable.
   b. Hot work equipment is in good working condition.
   c. The following requirements within 35 feet of hot work shall be adhered to: a.) Flammable liquid, dust, lint and oily deposits have been removed. b.) Explosive atmosphere has been eliminated.
   d. The floors have been swept clean.
   e. Combustible floors have been wet down, covered with damp sand or fire resistive sheets are in place.
   f. All exposed combustible and flammable material within 35 feet of the point of operation should be removed where possible. Otherwise, protect with FM Approved welding pads, blankets and curtains, fire resistive tarpaulins or metal shields.
   g. All wall and floor openings are covered.
   h. FM approved welding pads, blankets and curtains installed under and around work.
   i. Protect or shut down ducts and conveyors that might carry sparks to distant combustible material.
4. The supervisor is responsible for assuring that a 60 minute fire watch is maintained at the completion of all hot work assignments, that a hot work permit has been acquired for work involving open flames or spark producing tools and for assuring all fire prevention procedures and precautions are followed for protection of people and property including a fire watch, deactivation of the fire alarm.
5. The supervisor will require that the area be monitored periodically for three hours after the fire watch is completed.
6. The supervisor will confirm that employees are trained in use of fire extinguishers and hoses, and that the employees are familiar with emergency procedures in the event of a fire.
7. At least once while the permit is in effect, the area should be inspected by the individual responsible for authorizing, cutting or welding operations to ensure that it is a fire safe area. (See article 3 above for fire safe conditions.)
8. Proper personnel protective equipment including helmets, eye wear, face and hand shields applicable to the equipment used will be provided by the supervisor.
   a. The equipment will be maintained and fit tested by management.
9. Personal protective clothing consistent with OSHA standards will be worn.
10. Tarps or fire-resistant coverings sufficient to cover combustible materials within 35 feet of the operation will be provided.

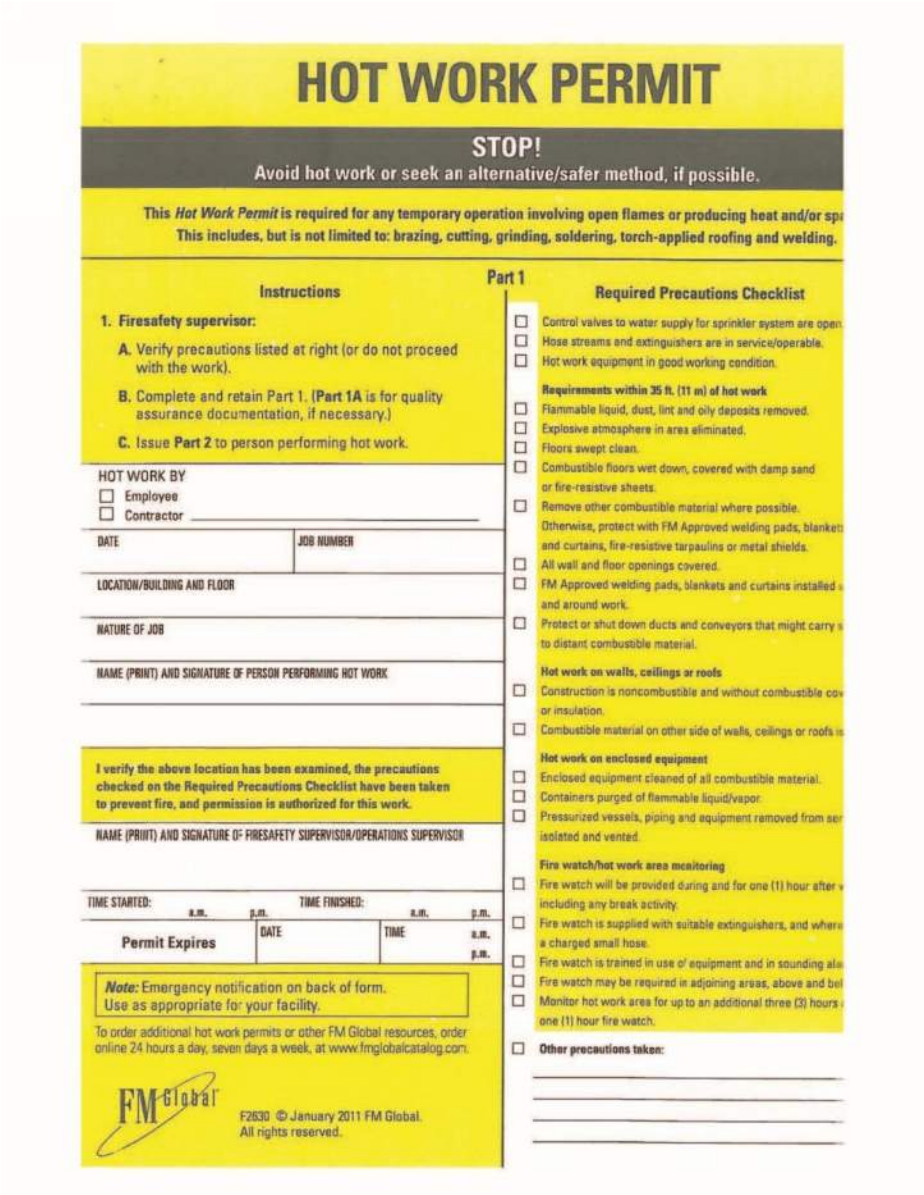
B. Employees
1. The employee shall be responsible to work in a safe manner and follow all safety precautions as trained by the supervisor.
2. The employee charged with performing the hot work will initiate part 2 of the hot work permit and verify that a 60-minute fire watch has been maintained.
3. Employees performing hot work will be required to either properly remove or cover combustible materials in the 35-foot area surrounding the hot work operation.

C. Fire Safety Officer
1. The state employee charged with maintaining or inspecting the fire alarm system will deactivate the system.
2. The area will be evaluated by this individual to identify fire hazards and provide required suppression equipment.

3. The fire safety officer will ensure that combustible materials within 35 feet of the hot work operation are properly tarped or moved a safe distance.
4. In addition, this officer will ensure that personnel in close proximity to this work area are properly protected against heat, sparks and slug.

D. Management

1. Maintain a log of hot work permits.
2. Provide safety training for supervisors.
3. Confirm that all contractors follow all requirements of this protocol.



HOT WORK PERMIT

STOP!
Avoid hot work or seek an alternative/safer method, if possible.

This *Hot Work Permit* is required for any temporary operation involving open flames or producing heat and/or sp
This includes, but is not limited to: brazing, cutting, grinding, soldering, torch-applied roofing and welding.

Part 1

Instructions

1. **Firesafety supervisor:**
   - **A.** Verify precautions listed at right (or do not proceed with the work).
   - **B.** Complete and retain Part 1. (**Part 1A** is for quality assurance documentation, if necessary.)
   - **C.** Issue **Part 2** to person performing hot work.

HOT WORK BY
☐ Employee
☐ Contractor _____

DATE	JOB NUMBER

LOCATION/BUILDING AND FLOOR

NATURE OF JOB

NAME (PRINT) AND SIGNATURE OF PERSON PERFORMING HOT WORK

I verify the above location has been examined, the precautions checked on the Required Precautions Checklist have been taken to prevent fire, and permission is authorized for this work.

NAME (PRINT) AND SIGNATURE OF FIRESAFETY SUPERVISOR/OPERATIONS SUPERVISOR

TIME STARTED: a.m. p.m. TIME FINISHED: a.m. p.m.

Permit Expires	DATE	TIME	a.m. p.m.

Note: Emergency notification on back of form.
Use as appropriate for your facility.

To order additional hot work permits or other FM Global resources, order online 24 hours a day, seven days a week, at www.fmglobalcatalog.com.

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Required Precautions Checklist

- ☐ Control valves to water supply for sprinkler system are open
- ☐ Hose streams and extinguishers are in service/operable.
- ☐ Hot work equipment in good working condition.

Requirements within 35 ft. (11 m) of hot work

- ☐ Flammable liquid, dust, lint and oily deposits removed.
- ☐ Explosive atmosphere in area eliminated.
- ☐ Floors swept clean.
- ☐ Combustible floors wet down, covered with damp sand or fire-resistive sheets.
- ☐ Remove other combustible material where possible. Otherwise, protect with FM Approved welding pads, blanket and curtains, fire-resistive tarpaulins or metal shields.
- ☐ All wall and floor openings covered.
- ☐ FM Approved welding pads, blankets and curtains installed and around work.
- ☐ Protect or shut down ducts and conveyors that might carry to distant combustible material.

Hot work on walls, ceilings or roofs

- ☐ Construction is noncombustible and without combustible co or insulation.
- ☐ Combustible material on other side of walls, ceilings or roofs is

Hot work on enclosed equipment

- ☐ Enclosed equipment cleaned of all combustible material.
- ☐ Containers purged of flammable liquid/vapor.
- ☐ Pressurized vessels, piping and equipment removed from ser isolated and vented.

Fire watch/hot work area monitoring

- ☐ Fire watch will be provided during and for one (1) hour after including any break activity.
- ☐ Fire watch is supplied with suitable extinguishers, and where a charged small hose.
- ☐ Fire watch is trained in use of equipment and in sounding ala
- ☐ Fire watch may be required in adjoining areas, above and bel
- ☐ Monitor hot work area for up to an additional three (3) hours one (1) hour fire watch.

☐ **Other precautions taken:**

END OF SECTION

01 35 24 – MANAGING FIRE PROTECTION SYSTEM IMPAIRMENT

PART 1 - GENERAL

1.1 IMPLEMENTATION

A. The following management procedure applies to the Contract for Construction and is a part of the Contract Documents.

1.2 MANAGING FIRE PROTECTION SYSTEM IMPAIRMENT

A. Impairment to fire protection equipment is a situation in which the system is shut off, either in whole or in part. The impairment may be necessary to conduct scheduled maintenance of equipment or to make emergency repairs. Impairment may also be due to new construction. Normal system tests and inspections are not considered impairment.

B. Regardless of the reason, impairment results in the sprinkler system and/or fire alarm system being temporarily out of service, such a condition may result in severe property loss in the event of a fire. Locations protected by automatic sprinkler systems must have an impairment handling program to control situations when sprinkler systems must be shut down.

C. Whenever a sprinkler system has been impaired all hot work in the area of the impaired system should be prohibited.

D. A periodic fire watch should be established when either the sprinkler system or the fire alarm system is out of service.

E. The State's property insurance carrier recommends an impairment handling kit. The Red Tag Permit System consists of four key elements:

1. A Red Tag Permit
2. Fire Protection Equipment Decals: are to be affixed to fire protection equipment as a reminder that authorization is needed before any shut down can occur.
3. Reusable Impairment Tag for Fire Service Connections: There is space on the notification tag for the phone numbers of the Fire department, Alarm Company, and the local Water Department as well.
4. Red Tag Permit System Wall Hanger: contains pockets to keep other elements of the system organized and within reach; also, the Hanger lists steps to be taken before, during and after impairment. The Wall Hanger also lists the contact to be notified of the impairment.

F. An engineer and/or client service representative can advise you on how to proceed and follow up until protection has been restored. In addition, this representative may be able to help minimize downtime, if possible, reduce fire exposure to the area, arrange for temporary protection and determine how to restore protection as quickly as possible.

G. For scheduled maintenance of fire alarm systems, vendors must, as prescribed in Rhode Island Fire Codes, notify the User Agency 48 hours in advance of pending maintenance.

H. As part of base contract, the Contractor is required to provide a licensed electrician to oversee and perform the required temporary modifications to the fire alarm system during the impairment, including bypass control during fire sprinkler work. The College will not provide personnel for this purpose.

END OF SECTION

RHODE ISLAND COLLEGE

OFFICE OF CAPITAL PROJECTS | 600 MOUNT PLEASANT AVE, PHYSICAL PLANT, PROVIDENCE, RI 02908

FIRE SPRINKLER AND ALARM SYSTEM IMPAIRMENT NOTIFICATION FORM

To: RIC Office of Capital Projects

Date: _____

Start of Planned Impairment: _____

End of Planned Impairment: _____

Building occupied during impairment: Yes:___ No:____

Any hot work to be performed: Yes:___ No:____

Description of Work to be performed:

_____

_____

_____

_____

_____

_____

_____

_____

RIC Trade & Fire Alarm Safety Manager, David Benevides, can also be directly contacted at 401-456-4747.

Contractor supervisory personnel shall remain in the building for the entire duration of the impairment.

Name: _____

Company: _____

Phone: _____

RED TAG PERMIT

CONTROL NUMBER: 2151373

INDEX NUMBER:

PRECAUTIONS TAKEN (CHECK AS APPROPRIATE)

- ☐ Emergency Organization Notified
- ☐ Public Fire Department Notified
- ☐ Hazardous Operations Stopped
- ☐ Hot Work Prohibited
- ☐ Smoking Restricted
- ☐ Other _____
- ☐ Continuous Work Authorized
- ☐ Ongoing Patrol of Area
- ☐ Hydrant Connected to Sprinkler Riser
- ☐ Pipe Plugs on Hand
- ☐ Fire Hose Laid Out

CONTACT NAME

LOCATION (City, State/Province)

CONTACT PHONE NO.

CONTACT FAX NO.

CHECK IF
- ☐ SPRINKLER
- ☐ FIRE PUMP
- ☐ CO_2
- ☐ HALON
- ☐ OTHER

SPRINKLER VALVE LOCATION/NUMBER

AREA PROTECTED

REASON FOR IMPAIRMENT

PLANNED DATE/TIME TO BE CLOSED

PLANNED DATE/TIME TO BE OPEN

NAME/TITLE OF RESPONSIBLE PERSON

AUTHORIZED BY (NAME)

FIRE PROTECTION EQUIPMENT OPERATOR (NAME)

PART 1 INSTRUCTIONS

Permit Authorizer: Fill out using ballpoint pen, sign and issue permit as follows:

Phone Part 1 information, or fax this part, to the FM Global number listed on the Red Tag Permit Wall Kit.

Place Part 2 in center pocket of Wall Kit as visual reminder of impairment.

Issue Part 3 (Red Tag) to Fire Protection Equipment Operator to attach to impaired equipment.

FM Global

RED TAG PERMIT

Part 1 of 3

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END OF ATTACHMENT

01 40 00 – QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Quality control and control of installation.

B. Contractor Qualifications

C. Verification of Credentials and Licenses.

D. Tolerances

E. References.

F. Testing and inspection services.

G. Manufacturers' field services.

H. Mock-up Requirements.

I. Testing and Balancing.

J. Repair of Defective Construction

1.2 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 all manufacturers' instructions and recommendations, including each step in sequence.

C. When the manufacturers' instructions conflict with the Contract Documents, request a clarification from the Design Agent 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.

1.3 VERIFICATION OF CREDENTIALS AND LICENSES

A. The User Agency has implemented a project management oversight process and is applying it to current construction projects at RIC.

B. An element of this oversight process is the verification that persons employed on the project site have appropriate and current credentials and licenses in their possession, at the project site, for the work they are performing.

C. 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.

D. State resident inspectors will also be reviewing Contractor's Certified Monthly Payroll Records for conformance with RI State Prevailing Wage Rate requirements.

E. Those persons without the appropriate credentials and licenses will be subject to dismissal from the project site.

1.4 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 Design Agent before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

1.5 REFERENCES

A. For products or workmanship specified by association, trade, or other consensus standard, 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 Design Agent before proceeding.

E. Neither the contractual relationships, duties, nor responsibilities of the parties in the Contract, nor those of the Design Agent, shall be altered from the Contract Documents by mention or inference otherwise in reference documents.

1.6 TESTING AND INSPECTION SERVICES

A. The Contractor will submit the name of an independent firm to the Design Agent for approval by the User Agency, to perform the testing and inspection services.
   1. Base Bid Testing Requirements List. The Contractor shall pay for all the services required in the Base Bid as described:
      a. None
   2. Additional User Agency-Authorized Testing Requirements List Contractor shall coordinate any User Agency-authorized additional testing also described to be paid for from Testing Allowance:
      a. None

B. The independent firm will perform the tests, inspections and other services specified in the individual specification Sections and as required by the Design Agent or its Consultants.
   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 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 Design Agent or the User Agency.

D. Reports will be submitted by the independent firm to the Design Agent, the Consultant for that trade, 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 Design Agent and Engineer and the independent firm 24 hours prior to the expected time for operations requiring services.
   2. Make arrangements 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 shall be performed by the same independent firm on instructions by the Design Agent or its Consultant. Payment for the re-testing or re-inspection will be charged to the Contractor by deducting the testing charges from the Contract Sum.

H. Agency Responsibilities:
   1. Test samples of mixes submitted by the Contractor.
   2. Provide qualified personnel at the site. Cooperate with the Design Agent or its Consultant 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 Design Agent, Consultant and the Contractor of observed irregularities or non-conformance of the Work or products.
   6. Perform additional tests required by the Design Agent or its Consultants.
   7. Attend the preconstruction meetings and the progress meetings.

I. Agency Reports: After each test, promptly submit two copies of the report to the Design Agent, appropriate Consultant, and to the Contractor. When requested by the Design Agent, 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.

K. Agency or laboratory may not assume any duties of the Contractor.

L. Agency or laboratory has no authority to stop the Work.

1.7 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 Design Agent 30 days in advance of the required observations. Observer is subject to approval of the Design Agent.

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.

1.8 MOCK-UP REQUIREMENTS

A. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.

B. Accepted mock-ups shall be a comparison standard for the remaining Work.

C. Where mock-up has been accepted by Architect and is no longer needed, remove mock-up and clear area when directed to do so.

1.9 TESTING, ADJUSTING, AND BALANCING

A. Submit, for the User Agency's approval, the name of an independent firm to perform testing, adjusting and balancing of systems. The independent firm's services will be paid for by the Contractor.

B. The independent firm will perform services specified in individual specifications Sections.

C. Reports will be submitted by the independent firm to the Design Agent and the User Agency indicating observations and test results, indicating compliance or non-compliance with specified requirements and with the requirements of the Contract Documents.

1.10 REPAIR OF DEFECTIVE CONSTRUCTION

A. Refer to General Conditions §12. Repair, or remove and replace, defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that that already show evidence of repair or restoration.
   a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.

4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 50 00 – TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 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. Temporary water service.
   8. Temporary sanitary facilities.

B. Construction Facilities:
   1. Field offices and sheds.
   2. Hoisting.
   3. Parking/Traffic.
   4. Project identification.
   5. Traffic regulation.
   6. Independent Food Vendors

C. Temporary Controls:
   1. Barriers.
   2. Enclosures and fencing.
   3. Security.
   4. Fire detection.
   5. Water control.
   6. Dust control.
   7. Erosion and sediment control.
   8. Noise control.
   9. Pest and rodent control.
   10. Pollution control.

D. Removal of utilities, facilities, and controls with reseeding and repair of grounds.

1.2 TEMPORARY ELECTRICITY

A. The User Agency will pay the cost of energy used. Exercise measures to conserve energy. Utilize the User Agency's existing power service.

B. Complement the existing power service capacity and characteristics as required for construction operations.

C. Provide power outlets, with branch wiring and distribution boxes located at each floor or as required for construction operations. Provide flexible power cords as required for portable construction tools and equipment. All flexible power cords shall be suspended with hangers to eliminate trip hazards.

D. Provide main service disconnect and over-current protection at a convenient location or a feeder switch at the source distribution equipment or meter.

E. Permanent convenience receptacles may not be utilized during construction.

F. Provide distribution equipment, wiring, and outlets to provide single-phase branch circuits for power. Provide 20-ampere duplex outlets, single-phase circuits for power tools.

1.3 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

A. Provide and maintain incandescent lighting for construction (interior & exterior) operations to achieve a minimum lighting level of 2 watt/sq. ft. (21 watt/sq m).

B. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.

C. Maintain lighting and provide routine repairs.

D. Permanent building lighting may be utilized during construction where not removed.

1.4 TEMPORARY HEATING

A. Existing facilities will be occupied and heated by the College when temperatures require. Take care to avoid leaving doors open in exterior walls that could compromise heating operations. For new construction, the cost of energy will be borne by the Contractor. Provide temporary heating as necessary for construction operations.

B. Supplement with temporary heat devices if needed to maintain the specified conditions for construction operations even in existing buildings.

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.

D. In areas of work with mechanical hot-air heating, clean units and replace filters after Substantial Completion.

E. Do not use new equipment for heating after replacement during construction.

F. Provide temporary heating to occupied spaces if construction activities impact normal function of existing systems to occupied spaces. Submit an implementation plan for review and approval by RIC.

1.5 TEMPORARY COOLING

A. Existing facilities are not available.

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.

D. Provide temporary cooling to occupied spaces if construction activities impact normal function of existing systems to occupied spaces. Submit an implementation plan for review and approval by RIC.

1.6 TEMPORARY VENTILATION

A. Ventilate the enclosed areas to achieve a curing of materials, to dissipate humidity, and to prevent the accumulation of dust, fumes, vapors, or gases.

B. If existing ventilation fans are used during construction, clean fans in areas of work after Substantial Completion.

C. Provide temporary ventilation to occupied spaces if construction activities impact normal function of existing systems to occupied spaces. Submit an implementation plan for review and approval by RIC.

1.7 TELEPHONE SERVICE

A. Provide, maintain, and pay for cell phone service to the field supervisor at the time of project mobilization.

1.8 TEMPORARY WATER SERVICE

A. The User Agency will pay the cost of temporary water. Exercise measures to conserve energy. Utilize the User Agency'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 if needed to prevent freezing.

1.9 TEMPORARY SANITARY FACILITIES

A. Contractor needs to provide and maintain temporary toilet facilities for use by all construction personnel. Trades people will not be permitted to use existing facilities within the building.

1.10 FIELD OFFICES AND SHEDS

A. Do not use existing facilities for storage. Job meetings will be held on campus at a location to be chosen by the College.

B. Storage Areas 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. Containers will be permitted within the project limit line.

C. Preparation: Fill and grade the sites for the temporary structures to provide drainage away from the buildings.

D. Removal: At the completion of the Work remove the buildings, foundations, utility services, and debris. Restore the areas.

1.11 HOISTING

A. Contractor is responsible for all hoisting required to facilitate, serve, stock, clean, and complete the Work. Include all costs for Operating Engineers, fuel, delivery and removal, mobilization, staging, protection of grades and surfaces, and equipment.

1.12 PARKING/TRAFFIC

A. Workers must park in lots assigned by the College with daily permits. See Site Utilization Plan.

B. Use of designated existing on-site streets and driveways for construction traffic is permitted. Tracked vehicles are not allowed on paved areas.

C. Do not allow heavy vehicles or construction equipment in parking areas.

D. Do not allow vehicle parking on existing sidewalks.

E. Provide and maintain access to fire hydrants and control valves free of obstructions.

F. Remove mud from construction vehicle wheels before entering streets. Cleanup dirt, rocks, and debris left on street from construction vehicles.

G. Use designated existing on-site roads for construction traffic.

H. Maintenance:

1. Maintain the traffic and parking areas in a sound condition free of excavated material, construction equipment, products, mud, snow, and ice.
2. Maintain existing and permanent paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain the paving and drainage in original, or specified, condition.
3. Plywood and other protections shall be provided when construction equipment is driven over concrete.

I. Removal, Repair:
1. Remove temporary materials and at Substantial Completion.
2. Remove underground work and compacted materials to a depth of 2 feet; fill and grade the site as specified.
3. Repair existing and permanent facilities damaged by use, to the original or specified condition.

1.13 INDEPENDENT FOOD VENDORS

A. Independent or contracted food vendor trucks are prohibited on Rhode Island College's campus. Contractors are permitted to use college dining facilities (Donovan Dining, Café in Student Union, and The Galley Cafe in Building 3).

1.14 TRAFFIC REGULATION

A. Signs, Signals, And Devices:
a. Post Mounted and Wall Mounted Traffic Control and Informational Signs: As approved by local jurisdictions.
b. Traffic Cones and Drums, Flares and Lights: As approved by local jurisdictions.
c. Flag person Equipment: As required by local jurisdictions.
d. Police Details: Provide all police details as required by local jurisdictions, including payment directly to applicable jurisdiction.
e. On Campus Police Details: The User Agency shall provide and cover costs for details provided by RIC Campus Police. If RIC is unable to provide, contractor shall provide flaggers and will be compensated for the flagger's hours.

B. Flag Persons: Provide trained and equipped flag persons to regulate the traffic when construction operations or traffic encroach on the public traffic lanes.

C. Flares and Lights: Use flares and lights during the hours of low visibility to delineate the traffic lanes and to guide traffic.

D. Haul Routes:
1. Consult with the authority having jurisdiction, establish the public thoroughfares to be used for haul routes and site access.

E. Traffic Signs and Signals:
1. At approaches to the site and on site, install at crossroads, detours, parking areas, and elsewhere as needed to direct the construction and affected public traffic.
2. Install and operate automatic traffic control signals to direct and maintain the orderly flow of traffic in areas under the Contractor's control, and areas affected by the Contractor's operations.
3. Relocate as the Work progresses, to maintain effective traffic control.

F. Removal:
1. Remove equipment and devices when no longer required.
2. Repair damage caused by installation.

3. Remove post settings to a depth of 2 feet.

1.15 BARRIERS

A. Provide barriers to allow for the User Agency's use of the site and to protect existing facilities and adjacent properties from damage from the construction operations, or demolition.

B. Provide barricades and covered walkways required by RIC for public rights- of-way, or for public access to the building.

C. Provide protection for plants designated to remain. Replace damaged plants.

D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.16 ENCLOSURES AND FENCING

A. Exterior: Contractor shall provide 6-ft. high commercial grade chain link fence that is properly secured and maintained around the building and/or site in order to protect the public and the work. Include in the Site Plan the location of the fence and pedestrian and vehicular gates for User Agency review. Access shall be available to all egress doors as designated by the User Agency. Provide visual screening on fence using fabric approved by the User Agency. Equip with vehicular and pedestrian gates with locks. Provide one set of keys to all gates and door locks to the User Agency.

B. Perform adjustment to the proposed layout as may be directed by the User Agency.

C. Contractor to provide overhead cover protection at all entrances and egresses from the building. Entrances and paths of egress must be clearly marked with signage with placement and language approved in advance by the User Agency.

D. Staging of equipment, dumpsters and materials must be situated within the project fenced-in areas.

E. Interior Enclosures:

1. Provide temporary partitions and ceilings as indicated to separate the work areas from User Agency-occupied areas, to prevent penetration of dust and moisture into User Agency-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, as agreed with the User Agency: 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 User Agency's operations from theft, vandalism, and unauthorized entry.
2. Initiate the program in coordination with the User Agency's existing security system at mobilization.
3. Maintain the program throughout the construction period until User Agency occupancy of each designated area.

B. Entry Control: Coordinate the access of the User Agency's personnel to the site in coordination with the User Agency's security forces. The Contractor is responsible for providing adequate locks for the site and furnish the requested quantities of keys to the User Agency.

1.18 FIRE DETECTION

A. Before beginning any construction operation that can potentially trigger the existing fire alarm detection system, notify the User Agency through use of the form provided in Section 01 10 00.

B. Failure to so notify the User Agency will subject the Contractor to a monetary fine for each occurrence, should the fire detection system be activated inadvertently by a construction activity.

C. Comply with the User Agency's insurance underwriting standards and insurer recommendations for Hot Work, sprinkler impairment, and site maintenance.

1.19 WATER CONTROL

A. Grade the site to drain. Maintain excavations free of water. Provide, operate, and maintain the pumping equipment.

B. Protect the site from puddling or running water. Provide water barriers as required to protect the site from soil erosion.

1.20 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.

1.21 EROSION AND SEDIMENT CONTROL

A. Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.

B. Minimize the amount of bare soil exposed at one time.

C. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.

D. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.

E. Periodically inspect the earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

F. Follow Rhode Island DEM Soil Stabilization Requirements, including, but not limited to:

1. Stabilizations of disturbed areas must, at a minimum, be initiated immediately whenever any clearing, grading, excavating or other earth disturbance activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding fourteen (14) calendar days.
2. Stabilization must be completed using vegetative stabilization measures or using alternative measures whenever vegetative measures are deemed impracticable or during periods of drought.
3. All disturbed soils exposed prior to October 15th shall be seeded by that date.
4. Any such areas which do not have adequate vegetative stabilization by November 15th must be stabilized through the use of non-vegetative erosion control measures.
5. If work continues within any stabilized areas during the period from October 15th through April 15th, care must be taken to ensure that only the area required for that day's work is exposed, and all erodible soil must be stabilized within five (5) working days.

1.22 CLEANING

A. Refer to Section 01 74 13 – Cleaning. Contractor to maintain a neat and orderly work site. Trash shall be cleaned from site and surrounding area on a daily basis.

B. For projects within occupied buildings, contractor shall sweep and wet mop all floors on a daily basis for impacted spaces. Surfaces of desks, tables, etc. shall be covered during construction and cleaned of dust and debris.

1.23 NOISE CONTROL

A. Provide methods, means, and facilities to minimize noise produced by the construction operations.

1.24 PEST AND RODENT CONTROL

A. Provide methods, means, and facilities to prevent pests, insects and rodents from damaging the Work, or accessing or invading the facility.

1.25 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.

1.26 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 and new facilities used during construction to their original condition.

E. Restore any temporary exterior laydown or storage areas to the original condition. After each use, regrade and reseed as required to meet this requirement.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 57 13 – SOILS MANAGEMENT PLAN

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Introduction

B. Soil Management

C. Notification Requirements

D. Site Contacts

1.2 INTRODUCTION

A. During previous soil investigations completed at the college, but not in proximity to or associated with this investigation, elevated arsenic concentrations have been identified in soil at concentrations above the Rhode Island Department of Environmental Management (RIDEM) Residential Direct Exposure Criterion of 7 milligrams-per-kilogram (mg/kg). According to previous documentation, no other contaminants were detected at levels above the applicable regulatory criteria, and the elevated arsenic was attributed to natural background conditions. RIDEM was notified of the previous arsenic concentrations identified at the college. No analytical data from the proposed areas of excavation associated with this project have been collected to date.

B. As described in this SMP, the contractor shall assume that all soils managed during this project may contain elevated arsenic concentrations unless analytical testing has been completed in accordance with this SMP. In addition, excess soil shall not be transported off- site unless in accordance with the SMP.

PART 2 - SOIL MANAGEMENT

2.1 SOIL MANAGEMENT PROCEDURES

A. The following procedures should be followed during the excavation, stockpiling, management and re-use of soils at the Site.

B. Pre-Excavation Activities

1. For exterior excavation only: a minimum of 72 hours prior to conducting any site grading or excavation, DIGSAFE should be contacted to obtain a valid DIGSAFE permit to inform public utility owners to locate and mark all underground utilities in the proposed work zone. Additionally, there are some campus owned utilities that will need to be located utilizing an independent utility location company. The contractor is responsible for coordinating and hiring a sub-contractor to perform the services as Rhode Island College will not perform any utility location. The Site contractor shall coordinate with local authorities to obtain the location of utilities unmarked by DIGSAFE (typically municipal water and sewer lines) at least 72 hours prior to excavation. When Site activities approach the location of any underground utility, the exact location shall be determined by safe and acceptable means.
2. Any underground utility lines exposed in the excavation will be protected, supported, or removed. If an unmarked underground utility is encountered, the contractor shall cease work immediately and notify the owner of the utility for further instruction.
3. Prior to excavation, all staff working at the Site, including the contractor must prepare and familiarize themselves with their Site-specific Health and Safety Plan (HASP). Each contractor performing tasks at the Site should have their own HASP applicable to their personnel.

C. Excavation Activities

1. Site activities should be planned to be completed within a secured area of the Site and access to the Site should be restricted during the project. Additionally, off-hour access to the Site will be controlled with a locking temporary construction fence.
2. Soil excavation and grading shall be conducted in accordance with applicable Site permits.
3. During excavation activities, dust suppression methods must be utilized when visible windblown dusts are generated. The excessive generation of dust must be managed during soil excavation, stockpiling and loading. If excessive dust generation cannot be controlled or mitigated, the activity should be discontinued until conditions improve. (See Section 2.2 for additional information.)
4. If the presence of oil or hazardous materials (OHM) or any other unforeseen condition is identified during excavation activities, Site activities will immediately stop. Contractors should contact the appropriate Environmental Professional and the Rhode Island College Project Manager prior to continuing Site activities. The appropriate Site contacts are provided in Section 4.
5. Due to the time required for soil testing, soils are not to be removed from site until the results have been obtained.
6. Any rock or stone found to be 3" diameter or larger is to be removed and replaced with appropriate fill.
7. Excess excavated soils will be staged and temporarily stored in a designated area of the property for no more than 90 days. The storage location shall be selected to prevent unauthorized access to the materials.
8. Excess excavated soils will be stockpiled on polyethylene sheeting and/or stored in roll-off containers. Stockpiled or stored soils will be covered with polyethylene sheeting (6 mil minimum) prior to leaving the Site and at the end of each workday. Soil shall be securely stockpiled in order to prevent migration and erosion from the stockpile locations.
9. Soil stockpiles shall be inspected daily; and damage to the covers shall be repaired immediately.
10. The contractor shall take measures to control stormwater run-off of impacted/stockpiled soils, which may include, siltation fences and staked hay bales in the areas of the Site used for stockpiling.

D. On-Site Reuse Procedures: Soil generated from Site excavations may be placed back into its original excavation for use as backfill during the Site activities. The contractor shall make all reasonable efforts to backfill soils the corresponding depth and location from which the soils were originally removed.

E. Decontamination Procedures: Non-disposable equipment used during the soil excavation activities, including excavators, loaders and soil transport vehicles) must be properly decontaminated in accordance with the Contractors decontamination procedures as appropriate prior to removal from the Site.

2.2 DUST PREVENTION

A. The Contractor will prepare a Dust Prevention Plan prior to beginning work. During excavation activities, dust suppression methods must be utilized when visible windblown dusts are generated. The excessive generation of dust must be managed during soil excavation, stockpiling and loading. If excessive dust generation cannot be controlled or mitigated, the activity should be discontinued until conditions improve.

B. The Contractor shall maintain a water truck(s) at the Site to control airborne dust during soil excavation, grading and other site development activities. Initiation of dust control measures will be at the direction of Rhode Island College, the Environmental Professional, and/or the Contractor. The Contractor shall use the water truck when the Site soils become dry and there is potential for airborne dust. The Contractor shall have a sufficient number of operable water trucks

to maintain a moist soil surface at all areas of the Site were exposed soils exist. Additionally, the Contractor shall install and maintain the facilities to fill and maintain the water truck(s).

2.3 CONFIRMATORY SOIL SAMPLING

A. The stockpile locations shall be accessible to the Environmental Professional upon completion of the stockpiling activities to allow for soil sample collection. Soil analytical testing must be performed by a Rhode Island Department of Health approved laboratory. The testing program for off-site soil reuse/disposal must be completed in compliance with the permit requirements of the planned receiving facility. Approval from the Environmental Professional, Rhode Island College Project Manager and the proposed receiving facility representative must be acquired prior to soils leaving the Site.

B. At a minimum analytical testing should include the following:

Petroleum Hydrocarbons	EPA Method 8100M
Volatile Organic Compounds	EPA Method 8260
Semi-volatile Organic Compounds	EPA Method 8270
Polychlorinated Biphenyls	EPA Method 8081
Total RCRA 8 Metals	EPA Method 6010 & 7471A
Flashpoint	EPA Method 1010M
Corrosivity (pH)	EPA Method 9045C
Reactivity (Sulfide and Cyanide)	EPA Methods SW-846 7.3.3.2/9014 and SW-846 7.3.4.2/376.2

C. Soils Classifications. Based on the analytical results, soils may be categorized as the following:

1. Non-regulated - results are below the RIDEM Method 1 Residential Direct Exposure Criteria (RDEC). Soils in this category do not require special handling.
2. Regulated – results exceed the RDEC. These soils must be managed properly and taken to a permitted receiving facility.
3. Hazardous Waste – results exceed United States Environmental Protection Agency (US EPA) Resource Conservation and Recovery Act (RCRA) hazardous waste criteria. These soils are subject to US EPA RCRA regulations and must be transported and disposed of at a RCRA-permitted treatment, storage, disposal (TSD) facility in accordance with applicable regulations.

2.4 GROUNDWATER ASSESSMENT AND DEWATERING

A. At this time the excavation activities are planned for a maximum of 15 feet below grade and it is anticipated that groundwater will be encountered in some locations during Site activities. Groundwater dewatering activities should be planned for the Site.

2.5 OFF-SITE SOIL DISPOSAL

A. This SMP proposes the reuse of the stockpiled soils on Site. Soils that cannot be reused on Site are subject to the following procedures;

1. Soil excavated from the Site may not be transported off-Site for re-use or disposal without prior approval from the Environmental Professional, Rhode Island College Project Manager and the proposed receiving facility representative.
2. Prior to off-site shipment, a pre-classification soil sample(s) will need to be analyzed in accordance with the selected disposal facilities requirements. Laboratory testing must completed by the Environmental Professional.
3. Soil analytical testing must be performed by a RI Department of Health approved laboratory.
4. Soil data may indicate that soil subject to removal from the Site meets the Residential Direct Exposure Criteria (RDEC) for all constituents and may have multiple options for re-use. Soil data

will likely contain elevated arsenic concentrations that exceed the RDEC and will be subject to off-Site disposal.

5. No soil shall leave the Site for re-use or disposal without the approval of the Environmental Professional, the Rhode Island College Project Manager and the proposed receiving facility.
6. If soil does not meet the RDEC and cannot be reused on-Site, the soil subject to off-Site disposal must be properly managed and disposed of off-Site at an appropriately licensed facility.
7. If the soils are to be removed from the site, the soil will need to be transported under proper shipping documentation to an assigned disposal facility.
8. The Environmental Professional and Rhode Island College Project Manager should oversee the preparation of the necessary shipping documents and disposal procedures.
9. Copies of the material shipping records for any soils shipped from the Site must be provided to the Environmental Professional and the Rhode Island College Project Manager. This information will be included in closure reporting and likely submitted to the RIDEM.

PART 3 - NOTIFICATION REQUIREMENTS

A. During previous soil investigations completed at the college elevated arsenic concentrations have been identified in soil at concentrations above the RIDEM Residential Direct Exposure Criterion of 7 milligrams-per-kilogram (mg/kg). Although elevated arsenic has been attributed to natural background conditions, RIDEM was notified of the previous arsenic concentrations identified at the college. No analytical data from the proposed areas of excavation associated with this project have been collected to date. If elevated arsenic concentrations are identified in soils at the Site, the concentrations shall be reported to RIDEM and managed in accordance with all RIDEM regulations.

B. If extenuating Site or soil conditions are discovered beyond that which is outlined in the SMP, the Environmental Professional and Rhode Island College Project Manager should be notified immediately.

3.2 SITE CONTACTS

A. The following table provides the contact information for the various individuals that the contractor may need to contact during the completion of this project.

Company / Affiliation	**Name**	**Address**	**Phone Number**
Rhode Island College	Kevin Fitta	600 Mount Pleasant Ave. Providence, RI 02908	(401) 456-9885
RIDEM, Office of Waste Management	Jeffrey Crawford	235 Promenade Street Providence, RI 02903	(401) 222-2797
RIDEM Emergency Response	Jim Ball	235 Promenade Street Providence, RI 02903	(401) 222-2797 x7129 or (401) 222-3070

END OF SECTION

01 60 00 – PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Products.

B. Product delivery requirements.

C. Product storage and handling requirements.

D. Product options.

E. Product substitution procedures.

1.2 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.

1.3 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.

1.4 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.

1.5 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.

1.6 PRODUCT SUBSTITUTION PROCEDURES

A. Instructions to Bidders specify the time restrictions for submitting requests for Substitutions during the bidding period to requirements specified in this section.

B. Substitutions may be considered after the bid only in the following circumstances:

1. When a product becomes no longer in production following the date of receipt of the Purchase Order for this Contract. Submit certification both that specified product was carried in Bid, and is no longer obtainable. Provide cost change documentation.
2. There is a significant cost savings offered to the User Agency. Provide price comparison of both bid and offered substitution products as well as all collateral costs of the change.
3. Code changes or site conditions require a different item from that bid. Submit as for 2 above.

C. Document each request with complete data substantiating the compliance of a proposed Substitution with the Contract Documents.

D. A request constitutes a representation that the Bidder:

1. Has investigated the proposed Product and determined that it meets or exceeds the quality level of the specified product.
2. Will provide the same warranty for the Substitution as for the specified Product.
3. Will coordinate the installation and make changes to other Work which may be required for the Work to be complete with no additional cost to the User Agency, including redesign.
4. Waives claims for additional costs or time extension which may subsequently become apparent.
5. Will reimburse the User Agency and the Design Agent for review or redesign services, including those associated with re-approval by the authorities having jurisdiction.

E. Substitutions will not be considered when they are indicated or 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. Substitution Submittal Procedure, If Permitted Following Contract Award:

1. Submit three copies of a request for Substitution for consideration, no later than 20 working days following date of receipt of the Purchase Order for this Contract. Limit each request to one proposed Substitution. Identify product of fabrication or installation method to be replaced. Include Specification Section number and title and Drawing number and title.
2. Submit the Shop Drawings, Product Data, and the certified test results attesting to the proposed product equivalence. The burden of proof is on the proposer.
3. The Design Agent will notify the Contractor in writing of a decision to accept or reject the request. Costs for review time on unsuccessful requests will be included in the next change order.

PART 2 - PRODUCTS

A. No variations in this section for this Project.

PART 3 - EXECUTION (NOT USED)

END OF SECTION

01 71 00 – EXAMINATION, PREPARATION AND EXECUTION

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Examination & preparation.

B. Field engineering.

C. Protection of adjacent construction.

D. Protecting installed construction.

E. Materials used in cutting and patching.

F. Preparation of cutting and patching.

G. Special procedures.

H. Selective demolition.

I. Cutting and patching.

1.2 EXAMINATION & PREPARATION

A. Acceptance of Conditions:

1. Verify that existing applicable site conditions, substrates, or substrate surfaces are acceptable or meet specific requirements of individual specifications Sections, for subsequent Work to proceed.
2. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.
3. Examine and verify specific conditions described in individual specifications Sections.
4. Verify that utility services are available, of correct characteristics, and in correct locations.
5. Beginning of new Work, which relies upon the quality and proper execution of 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 User Agency.

B. Clean substrate surfaces prior to applying next material or substance.

C. Seal cracks or openings of substrate prior to applying next material or substance.

D. Apply substrate primer, sealer, or conditioner, required or recommended by manufacturer, prior to applying any new material or substance in contact or bond.

E. 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 product manufacturers.

1.3 FIELD ENGINEERING

A. Employ a Land Surveyor registered in the State of Rhode Island and acceptable to Design Agent and the User Agency.

B. Locate and protect survey control and reference points. Promptly notify Design Agent of any discrepancies discovered.

C. Control Datum for survey is to be agreed to with the Design Agent.

D. Verify setbacks and easements, if any; confirm drawing dimensions and elevations.

E. Provide field-engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.

F. Submit a copy of site drawings and certificate signed by the Land Surveyor that the elevations and locations of the Work are in conformance with the Contract Documents.

G. Maintain a complete and accurate log of control and survey work as it progresses.

H. If required by the User Agency, on completion of foundation walls and major site improvements, prepare a certified survey illustrating dimensions, locations, angles, and elevations of construction and site work.

I. Protect survey control points prior to starting site work; preserve permanent reference point during construction.

J. Promptly report to Design Agent the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.

K. Replace dislocated survey control point based on original survey control. Make no changes without prior written notice to Design Agent.

1.4 PROTECTION OF ADJACENT CONSTRUCTION

A. Protect existing adjacent properties and provide special protection where specified in individual Specification Sections.

B. Provide protective coverings at wall, projections, jambs, sills, and soffits of existing openings.

C. Protect 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. Cover and protect furnishings, materials and equipment within the spaces receiving new work. Move items as necessary to install new work and return them to original locations at the close of construction in that area.

E. Repair adjacent properties damaged by construction operations to original condition to the satisfaction of the User Agency.

F. Prohibit unnecessary traffic from existing landscaped areas.

1.5 PROTECTING INSTALLED CONSTRUCTION

A. Protect installed Work and provide special protection where specified in individual specification sections.

1. IT wires shall not be painted. IT wires, faceplates, racks and other components shall be fully protected during painting activities. IT wires which have been painted or exposed to paint splatter shall be replaced and terminated at no cost to the User Agency upon request.

B. Provide temporary and removable protection for installed products. Control activity in 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 installed Work damaged by construction operations, as directed by the Design Agent.

PART 2 - PRODUCTS

2.1 MATERIALS USED IN CUTTING AND PATCHING

A. Unless otherwise indicated, the Contractor shall provide materials for cutting and patching which will result in an equal-or-better product than the material being cut and patched, in terms of performance characteristics and including visual effects where applicable. The Contractor shall use material identical with the original materials where feasible.

B. Match existing materials unless otherwise specified.

C. Restore Work with new Products in accordance with requirements of Contract Documents.

D. Materials shall comply with the requirements of the Technical Specifications found in individual Sections; match existing with new products, or salvaged products as appropriate, for patching and extending work.

E. Provide submittals for approval to the Design Agent and User Agency.

PART 3 - EXECUTION

3.1 PREPARATION

A. The Contractor shall provide adequate temporary support for Work to be cut to prevent failure

B. The Contractor shall provide adequate protection of other Work during cutting and patching.

C. Examine the areas and conditions under which work of this section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

D. Identify any hazardous substance or conditions exposed during the Work to the User Agency and Design Agent for decision or remedy.

E. By careful study of the Contract Documents, determine the location and extent of selective demolition and repairs to be performed.

3.2 SPECIAL PROCEDURES

A. The Contractor shall use methods least likely to damage Work to be retained and Work adjoining. Provide proper surfaces to receive patching and finishing.

B. Where physical cutting action is required, the Contractor shall cut Work with sawing and grinding tools, not with hammering and chopping tools. Openings through concrete Work shall be core-drilled or using a masonry saw.

C. Remove ceiling tiles as necessary to access areas of work. Store and replace carefully to avoid damage. Replace all ceiling tiles damaged during the work with new tiles to match. Repair ACT grid damaged during the work in accordance with this section.

D. Fit Work tight to pipes, sleeves, ducts, conduits, and other penetrations through surfaces.

E. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.

F. At penetration of fire rated partitions, ceiling, or floor construction, completely seal voids with fire rated or fire-resistant material in accordance with Specifications, to full thickness of the penetrated element.

G. All demolition work shall be carried on in such a manner that the existing building and site and their component parts will not be damaged. Any damage to the building shall be corrected by the Contractor, to the satisfaction of the User Agency and Architect, at no additional cost to the User Agency.

H. Close openings in exterior surfaces to protect existing Work from weather and extremes of temperature and humidity.

I. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.

3.3 SELECTIVE DEMOLITION

A. Carefully demolish and remove from the building and site those items specified to be demolished and removed.

B. Remove, cut, modify and patch as necessary to conduct Work in a manner to minimize damage and to provide means of restoring products and finishes to original or specified condition. Replace and restore at completion.

C. Prepare and follow an organized plan for demolition and removal of items:

1. Shut off, cap, and otherwise protect existing utility lines.
2. Completely remove items scheduled to be so demolished and removed, leaving surfaces clean, solid, and ready to receive new materials specified elsewhere.
3. Where indicated on the drawings, completely remove footings, foundations, and above ground and under-ground construction of all kinds.
4. For projects involving excavation, remove rocks larger than 6” diameter, roots, and debris.

D. Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.

E. Remove debris and abandoned items from area and from concealed spaces.

F. The Contractor shall be responsible for the removal and disposal of all materials and equipment from the site and building during the project. Unless directed otherwise by the User Agency, all demolition materials to be removed from the site shall be disposed of in accordance with applicable laws and regulations. **User Agency shall have first right of refusal of any and all materials and equipment scheduled for removal.**

G. In the event of demolition of items not so scheduled to be demolished, promptly replace such items to the approval of the Architect and at no additional cost to the User Agency.

3.4 CUTTING AND PATCHING

A. Provide patching and repairs to all surfaces as indicated and as required for a complete and proper job, including all surfaces damaged as a result of the work of this Contract. Patch or replace portions of existing surfaces which are damaged or shows imperfections not acceptable to the Design Agent or User Agency.

B. Employ skilled and experienced installers to perform cutting and patching.

C. Submit written request in advance of 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 element.
4. Visual qualities of sight-exposed elements.
5. Existing construction, or Work of separate contractor.

D. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:

1. Fit the several parts together, to integrate with 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 elements of Work for penetrations of mechanical and electrical Work.

E. Execute Work by methods that will avoid damage to other Work and provide proper surfaces to receive patching and finishing.

F. Cut masonry, concrete, and other rigid materials using masonry saw or core drill.

G. Remove ceiling tiles as necessary to access areas of work. Store and replace carefully to avoid damage. Replace all ceiling tiles damaged during the work with new tiles to match. Repair ACT grid damaged during the work in accordance with this section.

H. Restore Work with new Products in accordance with requirements of Contract Documents.

I. Fit Work tight to pipes, sleeves, ducts, conduits, and other penetrations through surfaces.

J. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.

K. At penetration of fire rated partitions, ceiling, or floor construction, completely seal voids with fire rated or fire-resistant material in accordance with Specifications, to full thickness of the penetrated element.

L. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit. Ensure a neat transition to adjacent finishes

M. Identify any hazardous substance or conditions exposed during the Work to the Owner and Design Agent for decision or remedy.

N. Prepare surface and remove surface finishes to provide installation of new Work and finishes.

O. When completed, patches or repairs shall not be visible to the naked eye from a distance of 6 feet.

P. Exterior Patching
   1. Any damage to buildings, roads, public roads, bituminous concrete areas, fences, lawn areas, trees, shrubbery, poles, underground utilities, etc. shall be made good by and at the Contractor's own expense, all to the satisfaction of the User Agency.
   2. The Contractor shall patch, repair and/or replace all adjacent materials and surfaces damaged after the installation of new work at no expense to the User Agency. All repair and replacement work shall match the existing in kind and appearance.
   3. Restore grassed landscaped areas damaged by construction operations to full healthy growth, by installing loam and sod to the requirements, and under the supervision of the user agency.

Q. See General Conditions for additional requirements.

END OF SECTION

01 74 13 – CLEANING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Cleaning requirements during construction operations.

B. Final cleaning prior to turning the project over to the User Agency.

C. Scope

D. Related Documents

E. Quality

F. Contractor's Failure to Clean

G. Cleaning Materials

H. Construction in an Occupied Building

I. Process Cleaning During Cleaning

J. Final Cleaning

1.2 SCOPE

A. This section specifies the requirements for maintaining a clean and orderly work site during and at the completion of the Work.

B. Pay special attention to work areas that affect occupied spaces and public areas.

1.3 RELATED DOCUMENTS

A. This section supplements Article 4.17 of the General Conditions.

B. Consult the individual sections of the specifications for cleaning of Work installed under those sections**.**

C. Cutting and Patching: Section 01 73 29.

D. Pest Control: Comply with pest control requirements in Section 01 50 00.

E. Construction Waste Disposal: Comply with waste disposal requirements in Section 01 74 19.

1.4 QUALITY

A. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

B. Conduct all cleaning and disposal operations to comply with all federal, state, and local laws, regulations, codes, ordinances and by-laws.

1. Do not burn or bury rubbish and waste materials on the site.
2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains**.**
3. Do not dispose of wastes into streams or waterways.

C. In cleaning items with manufacturer's finish or items previously finished by a Subcontractor, care shall be taken not to damage such manufacturer's or Subcontractor's finish Any damage to finishes caused by cleaning operations shall be repaired at the Contractor's expense.

1.5 CONTRACTOR'S FAILURE TO CLEAN

A. If the Contractor fails to maintain levels of cleanliness in work areas, satisfactory to the User Agency, then the User Agency shall have the right to cause such areas to be cleaned by others. The costs to the User Agency for such cleaning, plus 25% for administration, shall be the obligation of the Contractor and shall be deducted from any money due the Contractor hereunder.

PART 2 - PRODUCTS

2.1 CLEANING MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned.

B. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 CONSTRUCTION IN AN OCCUPIED BUILDING

A. Efforts must be taken to limit dust, noise and odors from escaping the work area. Proper separation and protection of interior spaces shall be established and maintained during the project, to the satisfaction of the User Agency. Contractor shall provide and maintain walk-off mats and plastic barriers at work site entries.

B. Contractor shall provide appropriate masking of building supply air intakes to protect indoor air quality and limit transfer of odors. Contractor to provide air scrubbing and/or negative air machines to prevent odors from escaping the Project Site.

C. Do not leave debris, tools or materials in occupied areas.

D. Immediately following the completion of Work in an occupied area, Contractor shall pick up and stow all equipment and miscellaneous material leaving the site in a neat and safe condition.

1. Occupied spaces must be returned to original conditions to the greatest extent possible by 8am weekdays. If it is not feasible to do as such, notify the User Agency immediately. With approval, the area shall be cordoned off with cones and caution tape and computer-generated signage shall be posted to the satisfaction of the User Agency.

E. Contractor shall ensure that horizontal and vertical surfaces in the occupied areas in the building impacted by construction activities are thoroughly vacuumed, wet mopped and cleaned to the satisfaction of the User Agency at the end of each shift, or upon request.

3.2 PROGRESS CLEANING DURING CONSTRUCTION

A. Maintain areas under Contractor's control (including employee parking and Contractor's staging areas) free of waste materials, scraps, surplus material, debris and rubbish. Maintain site in a clean and orderly condition.

B. Clean interior areas daily to provide suitable conditions for Work and to prevent fire or accidents. Sufficient time to clean up work zones shall be allocated at the end of the shift.

C. All combustible waste materials shall be removed from buildings at the end of each working day.

D. Wet down dry materials and rubbish to lay dust and prevent blowing dust.

E. Vacuum clean interior building areas when ready to receive finish painting and continue vacuum cleaning on an as-needed basis until Substantial Completion.

F. Waste Management
   1. Collect and remove waste materials, debris, and rubbish from the site daily, as necessary to prevent an on-site accumulation of waste material, debris, and rubbish, and dispose off-site.
   2. Remove debris and rubbish from pipe chases, plenums attics, crawl spaces and other closed or remote spaces, prior to closing the space.
   3. Maintain the Site free from accumulations of waste, debris, and rubbish.
   4. Do not allow materials and rubbish to drop free or be thrown from upper floors but remove by use of a material hoist or rubbish chutes.
   5. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.
   6. Provide on-site containers for collection of waste materials and rubbish.

G. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.

H. Broom clean interior areas prior to start of surface finishing and continue cleaning on a daily basis.

I. Control cleaning operations so that dust and other particulates will not adhere to wet or newly-coated surfaces. Responsibility for construction cleaning shall not be delegated to subcontractors performing construction work under this Contract.

J. Clean as required to ensure proper and lasting installation of equipment and finishes.

3.3 FINAL CLEANING

A. Unless otherwise specified under other sections of the Specifications, the Contractor shall perform final cleaning operations as herein specified prior to final inspection.

B. Cleaning shall include all surfaces, interior and exterior, which the Contractor has had access to, whether new or existing.

C. Remove grease, mastic, adhesive, dust, dirt, stains, labels, fingerprints, and other foreign materials from sight-exposed interior and exterior surfaces. This includes cleaning of the Work of all finishing trades where needed, whether or not cleaning by such trades is included in their respective specifications. Remove labels that are not permanent.

D. Repair, patch, and touch up marred surfaces to the specified finish, to match adjacent surfaces.

E. Polish glossy surfaces to a clear shine.

F. Site & Exteriors
   1. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
   2. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
   3. Rake grounds that are not planted, mulched, or paved to a smooth, even-textured surface.
   4. Remove all cigarette buds and other litter.

G. Remove excess materials
   1. Remove tools, construction equipment, machinery, and surplus material from Project site.
   2. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
   3. Remove all attic stock (extra materials) from the building and transmit per the User Agency's directive.

H. Interiors
   1. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
   2. Sweep concrete floors broom clean in unoccupied spaces.
   3. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
   4. Final Cleaning of resilient floors and wood floors shall be as specified under the respective sections of the Specifications.
   5. Leave all architectural metals, hardware, and fixtures in undamaged, polished conditions.

I. Glass
   1. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
   2. Clean plastic glazing in accordance with the manufacturer's directions.
   3. In cleaning glass and finish surfaces, care shall be taken not to use detergents or other cleaning agents which may stain adjoining finish surfaces.
   4. All broken or defective glass caused by the Contractor's Work shall be replaced at the expense of the Contractor.

J. Cleaning of MEP Equipment
   1. Wipe surfaces of mechanical and electrical equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
   2. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
   3. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
   4. Clean ducts, blowers, and coils if units were operated during construction or that display contamination with particulate matter on inspection.
   5. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
   6. Leave pipe and duct spaces, plenums, furred spaces and the like clean of debris and decaying materials.

K. Prior to submitting a request to the Architect to certify Substantial Completion of the Work, the Contractor shall inspect all interior and exterior spaces and verify that all waste materials, rubbish, tools, equipment, machinery, and surplus materials have been removed, and that all sight-exposed surfaces are clean. Leave the Project clean and ready for occupancy.

L. User Agency's responsibility for cleaning commences at occupancy, however Contractor shall provide satisfactory cleaning as requested or required as a result of Contractor activity in the project area or occupied spaces.

END OF SECTION

01 74 19 – CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Waste Management Requirements

B. Related Requirements

C. Definitions

D. Submittals

E. Waste Management Procedures

F. Waste Management Implementation

1.2 WASTE MANAGEMENT REQUIREMENTS

A. User Agency requires that this project generate the least amount of trash and waste possible.

B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.

C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.

D. Required Recycling, Salvage, and Reuse: The following may not be disposed of in landfills or by incineration:

1. Aluminum and plastic beverage containers.
2. Corrugated cardboard.
3. Wood pallets.
4. Clean dimensional wood: May be used as blocking or furring.
5. Land clearing debris, including brush, branches, logs, and stumps.
6. Metals, including packaging banding, metal studs, sheet metal, structural steel, piping, reinforcing bars, door frames, and other items made of steel, iron, galvanized steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze.
7. Glass.
8. Gypsum drywall and plaster.
9. Plastic buckets.
10. Paper, including wrapping, newsprint, and office.

E. Contractor shall submit periodic Waste Disposal Reports; all landfill disposal, incineration, recycling, salvage, and reuse must be reported regardless of to whom the cost or savings accrues; use the same units of measure on all reports. Submit in accordance with Section 01 33 00.

F. Contractor shall develop and follow a Waste Management Plan designed to implement these requirements.

G. Methods of trash/waste disposal that are not acceptable are:

1. Burning on the project site.
2. Burying on the project site.
3. Dumping or burying on other property, public or private.
4. Other illegal dumping or burying.

H. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.3 RELATED REQUIREMENTS

A. Section 01 30 00 - Administrative Requirements: Additional requirements for project meetings, reports, submittal procedures, and project documentation.

B. Section 01 50 00 - Temporary Facilities and Controls: Additional requirements related to trash/waste collection and removal facilities and services.

C. Section 01 60 00 - Product Requirements: Waste prevention requirements related to delivery, storage, and handling.

D. Section 01 70 00 - Execution Requirements: Trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

E. Section 01 74 13 – Cleaning

1.4 DEFINITIONS

A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.

B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.

C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.

D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.

E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.

F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.

G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.

H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

I. Return: To give back reusable items or unused products to vendors for credit.

J. Reuse: To reuse a construction waste material in some manner on the project site.

K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.

M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.

N. Toxic: Poisonous to humans either immediately or after a long period of exposure.

O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.5 SUBMITTALS

A. See Section 01 33 00 for submittal procedures.

B. Waste Management Plan: Include the following information:

1. Analysis of the trash and waste projected to be generated during the entire project construction cycle, including types and quantities.
2. Landfill Options: The name, address, and telephone number of the landfill(s) where trash/waste will be disposed of, the applicable landfill tipping fee(s), and the projected cost of disposing of all project trash/waste in the landfill(s).
3. Landfill Alternatives: List all waste materials that will be diverted from landfills by reuse, salvage, or recycling.
4. Meetings: Describe regular meetings to be held to address waste prevention, reduction, recycling, salvage, reuse, and disposal.
5. Materials Handling Procedures: Describe the means by which materials to be diverted from landfills will be protected from contamination and prepared for acceptance by designated facilities; include separation procedures for recyclables, storage, and packaging.
6. Transportation: Identify the destination and means of transportation of materials to be recycled; i.e. whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler.

C. Waste Disposal Reports: Submit at specified intervals, with details of quantities of trash and waste, means of disposal or reuse, and costs; show both totals to date and since last report.

1. Submit updated Report with each Application for Progress Payment; failure to submit Report will delay payment.
2. Submit Report on a form acceptable to User Agency.
3. Landfill Disposal: Include the following information:
   a. Identification of material.
   b. Amount, in tons or cubic yards, of trash/waste material from the project disposed of in landfills.
   c. State the identity of landfills, total amount of tipping fees paid to landfill, and total disposal cost.
   d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
4. Incinerator Disposal: Include the following information:
   a. Identification of material.
   b. Amount, in tons or cubic yards, of trash/waste material from the project delivered to incinerators.
   c. State the identity of incinerators, total amount of fees paid to incinerator, and total disposal cost.
   d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
5. Recycled and Salvaged Materials: Include the following information for each:
   a. Identification of material, including those retrieved by installer for use on other projects.
   b. Amount, in tons or cubic yards, date removed from the project site, and receiving party.

c. Transportation cost, amount paid or received for the material, and the net total cost or savings of salvage or recycling each material.
d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
e. Certification by receiving party that materials will not be disposed of in landfills or by incineration.

6. Material Reused on Project: Include the following information for each:
   a. Identification of material and how it was used in the project.
   b. Amount, in tons or cubic yards.
   c. Include weight tickets as evidence of quantity.
7. Other Disposal Methods: Include information similar to that described above, as appropriate to disposal method.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 WASTE MANAGEMENT PROCEDURES

A. See Section 01 10 00 for list of items to be salvaged from the existing building for relocation in project or for User Agency.

B. See Section 01 30 00 for additional requirements for project meetings, reports, submittal procedures, and project documentation.

C. See Section 01 50 00 for additional requirements related to trash/waste collection and removal facilities and services.

D. See Section 01 60 00 for waste prevention requirements related to delivery, storage, and handling.

E. See Section 01 70 00 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

3.2 WASTE MANAGEMENT IMPLEMENTATION

A. Manager: Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.

B. Communication: Distribute copies of the Waste Management Plan to job site foreman, each subcontractor, User Agency, User Agency's Recycling and Solid Waste Coordinator, and Design Agent.

C. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

D. Meetings: Discuss trash/waste management goals and issues at project meetings.
   1. Pre-bid meeting.
   2. Pre-construction meeting.
   3. Regular job-site meetings.

E. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
   1. Provide containers as required.

2. Provide adequate space for pick-up and delivery and convenience to subcontractors.
3. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.

F. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.

G. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.

H. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.

I. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION

01 78 00 – CLOSEOUT PROCEDURES AND SUBMITTALS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Related Requirements

B. Definitions

C. Quality Assurance

D. Starting And Adjusting of Systems

E. Demonstration and Instructions

F. Substantial Completion

G. Spare Parts and Maintenance Products

H. Product Warranties and Product Bonds

I. Emergency Contacts List

J. Final Completion

K. Project Turnover

L. Mark-up Set of Construction Documents

M. Administrative Closeout

N. Owner's Manual

O. Project Record Documents

P. Final Application for Payment.

1.2 RELATED REQUIREMENTS

A. Section 01 30 00 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

B. Individual Product Sections: Specific requirements for operation and maintenance data.

C. Individual Product Sections: Warranties required for specific products or Work.

1.3 DEFINITIONS

A. Substantial Completion: refer to General Conditions A201 §9.8.1.

B. Project Closeout is the period of time after the Substantial Completion date until the Contractor, Design Agent and User Agency have completed all contract items, closeout obligations, and processed final payment. This time period may overlap a portion of the warranty period.

C. Warranty period is one year from the Substantial Completion date, unless specified otherwise. Individual products and work performed may have longer specific warranty periods as outlined in the Certificate of Substantial Completion. The warranty period may also be referred to as "Post Construction Phase".

1.4 QUALITY ASSURANCE

A. Employ personnel assembling submittals experienced in the maintenance and the operation of the described products and systems.

1.5 STARTING AND ADJUSTING OF SYSTEMS

A. Coordinate schedule for starting and adjusting of various equipment and systems.

B. Notify Design Agent and User Agency seven days prior to starting and adjusting of each item.

C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, or other conditions which may cause damage.

D. Verify that tests, meter readings and specified electrical characteristics agree with those required by the equipment or system manufacturer.

E. Verify wiring and support components for equipment are complete and tested.

F. Execute starting and adjusting under supervision of responsible Contractor's personnel or manufacturer's representative, in accordance with manufacturer's instructions.

G. Adjust operating Products and equipment to ensure smooth and unhindered operation.

H. When specified in individual specifications Section, require manufacturer to provide authorized representative to be present at the site to inspect, check, and approve equipment or system installation prior to starting, and to supervise placing of equipment or system in operation.

I. Submit a written report in accordance with Section 01 40 00 that equipment or system has been properly installed and is functioning correctly.

1.6 DEMONSTRATION AND INSTRUCTIONS

A. Provide training and demonstrations of the equipment and sequences of systems operation to User Agency's personnel two weeks prior to date of Substantial Completion.

B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

C. Training and demonstrations to include the following in conjunction with designated Operations personnel:

1. Operate the equipment and systems for a minimum of two hours or five repetitions, or as otherwise required. If problems occur, correct them and repeat the full demonstration.
2. Demonstrate proper equipment and systems operation, as well as procedures for cleaning, lubrication, maintenance, replacement of routine expendable parts and all other actions required for normal operations and maintenance.
3. Demonstrate and review both normal and failure modes of system controls operation where they are designed as such.
4. Review O&M manuals
5. Place systems into full operation

D. Utilize operation and maintenance manuals as basis for instruction. Review contents of manuals with User Agency's personnel in detail to explain all aspects of operation and maintenance.

E. Demonstrate start-up, operation, control, adjustment, trouble shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled or agreed upon times, at equipment or system location.

F. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

G. For each training session, Contractor shall provide written verification of training including, date, time, name of trainer, systems demonstrated, and agenda. Contractor shall prepare and submit a sign in sheet with name, email, title, phone number and signature of all attendees. This shall be turned over as part of the closeout package.

1.7 SUBSTANTIAL COMPLETION

A. Refer to General Conditions §9.8 Substantial Completion for more information.

B. The User Agency will occupy all portions of the building after Substantial Completion as specified in Section 01 10 00.

C. Per RI General Laws § 37-12-10.1, Contractor shall notify User Agency and Design Agent that work is considered substantially complete utilizing the format indicated in the statute. A walk-though inspection for determining the date of Substantial Completion will be scheduled. Prior to the request, the following items shall be competed:

1. All security, network and telecommunications and door access shall be complete.
2. Complete startup and testing of mechanical, electrical and plumbing systems.
3. Completion of Demonstration and Instructions
4. Contractor shall prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete. The Design Agent shall review and perform an inspection
5. Testing and balance reports are available.
6. Request and complete commissioning and inspection.
7. Deliver tools, spare parts, extra materials, and similar items to location designated by User Agency, per requirements, below.
8. Make final changeover of permanent locks and deliver keys and keying schedule to User Agency. Advise User Agency's personnel of changeover in security provisions.
9. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
10. Submit changeover information related to heat and other utilities, and User Agency's occupancy, use, operation, and maintenance.
11. Complete final cleaning requirements, including touchup painting.
12. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
13. Obtain and submit releases permitting User Agency unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.

D. Following demonstration of compliance with the items above, and as stipulated in RI General Laws § 37-12-10.1, Design Agent shall prepare a Certificate of Substantial Completion. At such time, Contract may submit an Application for Payment releasing held retainage.

1.8 SPARE PARTS AND MAINTENANCE PRODUCTS

A. Furnish spare parts, maintenance, and extra products (attic stock) in the quantities specified in the individual specification Sections.

B. Deliver to the Project site and place in a location as directed by the User Agency; obtain a receipt prior to final payment.

C. See Owner’s Manual, below, on submission of documentation.

1.9 PRODUCT WARRANTIES AND PRODUCT BONDS

A. Warranty period shall commence at date of substantial completion.

B. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for

items put into use with User Agency's permission, leave date of beginning of time of warranty until the Date of Substantial completion is determined.

C. Retain warranties and bonds until time specified for submittal.

D. Execute and assemble the transferable warranty documents and bonds from the subcontractors, suppliers, and manufacturers.

E. Verify that the documents are in the proper form, contain full information, and are notarized.

F. Include in the Operations and Maintenance Manuals within the appropriate material specification section, indexed separately on Table of Contents.

G. Closeout Submittals Warranties and Bonds:

1. For equipment or component parts of equipment put into service during construction with User Agency's permission, submit documents within 10 days after acceptance.
2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

H. See §3.3 Owner's Manual, below, on submission of documentation. At Final Completion of all work as certified by the College and Architect/Engineer, the Contractor shall deliver a Letter of Warranty to the College. This Warranty certifies that the Contractor shall promptly replace or repair any defects in equipment, materials or workmanship that becomes apparent within one (1) year from the date of Final Completion, or the College's acceptance of the Project, whichever is later.

I. The Warranty shall include repairs and corrections to pipe covering, paint, woodwork, or any other material and equipment caused to be imperfect due to defective workmanship or materials. All direct and consequential repairs shall be entirely at the expense of the Contractor.

J. Additional manufacturers' extended warranties for major equipment shall be supplementary to this guarantee.

1.10 EMERGENCY CONTACT LIST:

A. Construction Contacts:

1. During the course of construction, the Contractor shall supply a telephone number that the College may call on a twenty–four (24) hour/day basis for emergency repairs or service made necessary because of Contract work in progress.
2. Coordinate with the Project Manager to complete and file form with Facilities Service Response Center.

B. Warranty Period Contacts:

1. Provide a telephone number that the College may call on a twenty–four (24) hour/day basis to receive immediate repairs and service, during the Warranty period. If the College is unable to contact the Contractor to obtain service, the College shall arrange for service from another service provider or College employees and shall charge the expenses to the Contractor.

1.11 FINAL COMPLETION

A. Refer to General Conditions Article 9.10 Substantial Completion for more information.

B. In order for Final Payment to be accepted, the following must be complete:

1. Resolution of all outstanding punch list items

2. Final inspection of the project by the User Agency, Design Agent and Contractor
3. Final inspections and certifications from authorities having jurisdiction.
4. Acceptance of all Closeout Documentation (See Part 3 – Execution for Details).
   a. Administrative Closeout
   b. Owner's Manual
   c. Project Record Documents
   d. Final Application for Payment

1.12 PROJECT TURNOVER:

A. Sign off of the punch list is required for approval of the final Application for Payment.

B. At the time of Substantial Completion, the Contractor shall coordinate with the College's Project Manager to schedule a project turnover meeting. This meeting shall include the College's Project Manager, Contractor, Sub-Contractors, Architect/Engineers (if applicable) and the College's Operations & Engineering representatives.

C. Commissioning Review: The project Commissioning Agent's final report detailing their findings, recommendations, and summary of any open issues shall be made available and reviewed in the course of the Project Turnover Meeting(s).

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 MARK-UP SET OF CONTRACT DOCUMENTS

A. During construction, Contractor shall maintain one set of contract documents at the site, dedicated for use as a Mark-Up Set of Contract Documents. The Mark-Up Set is separate from documents used for construction and shall include:
   1. Drawings and Specifications, including any bid addenda
   2. Specifications.
   3. RFIs, ASIs and Sketches
   4. Change Orders and other modifications to the Contract.
   5. Reviewed Shop Drawings, Product Data, and Samples.
   6. Manufacturer's instructions for assembly and installation.

B. Contractor shall record actual revisions of the Work for all trades, marking up plans and specifications as construction progresses and maintain continuously during the project.

C. The plans shall be marked to show deviations in actual construction from the contract drawings. Deviations shall be shown in the same general detail utilized in the contract drawings. The drawings shall show the following information, but not be limited to:
   1. Locations and descriptions of any utilities constructed or located within the construction limits. Provide survey point numbers on the plans for reference.
   2. Locations and dimensions of changes within the facility. Floor plan/layout changes should also include revised room numbers, as physically tagged in the field.
   3. Changes in grade, alignment, location, elevations, details, and dimensions of all work including facilities, structures, roads and utilities.
   4. Incorporate approved sketch (SK) drawings.
   5. Where the contract drawings show options, show only the option used in construction.

D. Record information concurrent with the construction progress, not less than weekly.

E. Failure to maintain accurate as-built mark-ups will constitute sufficient justification for withholding payments to the Contractor.

F. Maintain the Mark–Up Set (site "red–lines") so that it may be available for review by the Architect, College, and the College's representatives.

G. The corrections on the Mark–Up set shall be incorporated into original contract plan CAD files for final delivery to the College as part of Project Record Documents, below. All plans shall be included in the set.

3.2 ADMINISTRATIVE CLOSEOUT

A. Prepare and submit electronically and one (1) hard copy the following documentation to the User Agency. Each of the sections of Administrative Closeout shall be individual .pdf files emailed to the User Agency's Representative, copied to the Design Agent. All submissions shall be accompanied by a Transmittal Form indicating the date of the transmission and items included in the package.

1. Certification of Work: 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 User Agency's review.
2. Asbestos Abatement Compliance: Provide submittals to Design Agent that are required by governing or other authorities, including abatement documentation, including but not limited to waste manifests, air clearance testing reports and other documentation correctly prepared as proscribed in the abatement plan. Failure to include correctly prepared abatement documentation will delay issuing of final payment.
3. AIA Document G706 - Contractor's Affidavit of Payment of Debts and Claims
4. AIA Document G706A - Contractor's Affidavit of Release of Liens
5. AIA Document G707 - Consent of Surety to Final payment

3.3 OWNER'S MANUAL

A. Content of Owner's Manual:

1. Title Page
2. Table of Contents
3. Project Overview
4. Project Team Contact List
5. Summary Equipment List
6. Operations and Maintenance Documentation, Organized by Specification Section
7. Materials and Finishes Schedule
8. Roofing and Building Envelope
9. Spare Parts and Maintenance Products Turnover Documentation

B. Preparation of Owner's Manual: Project Overview.

1. Provide Summary of the scope of work of the project.
2. Schedule summary including start date, completion date, and start and end date of the project Guarantee.

C. Preparation of Owner's Manual: Project Team Contact List

1. Directory, listing the names, addresses, and telephone numbers of the Design Agent, its Consultants, Contractor, Subcontractors, and major equipment suppliers.

2. Specifically list out Emergency contact list with contact names and twenty-four (24) hours contact information for use during the guarantee/maintenance period.

D. Preparation of Owner's Manual: Summary Equipment List

1. The Contractor shall compile a Summary Equipment List for all new equipment provided under the project. For renovation projects, include a separate spreadsheet for all equipment removed under the project
2. Contractor shall utilize the Owner's Standard Building Equipment Data Sheet template, providing information including but not limited to: make, model name, model number, serial number, location and area served. Include the name of subcontractors and suppliers, including local source of supplies and replacement parts. Ensure that all subcontractors, suppliers and replacement part providers are included in the Project Team Contact List.
3. Summary Equipment List shall be provided in both .pdf and editable Microsoft Excel.

E. Preparation of Owner's Manual: The Operations and Maintenance Documentation. Contractor shall assemble a complete set of Operations and Maintenance (O&M) manuals indicating the operation and maintenance of each system, subsystem, and piece of equipment not part of a system. The Operations and Maintenance Documentation shall be organized by specification section and divided by each product or system. Provide the following information as applicable, separated with subdivides within each:

1. Product cover page: System Name; Brand; Warranty Summary & Contact; Specification section; Description of purpose and area served; Names, addresses, and telephone numbers of the Subcontractors and suppliers.
2. Significant design criteria.
3. Each Item of Equipment and Each System: Include a description of the unit or system, size capacity, pressure drops, horsepower and the component parts. Identify the function, normal operating characteristics, and limiting conditions. As applicable, include performance curves, with priming data and tests, and complete nomenclature and model number of replaceable parts.
4. Final approved shop drawings, submittal and cut sheet data detailing equipment performance data and features. For shop drawings: Provide with reinforced punched binder tab. Bind in with the text; fold the larger drawings to the size of the text pages.
5. For each component, include the original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
6. 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.
7. Routine and Preventative Maintenance Requirements: Include the manufacturer's printed operation and maintenance instructions. Include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions. Include a servicing and lubricating schedule, and a list of lubricants required. Include a list of the original manufacturer's spare parts, predicted life of parts subject to wear current prices, and recommended quantities to be maintained in storage.
8. Maintenance instructions for [special] finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
9. Originals of product warranties and bonds.
10. Other information as specified in the individual product specification Sections.

11. Building Products, Applied Materials, and Finishes: Include product data, with the catalog number, size, composition, and the color and texture designations. Include information for re- ordering custom manufactured products.
12. 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.
13. 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.
14. Charts of valve tag numbers, with the location and function of each valve.
15. Equipment performance field test results, including HVAC system Test and Balancing (TAB) Report, motor alignment tests, etc.
16. Electrical short circuit studies, circuit protective device coordination studies and arc flash studies
17. Electrical panelboard and switchboard schedules
18. As installed schedules for lighting fixtures, lamps, and ballasts
19. Other data as required under pertinent sections of specifications
20. Provide and install framed charts in appropriate building MEP rooms for One Line diagrams, process flow diagrams and valve charts.
21. Software: Provide copies of system software and device configuration files for all electronic systems installed under the project. Files to be provided on formatted CD, mass storage device or other acceptable media. Include applicable software documentation and User Manuals. Systems requiring software backup include but are not limited to:
    a. Building Automation Systems (BAS)
    b. Fire Alarm Systems and Smoke Control Systems
    c. Elevator Controls
    d. Lighting Controls
22. Door Access Control Systems
23. Additional information required for Electrical, Controls and HVAC Sections:
    a. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
    b. Include sequence of operation by the control’s manufacturer.
    c. Include color-coded wiring diagrams and process flow diagrams as installed for applicable systems: One Line and Process Flow diagrams (11x17) for applicable systems: Mechanical (heating, cooling, piping, process water and specialty systems), HVAC (Air handlers, ductwork, piping), Plumbing, Electrical (normal, standby power systems and specialty systems), Fire Alarm and Security and Telecom
    d. Include control diagrams by the controls manufacturer as installed.
    e. Include the Contractor's coordination drawings, with color-coded piping diagrams as installed.
    f. Include charts of valve tag numbers, with the location and function of each valve, keyed to the flow and control diagrams.
    g. Include test and balancing reports as specified in Section 01 40 00.
    h. Boiler and elevator and other applicable certificates and operating permits/licenses, DEM permits including generator permits
    i. Test and inspection documentation including fire pump test data, asbestos abatement plans and manifests.

F. Materials and Finishes Schedule shall be submitted in conjunction with O&M manual general requirements. Materials and Finishes manual is for architectural products, applied materials and finishes.
   1. Final As–Built surfaces finish schedule, keyed to reduced size floor plans.
   2. Additional Requirements: As specified in the individual product specification Sections.

G. Spare Parts and Maintenance Products Turnover Documentation: provide signed transmittals indicating materials delivered, date, location, name, title and signature of person who received the items.

H. Formatting
   1. Submit the Owner's Manual bound in 8-1/2 x 11-inch text pages, in minimum 2-inch size three D side ring commercial quality binders with durable cleanable plastic covers. Pages shall be duplex printed.
   2. Prepare binder covers with the typed title of the manual, title of the project, and the subject matter of binder. Label each spine with the following: Building, project or facility name, project number, submission date.
   3. Internally subdivide the binder contents with typed permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs. Tabs shall match the headings provided in 3.3.A, Content of Owner's Manual, above.
   4. The Electronic format shall be organized by Construction Specification Institute (CSI) divisions and include all materials/equipment/systems installed in the building. There shall be one pdf file created for each CSI division.
   5. Electronic .pdf shall be "OCR" keyword searchable, bookmarked by section. File and folder names shall be as mutually agreed.

I. Draft Submission
   1. Submit electronically a preliminary draft of the Owner's Manual thirty (30) calendar days prior to the contractual Substantial Completion date. The Design Agent and its consultants will review drafts and return electronically with comments. Contractor shall make revisions as noted.
   2. A resubmitted draft shall be provided electronically and as one (1) hard copy at contractual Final Completion. This copy will be reviewed and returned after final inspection, with the Design Agent's comments. Revise the content of the document sets as required prior to final submission.

J. Final Submission: Submit three (3) sets of revised final volumes plus electronic copy in final format within ten (10) days after receipt of final comments.

3.4 PROJECT RECORD DOCUMENTS

A. Project Record Documents shall comprise of the following:
   1. As-Built Drawings.
   2. Record Specifications.
   3. Record Contract.

B. Preparation of As-Built Drawings
   1. At the end of construction, the Design Agent will provide to the Contractor a complete set of CAD file(s) with all the plan adjustments (bid addenda, bulletins and sketches produced by the Design Agent) fully incorporated into the base CAD file(s). This shall happen within 14 days of Substantial Completion.

2. The Contractor shall retain Competent Drafting Personnel and will coordinate the process to take all field changes/adjustments by all Subcontractors. The Competent Drafting Personnel shall transfer this information and the Mark-Up Set accurately to the CAD file(s). All hand–drawn SK's that are not included in the Design Team's electronic update must be added to the CAD file(s) by the Contractor.
3. The Contractor shall also include any electronic "MEP coordination drawings" produced by the construction team in the final electronic As–Builts. The coordination drawings shall not replace any of the original contract drawings, and they shall be fully labeled both to demonstrate the area of the building shown and to identify all elements shown on the plan. If abbreviations are used, a key must be included on these plans.
4. Include site surveys and As Built. Measured horizontal and vertical locations of the underground utilities and appurtenances, referenced to permanent surface improvements. Include the locations and description of any existing utility lines and other existing installations of any kind or description encountered during construction. Note all changes in size, material, location, and elevation of all new or abandoned underground utility lines and pertinent work, including site grading. Document topography and drainage changes. Show the location of all valves, manholes, etc. and include dimensions to permanent features such as building corners. Note direction of each new valve opening. Show clearances between new utilities and existing crossed lines. Locate all bends, thrust blocks, and other restraints.
5. The placement, size, and type of any fire extinguishers.
6. Measured locations of internal utilities and appurtenances concealed in the construction.
7. Details not on the original Contract drawings, including field changes of dimension and detail.
8. The Contractor will ensure that all notes and schedules included in the design drawings are updated to accurately reflect actual installed conditions.
9. The As-Built Drawings shall include a cover page and content index.
10. As-built Drawings shall be labeled so that the following information is legible when rolled as well as on a cover page: Building, project or facility name, Design Agent's project number, and submission date.

C. Preparation of <u>Record Specifications</u>: Include cover page, title page, table of contents and tabulated and divided by Specification Section. Prepare in binders and electronically as per 3.4.E, Format, below. For each Specification, prepare a summary and provide documentation as follows. Each page shall include the Specification Section Number and Title.

1. Part 1 – General: Statement of compliance with General subsection or description of any deviations
2. Part 2 – Products: For each installed item covered in the Specification Section, provide a copy of the Product Cover Page (from the Owner's Manual).
3. Part 3 – Execution: Statement of compliance with Execution subsection or description of any deviations. Include any ASI or RFI responses in support of actual installation.

D. Preparation of <u>Record Contract</u>: Include cover page, title page, table of contents and tabulated and divided. This list is not all inclusive; final list shall be agreed upon with Design Agent and User Agency, based on review of the draft.

1. State Purchase Order
2. Bid Form
3. Executed AIA A101 and A201
4. State Change Orders, including Purchase Order, AIA Cover Sheet and Backup. Provide a tab for each Change Order.
5. Correspondence and Project Meeting Minutes.

6. Copies of Contractor's project warranty letter, Subcontractor warranty letters and special guarantees and warranties such as roofing, waterproofing, windows and doors as applicable.
7. Project Documents and Certificates (trade permits and 128 Forms, Final Certificate of Occupancy, etc.).
8. Certificate of Substantial Completion
9. Original and Updated Project Schedules
10. Project Progress Photographs
11. Additional Associated Materials. Each shall be considered a separate section, identified in the table of contents and divided as such. Example items include but not limited to:
    a. National Grid Rebate Applications.
    b. LEED scorecards
    c. If the project required geotechnical, archeological, or other miscellaneous studies or other reports, these shall also be submitted as Record Documents.

E. Project Record Documents Format: Printed
1. As Built Drawings shall be organized into 3 sets, stapled with edge binding. The title block, visible when drawings are rolled, shall state the building name, title of the project, substantial completion date, Design Agent and Contractor.
2. Record Specifications and Record Contract Documents shall be printed duplex on 8-1/2 x 11-inch text pages, in minimum 2-inch size three D side ring commercial quality binders with durable cleanable plastic covers.
3. Prepare binder covers and spline labels with the printed title of "Project Record Documents", building name, title of the project, substantial completion date, Design Agent and Contractor, and the subject matter of binder.
4. Provide cover pages and internally subdivide the binder contents with permanent page dividers, based on the following sections, as applicable.

F. Project Record Documents Format: Electronic
1. All .pdf shall include bookmarks for Sections and be "OCR" keyword searchable.
2. Folder structures and file names shall be as agreed.

G. Project Record Document Draft
1. Contractor shall prepare an electronic draft of the project record documents for review by the Design Agent and the User Agency fifteen (15) days prior to final inspection, or within twenty-one (21) days of receipt of updated electronic files from the Design Team, whichever comes first.
2. Ensure the entries are complete and accurate, enabling future reference by the User Agency.
3. All Design Agent and User Agency comments/mark-ups on the draft package shall be returned to the Contractor within twenty-one (21) calendar days. The Contractor shall make corrections as noted and resubmit within twenty-one (21) calendar days.

H. Final Submission
1. Within fifteen (15) calendar days of receiving final approval of the corrected drafts, the Contractor shall submit three (3) printed, bound copies and one (1) electronic copy of all documents.

3.5 FINAL APPLICATION FOR PAYMENT

A. Refer to AIA A101-2017 §5.2. Following the requirements of Section 01 20 00, submit the final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due to the Design Agent.

B. Design Agent shall work with the User Agency to determine that all requirements have been fulfilled, and if so, issue a final Certificate for Payment.

END OF SECTION

SECTION 030130 - MAINTENANCE OF CAST-IN-PLACE CONCRETE

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. Removal of deteriorated concrete and subsequent replacement and patching.
2. Floor joint repair.
3. Epoxy crack injection.

1.3 ALLOWANCES

A. Field quality-control testing is part of testing and inspecting allowance.

1.4 UNIT PRICES

A. Work of this Section is affected by unit prices specified in Section 012200 "Unit Prices."
1. Unit prices apply to authorized work covered by estimated quantities.
2. Unit prices apply to authorized additions to and deletions from the Work as authorized by Change Orders.

B. General: Unit prices include the cost of preparing existing construction to receive the work indicated and costs of field quality control required for units of work completed.

1.5 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.
1. Review methods and procedures related to concrete maintenance including, but not limited to, the following:
a. Verify concrete-maintenance specialist's personnel, equipment, and facilities needed to make progress and avoid delays.
b. Materials, material application, sequencing, tolerances, and required clearances.
c. Quality-control program.

1.6 ACTION SUBMITTALS

A. Product Data: For each type of product.
1. Include construction details, material descriptions, chemical composition, physical properties, test data, and mixing, preparation, and application instructions.

1.7 INFORMATIONAL SUBMITTALS

A. Qualification Data: For concrete-maintenance specialist and manufacturers.

B. Field quality-control reports.

C. Quality-Control Program: Submit before work begins.

1.8 QUALITY ASSURANCE

A. Manufacturer Qualifications: Each manufactured bonding-agent, packaged patching-mortar, joint-filler and crack-injection-adhesive manufacturer shall employ factory-authorized service representatives who are available for consultation and Project-site inspection and on-site assistance.

B. Concrete-Maintenance Specialist Qualifications: Engage an experienced concrete-maintenance firm that employs installers and supervisors who are trained and approved by manufacturer to apply packaged patching-mortar and crack-injection adhesive to perform work of this Section. Firm shall have completed work similar in material, design, and extent to that indicated for this Project with a record of successful in-service performance. Experience in only installing or patching new concrete is insufficient experience for concrete-maintenance work.

1. Field Supervision: Concrete-maintenance specialist firm shall maintain experienced full-time supervisors on Project site during times that concrete-maintenance work is in progress.

C. Quality-Control Program: Prepare a written plan for concrete maintenance to systematically demonstrate the ability of personnel to properly perform maintenance work, including each phase or process, protection of surrounding materials during operations, and control of debris and runoff during the Work. Describe in detail materials, methods, equipment, and sequence of operations to be used for each phase of the Work.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Comply with manufacturer's written instructions for minimum and maximum temperature requirements and other conditions for storage.

B. Store cementitious materials off the ground, under cover, and in a dry location.

C. Store aggregates covered and in a dry location; maintain grading and other required characteristics and prevent contamination.

1.10 FIELD CONDITIONS

A. Environmental Limitations for Epoxies: Do not apply when air and substrate temperatures are outside limits permitted by manufacturer. During hot weather, cool epoxy components before mixing, store mixed products in shade, and cool unused mixed products to retard setting. Do not apply to wet substrates unless approved by manufacturer.

1. Use only Class A epoxies when substrate temperatures are below or are expected to go below 40 deg F (5 deg C) within eight hours.

2. Use only Class A or B epoxies when substrate temperatures are below or are expected to go below 60 deg F (16 deg C) within eight hours.

3. Use only Class C epoxies when substrate temperatures are above and are expected to stay above 60 deg F (16 deg C) for eight hours.

B. Cold-Weather Requirements for Cementitious Materials: Do not apply unless concrete-surface and air temperatures are above 40 deg F (5 deg C) and will remain so for at least 48 hours after completion of Work.

C. Cold-Weather Requirements for Cementitious Materials: Comply with the following procedures:

1. When air temperature is below 40 deg F (5 deg C), heat patching-material ingredients and existing concrete to produce temperatures between 40 and 90 deg F (5 and 32 deg C).

2. When mean daily air temperature is between 25 and 40 deg F (minus 4 and plus 5 deg C), cover completed Work with weather-resistant insulating blankets for 48 hours after repair or provide enclosure and heat to maintain temperatures above 32 deg F (0 deg C) within the enclosure for 48 hours after repair.

3. When mean daily air temperature is below 25 deg F (minus 4 deg C), provide enclosure and heat to maintain temperatures above 32 deg F (0 deg C) within the enclosure for 48 hours after repair.

D. Hot-Weather Requirements for Cementitious Materials: Protect repair work when temperature and humidity conditions produce excessive evaporation of water from patching materials. Provide artificial shade and wind breaks, and use cooled materials as required. Do not apply to substrates with temperatures of 90 deg F (32 deg C) and above.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: For repair products, obtain each color, grade, finish, type, and variety of product from single source and from single manufacturer with resources to provide products of consistent quality in appearance and physical properties.

2.2 BONDING AGENTS

A. Latex Bonding Agent, Redispersible: ASTM C1059/C1059M, Type I.

B. Mortar Scrub Coat: Mix consisting of 1 part portland cement and 1 part fine aggregate complying with ASTM C144 except 100 percent passing a No. 16 (1.18-mm) sieve.

2.3 PATCHING MORTAR

A. Patching Mortar Requirements:

1. Only use patching mortars that are recommended by manufacturer for each applicable horizontal, vertical, or overhead use orientation.

2. Color and Aggregate Texture: Provide patching mortar and aggregates of colors and sizes necessary to produce patching mortar that matches existing, adjacent, exposed concrete. Blend several aggregates if necessary to achieve suitable matches.

3. Coarse Aggregate for Patching Mortar: ASTM C33/C33M, washed aggregate, Size No. 8, Class 5S. Add to patching-mortar mix only as permitted by patching-mortar manufacturer.

B. Patching Mortar Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch (3.2 mm) and that can be feathered at edges to match adjacent floor elevations.

1. Xypex Concrete Waterproofing by Crystallization, Xypex Chemical Corporation.

a. Xypex Concentrate.

2. Cement Binder: ASTM C 150/C 150M, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
3. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
4. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch (3.2 to 6 mm) or coarse sand as recommended by underlayment manufacturer.
5. Compressive Strength: Not less than 4100 psi (29 MPa) at 28 days when tested according to ASTM C 109/C 109M.

C. Patching Mortar Overlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/4 inch (6.4 mm) and that can be filled in over a scarified surface to match adjacent floor elevations.

1. Xypex Concrete Waterproofing by Crystallization, Xypex Chemical Corporation.

a. Xypex Concentrate.

2. Cement Binder: ASTM C 150/C 150M, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
3. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
4. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch (3.2 to 6 mm) or coarse sand as recommended by topping manufacturer.
5. Compressive Strength: Not less than 5000 psi (34.5 MPa) at 28 days when tested according to ASTM C 109/C 109M.

2.4 JOINT FILLER

A. Polyurea Joint Filler: Two-component, semirigid, 100 percent solids, polyurea resin with a Type A Shore durometer hardness of at least 80 according to ASTM D2240.

B. Color: Matching existing joint filler.

2.5 EPOXY CRACK-INJECTION MATERIALS

A. Epoxy Crack-Injection Adhesive: ASTM C881/C881M, bonding system Type IV, free of VOCs.

1. Capping Adhesive: Product manufactured for use with crack-injection adhesive by same manufacturer.
2. Color: Provide epoxy crack-injection adhesive and capping adhesive as indicated by manufacturer's designations.

2.6 MISCELLANEOUS MATERIALS

A. Portland Cement: ASTM C150/C150M, Type I, II, or III unless otherwise indicated.

B. Water: Potable.

2.7 MIXES

A. General: Mix products, in clean containers, according to manufacturer's written instructions.
   1. Do not add water, thinners, or additives unless recommended by manufacturer.
   2. When practical, use manufacturer's premeasured packages to ensure that materials are mixed in proper proportions. When premeasured packages are not used, measure ingredients using graduated measuring containers; do not estimate quantities or use shovel or trowel as unit of measure.
   3. Do not mix more materials than can be used within time limits recommended by manufacturer. Discard materials that have begun to set.

B. Mortar Scrub Coat: Mix dry ingredients with enough water to provide consistency of thick cream.

PART 3 - EXECUTION

3.1 CONCRETE MAINTENANCE

A. Have concrete-maintenance work performed only by qualified concrete-maintenance specialist.

B. Comply with manufacturers' written instructions for surface preparation and product application.

3.2 EXAMINATION

A. Locate areas of deteriorated or delaminated concrete using hammer or chain-drag sounding and mark boundaries. Mark areas for removal by simplifying and squaring off boundaries. At columns and walls make boundaries level and plumb unless otherwise indicated.

B. Perform surveys as the Work progresses to detect hazards resulting from concrete-maintenance work.

3.3 PREPARATION

A. Ensure that supervisory personnel are on-site and on duty when concrete maintenance work begins and during its progress.

B. Existing Drains: Prior to the start of work in an area, test drainage system to ensure that it is functioning properly. Notify Architect immediately of inadequate drainage or blockage. Do not begin work in an area until the drainage system is in working order.
   1. Prevent solids such as aggregate or mortar residue from entering the drainage system. Clean out drains and drain lines that become sluggish or blocked by sand or other materials resulting from concrete maintenance work.
   2. Protect drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.

C. Preparation for Concrete Removal: Examine construction to be repaired to determine best methods to safely and effectively perform concrete maintenance work. Examine adjacent work to determine what protective measures will be necessary. Make explorations, probes, and inquiries as necessary to determine condition of construction to be removed in the course of repair.
   1. Verify that affected utilities have been disconnected and capped.
   2. Inventory and record the condition of items to be removed for reinstallation or salvage.

3. Provide and maintain shoring, bracing, and temporary structural supports as required to preserve stability and prevent unexpected or uncontrolled movement, settlement, or collapse of construction being demolished and construction and finishes to remain. Strengthen or add new supports when required during progress of removal work.

D. Preparation of Floor Joints for Repair: Saw-cut joints full width to edges and depth of spalls, but not less than 3/4 inch (19 mm) deep. Clean out debris and loose concrete; vacuum or blow clear with compressed air.

3.4 REMOVAL OF CONCRETE

A. Do not overload structural elements with debris.

B. Saw-cut perimeter of areas indicated for removal to a depth of at least 1/2 inch (13 mm). Make cuts perpendicular to concrete surfaces and no deeper than cover on reinforcement.

C. Remove deteriorated and delaminated concrete by breaking up and dislodging from reinforcement.

D. Remove additional concrete if necessary to provide a depth of removal of at least 1/2 inch (13 mm) over entire removal area.

E. Where half or more of the perimeter of reinforcing bar is exposed, bond between reinforcing bar and surrounding concrete is broken, or reinforcing bar is corroded, remove concrete from entire perimeter of bar and to provide at least 3/4-inch (19-mm) clearance around bar.

F. Test areas where concrete has been removed by tapping with hammer, and remove additional concrete until unsound and disbonded concrete is completely removed.

G. Provide surfaces with a fractured profile of at least 1/8 inch (3 mm) that are approximately perpendicular or parallel to original concrete surfaces. At columns and walls, make top and bottom surfaces level unless otherwise directed.

H. Thoroughly clean removal areas of loose concrete, dust, and debris.

3.5 APPLICATION OF BONDING AGENT

A. Epoxy-Modified, Cementitious Bonding and Anticorrosion Agent: Apply to reinforcing bars [**and concrete**]by stiff brush or hopper spray according to manufacturer's written instructions. Apply to reinforcing bars in two coats, allowing first coat to dry two to three hours before applying second coat. Allow to dry before placing patching mortar or concrete.

B. Epoxy Bonding Agent: Apply to reinforcing bars[**and concrete**] by brush, roller, or spray according to manufacturer's written instructions, leaving no pinholes or other uncoated areas.[**Apply to reinforcing bars in at least two coats, allowing first coat to dry before applying second coat.**] Place patching mortar or concrete while epoxy is still tacky. If epoxy dries, recoat before placing patching mortar or concrete.

C. Latex Bonding Agent, Type I: Apply to concrete by brush roller or spray. Allow to dry before placing patching mortar or concrete.

D. Latex Bonding Agent, Type II: Mix with portland cement and scrub into concrete surface according to manufacturer's written instructions. Place patching mortar or concrete while bonding agent is still wet. If bonding agent dries, recoat before placing patching mortar or concrete.

E. Mortar Scrub Coat for Job-Mixed Patching Mortar[**and Concrete**]: Dampen repair area and surrounding concrete 6 inches (150 mm) beyond repair area. Remove standing water and apply scrub

coat with a brush, scrubbing it into surface and thoroughly coating repair area. If scrub coat dries, recoat before placing patching mortar or concrete.

F. Slurry Coat for Cementitious Patching Mortar: Wet substrate thoroughly and then remove standing water. Scrub a slurry of neat patching mortar[**mixed with latex bonding agent**] into substrate, filling pores and voids.

3.6 INSTALLATION OF PATCHING MORTAR

A. Place patching mortar as specified in this article unless otherwise recommended in writing by manufacturer.
   1. Provide forms where necessary to confine patch to required shape.
   2. Wet substrate and forms thoroughly and then remove standing water.

B. Pretreatment: Apply specified bonding agent and slurry coat.

C. General Placement: Place patching mortar by troweling toward edges of patch to force intimate contact with edge surfaces. For large patches, fill edges first and then work toward center, always troweling toward edges of patch. At fully exposed reinforcing bars, force patching mortar to fill space behind bars by compacting with trowel from sides of bars.

D. Vertical Patching: Place material in lifts as recommended by Manufacturer. Do not feather edge.

E. Consolidation: After each lift is placed, consolidate material and screed surface.

F. Multiple Lifts: Where multiple lifts are used, score surface of lifts to provide a rough surface for placing subsequent lifts. Allow each lift to reach final set before placing subsequent lifts.

G. Finishing: Allow surfaces of lifts that are to remain exposed to become firm and then finish to a surface matching adjacent concrete.

H. Curing: Wet-cure cementitious patching materials, including polymer-modified cementitious patching materials, for not less than seven days by water-fog spray or water-saturated absorptive cover.

3.7 CONCRETE PLACEMENT

A. Pretreatment: Apply latex bonding agent to concrete substrate.

B. Standard Placement: Place concrete by form-and-pump method unless otherwise indicated.
   1. Use vibrators to consolidate concrete as it is placed.
   2. At unformed surfaces, screed concrete to produce a surface that when finished with patching mortar will match required profile and surrounding concrete.

C. Form-and-Pump Placement: Place concrete by form-and-pump method where indicated.
   1. Design and construct forms to resist pumping pressure in addition to weight of wet concrete. Seal joints and seams in forms and where forms abut existing concrete.
   2. Pump concrete into place from bottom to top, releasing air from forms as concrete is introduced. When formed space is full, close air vents and pressurize to 14 psi (96 kPa).

D. Wet-cure concrete for not less than seven days by leaving forms in place or keeping surfaces continuously wet by water-fog spray or water-saturated absorptive cover.

E. Fill placement cavities with dry-pack mortar and repair voids with patching mortar. Finish to match surrounding concrete.

3.8 FLOOR-JOINT REPAIR

A. Cut out deteriorated concrete and reconstruct sides of joint with patching mortar as required. Install joint filler in nonmoving floor joints where indicated and as specified in this article.

B. Depth: Install joint filler to a depth of at least 3/4 inch (19 mm). Use fine silica sand no more than 1/4 inch (6 mm) deep to close base of joint. Do not use sealant backer rods or compressible fillers below joint filler.

C. Top Surface: Install joint filler so that when cured, it is flush at top surface of adjacent concrete. If necessary, overfill joint and remove excess when filler has cured.

3.9 EPOXY CRACK INJECTION

A. Clean cracks with oil-free compressed air or low-pressure water to remove loose particles.

B. Clean areas to receive capping adhesive of oil, dirt, and other substances that would interfere with bond.

C. Place injection ports as recommended by epoxy manufacturer, spacing no farther apart than thickness of member being injected. Seal injection ports in place with capping adhesive.

D. Seal cracks at exposed surfaces with a ribbon of capping adhesive at least 1/4 inch (6 mm) thick by 1 inch (25 mm) wider than crack.

E. Inject cracks wider than 0.003 inch (0.075 mm) to a depth of 8 inches (200 mm).

F. Inject epoxy adhesive, beginning at widest part of crack and working toward narrower parts. Inject adhesive into ports to refusal, capping adjacent ports when they extrude epoxy. Cap injected ports and inject through adjacent ports until crack is filled.

G. After epoxy adhesive has set, remove injection ports and grind surfaces smooth.

3.10 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Product will be considered defective if it does not pass tests and inspections.

C. Prepare test and inspection reports.

D. Manufacturers Field Service: Engage manufacturers' factory-authorized service representatives for consultation and Project-site inspection and to provide on-site assistance when requested by Architect.

1. Have manufacturers' factory-authorized service representatives perform the following number of Project-site inspections to observe progress and quality of the Work, distributed over the period of product installation, regardless of on-site assistance requested by Architect:

   a. Bonding-Agent Installation: Three inspections.

   b. Joint-Filler Installation: Two inspections.

   c. Crack-Injection-Adhesive Preparation and Installation: Four inspections.

END OF SECTION

131100 - SWIMMING POOL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The BIDDING REQUIREMENTS, CONTRACT FORMS, AND CONDITIONS OF THE CONTRACT and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.2 SUMMARY OF WORK (for general guidance-not all inclusive)

A. Introduction

1. Provide all labor, materials, equipment and services necessary to renovate the existing competition pool. This work shall include the structure and installation of pool finishes as well as all products listed in Part 2 of Section 13 11 00.

B. Work included in this section

1. It is the intent of this section to place the entire responsibility for the renovation of the pool under one vested CONTRACTOR. Under this section the Swimming Pool Contractor will provide but is not necessarily limited to the following:

a. Provide all equipment and services required for erection and delivery onto the premises of any equipment or apparatus provided. Remove equipment from premises when no longer required.

b. Layout, excavate, remove from the construction site, replace and grade materials as required beyond the limits of the pool shell to complete the work described in this section.

c. Grade and replace load bearing or high plasticity index soil, pump and dewater as necessary to keep excavations free from water during construction.

d. Provide and maintain proper shoring and bracing for existing utilities, sewers and building foundations where required for related excavations.

e. Coordinate for all required bonding and grounding of the pool shell, fittings, and equipment.

f. Provide all necessary piping and valving as shown on the drawings and specified herein.

g. Provide the main drain hydrostatic relief system and a sight sump as shown on the drawings.

h. Provide a marcite plaster cementitious finish in the pool with a slip resistant surface. Provide specialty tile for the wall targets, floor lane markings, stair nosings, construction joint installation bands and all other tile installation within the pool structures. Reference Section 13 11 03 - Swimming Pool Tile - including the tolerance requirements for the concrete substrate.

i. Assemble and install the cleaning and maintenance equipment for the pool as specified herein.

j. Provide for the storage of all pool related equipment, materials and systems. All items are the responsibility of the CONTRACTOR until accepted by owner.

k. Obtain final acceptance by jurisdictional health department(s).

l. Provide, erect and maintain all necessary barricades, signs, lights and flares for pool construction to protect workers and the public.

m. Provide and maintain proper shoring and bracing for existing utilities, sewers and building foundations where required for swimming pool related excavations.

n. Provide the sight sump and related piping indicated on the drawings.

o. Prior to concrete pours, verify electrical bonding of the pool embedded items. Coordinate and arrange any required electrical, plumbing and or building inspections to be performed on embedded items.

p. Ground and bond all pool structures, fittings and equipment in accordance with Article 680 of the NEC. Test and verify that the system electrical ground is true and solid. Provide certification to this effort.

q. Obtain permits, inspections, and approvals of all wiring including grounding and bonding of all metal components associated with the pool in accordance with Local, State and National Electrical Codes.

r. Confirm all electrical conduits that penetrate the pool shell are watertight and installed per N.E.C. Article 680.

s. Provide deck finish in areas removed for the renovation.

t. Provide chlorine resistant caulking (sealant) and backer rod on pool deck.

C. Related work specified in other sections

1. Section 13 11 04 – Swimming Pool Cementitious Finish
2. Section 13 11 03 – Swimming Pool Tile
3. Section 03 01 30 – Maintenance of Cast-in-Place Concrete
4. Section 31 20 00 – Earth Moving

1.3 QUALITY ASSURANCE

A. The specifications and drawings illustrate and detail the renovation of one short course competition pool. Certain technical aspects of the design are common only to pool systems planned for public use. Understanding these aspects, their functions and interaction through experience is vital to completing a successful operating system. It is a mandatory requirement that all bidders will have achieved such experience as a prerequisite for bidding this project.

1. The SWIMMING POOL CONTRACTOR must include a bid bond from an approved surety company registered in the State of Rhode Island certifying that the SWIMMING POOL CONTRACTOR has adequate bonding capacity to provide a bid for this project. The SWIMMING POOL CONTRACTOR must submit a copy of the bid bond for review prior to SWIMMING POOL CONTRACTOR's selection.

2. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligation of the contract and to complete the work described or if the bidder does not have the qualifications stated herein. Subject to compliance with item 2 above on this specification.

1.4 REGULATORY AGENCY REQUIREMENTS AND ENGINEERING SERVICES

A. The system shall comply with all necessary pre-construction approvals obtained by the Owner and Owner's Consultants from local regulatory agencies governing the design and construction of public swimming pools.

B. The Contractor shall give all necessary notices, obtain all permits and pay all government fees, and other costs in connection with his work, including the filing of all necessary as-built drawings, prepare all documents and obtain all necessary approvals of governmental departments having jurisdiction over their work. The Contractor shall also be responsible for obtaining all required certificates of inspection for his work and deliver same to the Owner and Owner's Consultants before requesting acceptance and final payment for the work.

C. The Contractor shall include in the work, without extra cost to the Owner, any labor, materials, services, apparatus or drawings in order to comply with all applicable laws, ordinances, rules and regulations, whether or not shown on drawings and/or specified.

1.5 COORDINATION AND CLARIFICATION

A. Coordinate with other contractors or subcontractors all work relating to this section.

B. The Contractor must establish with other contractors or subcontractors, having related work in this section, that all work necessary to complete the pool as shown on the drawings and in the specifications is included in the base bid and alternates to the Owner.

C. If in doubt regarding the responsibility for work covered in this section and/or discovery of errors or omissions in the bidding documents, the Contractor shall notify the Architect through channels established by the specifications and request a clarification ten (10) days prior to the bid date.

1.6 ALTERNATES

A. Review the description of the alternates on the drawings for possible effect upon work in this section. Alternates related to the work in this section are described in this division and on the bid proposal form.

B. Pool Alternates

1. Add Alternate #1: Provide an all 2" x 2" ceramic tile finish for the 5,187 SF of swimming pool interior that in of the base bid marcite plaster. Refer to specification 131103.

2. Add Alternate #2: Replace the existing filtration tank with a new vertical sand filtration system with manual backwash and plumb into the existing recirculation loop.

1.7 CONTRACTOR'S ALTERNATE PROPOSAL

A. Contractor shall submit his bid to the owner based on materials, equipment and methods as specified in this Section. No substitutions of material will be allowed.

B. It is the intent of the contract documents to encourage competition. The base proposal must be on providing the construction methods and equipment as specified and detailed. Any proposed system substitution must have prior written approval by the Architect.

C. If there is any deviation from the basis of design equipment it is the responsibility of the contractor to confirm that all engineering criteria are appropriate for the substituted equipment.

D. All proposed substitutions of specified construction methods and equipment shall include a complete submittal as required by these specifications and drawings of appropriate scale incorporating all required changes. The Contractor shall provide a list of at least ten (10) satisfactory installations comparable to this project that have been manufactured and installed under the manufacturer's current legal name. Submit a list of such projects with the name, address and current telephone number of the Owner's Operator and Architect of Record to the Architect on the bid date.

E. Any changes or modifications to the Contract Documents that are not authorized by the architect shall be the sole responsibility of the Contractor.

1.8 SUBMITTALS

A. All submittals shall be made in accordance with the requirements of Division 1 - General Requirements and in strict compliance with the following procedures and guidelines.

B. One (1) set of shop drawings and engineering data shall be tabbed, indexed, and referenced to the specifications, compiled into an electronic submittal, and submitted in two stages. The first stage shall include all items for the pool shell(s), reference swimming pool structural specifications. The second stage shall be for all remaining items. Each section of items shall be prefaced by a cover sheet listing the items submitted within the section. All electronic submittals shall be organized, numbered, and submitted in the same format and order as the project specifications. Only complete sets will be reviewed.

1. Engineering data covering all systems, equipment, structures and fabricated materials, which will become a permanent part of the work under this contract, shall be submitted for review. This data shall include drawings and descriptive information in sufficient detail and scale to show the kind, size, arrangement, and operation of component materials and devices; the external connections, anchorage and supports required; performance characteristics; fabrication and dimensions needed for installation and correlation with other materials and equipment. A certification, in writing, shall be provided indicating that all equipment will fit in the space allotted and as shown on the drawings.

2. All submittals regardless of origin shall be stamped with the approval of the CONTRACTOR and identified with the name and number of this contract, CONTRACTOR'S name, and references to applicable specification paragraphs and contract drawings. Each submittal shall indicate the intended use of the item in the work. When catalog pages are submitted, applicable items shall be clearly identified. The current revision, issue number, and date shall be indicated on all drawings and other descriptive data.

3. The submittals will not be accepted from anyone but the CONTRACTOR. Submittals shall be consecutively numbered in direct sequence of submittal and without division by subcontracts or trades.

4. The CONTRACTOR'S stamp of approval is a representation that the CONTRACTOR accepts full responsibility for determining and verifying all quantities, dimensions, field construction criteria, materials, catalog numbers and similar data, and that he has reviewed or coordinated each submittal with the requirements of the work and the contract documents.

5. Each submittal shall include a statement prepared by the originator of the drawings and data, certifying compliance with the contract documents except for deviations, which are specifically identified.

6. All deviations from the contract documents shall be identified on each submittal and shall be tabulated in the CONTRACTOR'S letter of transmittal. Such submittals shall, as pertinent to the deviation, indicate essential details of all changes proposed by the CONTRACTOR (including modifications to other facilities that may be a result of the deviation) and all required piping and wiring diagrams.

7. The CONTRACTOR shall accept full responsibility for the completeness of each submission, and, in the case of a resubmission, shall verify that all exceptions previously noted have been taken into account. In the event that more than one resubmission is required because of failure of

CONTRACTOR to respond to exceptions and rejections previously noted, CONTRACTOR shall make all further resubmissions in person at the consultant's office.

8. Any need for more than one resubmission, or any other delay in obtaining review of submittals, will not entitle the CONTRACTOR to an extension of the contract time unless delay of the work is directly caused by a change in the work authorized by a change order.
9. Review of drawings and data submitted by CONTRACTOR will cover only general conformity to the drawings and specifications, external connections and dimensions that affect the layout. Review does not indicate a thorough review of all dimensions, quantities, and details of the material, equipment, device or item shown. Review of submittals shall not relieve CONTRACTOR from responsibility for errors, omissions, or deviations, or responsibility for compliance with the contract documents.
10. When the drawings and data are returned marked REJECTED, REVISE AND RESUBMIT or SUBMIT SPECIFIED ITEM, the corrections shall be made as noted thereon and as instructed and six corrected copies (or one copy and one corrected reproducible copy) resubmitted.
11. Resubmittals shall bear the number of the first submittal followed by a letter (A, B, etc.) to indicate the sequence of the resubmittal. All resubmittals shall be indexed, tabbed, referenced to the specifications and bound in a three-ring binder and submitted at one time.
12. When corrected copies are resubmitted, the CONTRACTOR shall, in writing, direct specific attention to all revisions and shall list separately any revisions made other than those called for on previous submissions.
13. When the drawings and data are returned marked NO EXCEPTIONS TAKEN or MAKE CORRECTIONS NOTED, no additional copies need to be furnished unless specifically requested to do so for record.

C. Permits, Receipts and Test Reports
   1. Provide the Architect with copies of all permits and receipts for fee payments.
   2. Submit a sample format for each test report intended for use. Submit test reports required herein only on approved forms.

D. Include complete product data indexed, tabbed, and referenced to specifications with 8 ½" x 11" cover sheet covering:
   1. Paragraph 2.1 - Filtration Equipment
   2. Paragraph 2.2 - Recirculation Fittings
   3. Paragraph 2.3 - Piping Systems
   4. Paragraph 2.4 - Swimming Pool Finishes
   5. Paragraph 2.5 - Waterproofing
   6. Paragraph 2.6 - Sealants

E. Include engineering construction drawings for all pool piping.

F. Reference Section 13 11 04 – Swimming Pool Cementitious Finish

G. Reference Section 13 11 03 – Swimming Pool Tile

H. Reference Section 03 01 30 – Maintenance of Cast-in-Place Concrete

I. Reference Section 31 20 00 – Earth Moving

1.9 OPERATION AND MAINTENANCE MANUALS AND CLOSE-OUT SUBMITTALS

A. Detailed operation and maintenance information shall be supplied for all equipment requiring maintenance or other attention. The equipment supplier and/or CONTRACTOR shall prepare an operation and maintenance manual for all equipment. Parts lists and operating and maintenance instructions shall be provided.

B. Each operation and maintenance manual shall include the following:

1. Operating instructions for start up, routine and normal operation, regulation and control, shut down and emergency conditions.

2. Using reference to keyed valves and wall diagram, include specific written instructions for procedures to be followed for emptying and refilling the pool including de-watering during the period that the pool(s) will be empty.

3. Specific written instructions for procedure for emptying and refilling the pool including de-watering during any period that the pool will be empty. Include furnishing and installing a yellow warning sign 8-1/2 in. x 11 in., to be mounted in the filter room, that reads:

WARNING
Prior to emptying Pool
Consult O & M Manuals for Procedures

4. One set of applicable submittals shall be included in each manual.

C. The operation and maintenance manuals shall be in addition to any instructions or parts lists packed with or attached to the equipment when delivered, or which may be required by the CONTRACTOR.

D. Manuals and other data shall be printed on heavy, first quality paper, 8-1/2 x 11 inch size with standard 3-hole punching and inserted in plastic covers. Drawings and diagrams shall be reduced to 8-1/2 x 11 inches or 11 x 17 inches. Where reduction is not practical, larger drawings shall be folded separately and placed in envelopes that are bound into the manuals. Each envelope shall bear suitable identification on the outside.

E. Six (6) bound volumes of each manual shall be submitted. All parts lists and information shall be assembled in substantial manuals and permanent, three-ring or three-post binders. Material shall be assembled and bound in the same order as specified, and each volume shall have a table of contents and suitable index tabs.

F. All material shall be marked with project identification. Non-applicable information shall be marked out or deleted.

G. Shipment of equipment will not be considered complete until all required manuals and data have been received.

1.10 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver material in manufacturer's original, unopened containers and crates with all labels intact and legible.

B. Deliver materials in sufficient time and quantity to allow continuity of work and compliance with approved construction schedule.

C. Handle materials in a manner to prevent damage.

D. Store all materials on clean raised platforms with weather protective coverings. Provide continuous protection of materials against damage or deterioration.

E. Remove damaged materials from site.

1.11 WARRANTIES

A. The CONTRACTOR warrants to the Owner and Architect that materials and equipment provided under the contract will be of good quality and new unless otherwise required or permitted by the contract documents, that the work will be free from defects not inherent in the quality required or permitted, and that the work will conform with the requirements of the contract documents. Work not conforming to these requirements, including substitutions not properly approved and authorized will be considered defective. The CONTRACTOR'S warranty will exclude remedies for damage or defect caused by abuse, improper or insufficient maintenance, improper operations, modifications not executed by the CONTRACTOR or improper wear and tear under normal use. If required by the Architect, the CONTRACTOR shall furnish satisfactory evidence as to the kind and quality of materials and equipment. All warranties shall be for a period of one year from the date of substantial completion or the owner begins using the pool unless otherwise specified.

B. The CONTRACTOR shall agree to repair or replace any defective or non-complying work at no cost to the Owner upon written notification from the Owner within the warranty period. Pro-rated warranties are not acceptable.

C. Submit all warranties covering, but not limited to the following:

1. Defects in material or workmanship of the pool structure causing a loss of water for a period of three (3) years.

2. Defects in material, workmanship, and installation of the pool piping system for a period of three (3) years.

3. Defects in material, workmanship, and installation of the pool cementitious finish against cracking and delamination for a period of three (3) years.

4. Alternate #1: Defects in material, workmanship, and installation of the tile finish against cracking and delamination for a period of five (5) years.

5. Alternate #2: Manufacturer's minimum fifteen (15) year warranty on the filter tank and lining against defective materials or workmanship of the tank and components. (Additional warranty time may be purchased from the manufacturer.) Prorated warranties are not acceptable.

6. Alternate #1: Manufacturer's minimum fifteen (15) year systems warranty against defective materials, components and workmanship in the pool tile setting materials.

1.12 SYSTEM TRAINING

A. A qualified representative of the CONTRACTOR performing work under this section shall put the equipment into operation and instruct the Owner's representatives in the operation of this equipment to the Owner's satisfaction immediately after project’s substantial completion.

B. The CONTRACTOR’S training representative shall have completed the equipment/system’s manufacturer’s training requirements and be certified, by the manufacturer, to provide and teach system training.

C. The representative from the CONTRACTOR shall be either a CPO (Certified Pool Operator) or have an AFO (Aquatic Facility Operator) certification.

D. Training periods shall consist of 4 hours of on-site training and scheduled as follows:

1.13 POOL FILL WATER QUALITY

A. The Owner shall bear the cost of the water required for two (2) complete fillings of the pool (the initial water tightness test and the final filling). Removal of iron or copper (if in excess of .3 ppm) will be required for the final fill to avoid staining of the pool finish. Any subsequent fillings or partial fillings (more than 25%) of the pool shall be by the CONTRACTOR, at its own expense.

B. The CONTRACTOR shall provide the necessary plant equipment so that the temperature of fill water will be within plus or minus 10 degrees of the ambient air and/or the pool structure at the time of filling. Extreme caution is urged if the temperature variance is greater than 10 degree F.

C. The CONTRACTOR shall provide the necessary chemicals and to adjust and balance the water chemistry in the pools to the following levels:

pH	7.4 - 7.6
Calcium Hardness	200 - 400 PPM
Total Alkalinity	80 - 120 PPM
Langelier saturation index	-0.3 - +0.3
Total Dissolved Solids (TDS)	not to exceed 1,500 PPM

1.14 START-UP CHEMICALS

A. The CONTRACTOR shall maintain the chemical balance of the pool water (including the cost of all chemicals required) until the pool and mechanical systems are fully operational and accepted by the Architect and the Owner.

B. Provide the Owner with sufficient quantities of the necessary chemicals to maintain the pool operation for a minimum of thirty (30) days from substantial completion or the owner begins using the pool.

C. Chemicals to be provided to the Owner shall include those required by the chemical feed systems installed.

1.15 RECORD DRAWINGS

A. Provide a complete set of record drawings of the entire pool system including all sub-systems. All record drawings shall be prepared in accordance with the requirements of Section 017839 and shall be a complete, stand-alone set. The CONTRACTOR shall be permitted to obtain original documents and copy them for this purpose only. Provide the record set on compact disk (AutoCAD Release 2010 or compatible software).

PART 2 - PRODUCTS

2.1 FILTRATION EQUIPMENT – ALTERNATE #2

A. The filter system shall consist of high rate pressure sand filter tanks as shown on the drawings. Every aspect and component of the filter system must be certified by the National Sanitation Foundation (NSF) and bear the certification mark. The filter must have an engraved metal data plate permanently affixed on the face of the system that describes operational data and instructions and indicates start up date.

B. It is the intent of these specifications to describe a filtration system complete in every respect with all accessory items and supplied and warranted by one manufacturer.

C. Vertical Steel Filter Tank (SRF)

1. The filter tank shall be suitable for 50 psi working pressure and hydrostatically tested to 75 psi. Tank shell and dished head shall be not less than the dimensions shown below. All material to be high quality Type A-36 carbon steel or better.

FILTER DIAMETER	HEADS	SHELLS
• 78” to 96”	5/16”	1/4”

2. All welding shall be performed by qualified operators. Joints shall be butt or fillet welded inside and out by manual or automatic process. Welded joints shall have complete penetration and fusion with little or no reduction of the thickness of the base metal. Welds shall be free of coarse ripples, grooves, overlaps, abrupt ridges or valleys. All welded surfaces shall be chipped and brushed clean, when necessary, leaving no slag or splatter.

3. Drain out system shall consist of a ¾ " T304 stainless steel coupling mounted to the bottom of the tank. Each coupling to be fitted with a slotted PVC sand retainer. Air relief connection shall be a ¾ " T304 stainless steel coupling provided on top of the tank.

4. Adjustable jack legs shall be used to support the filter tank. Access to the tank shall be provided by a 14" x 18" manhole with two (2) cast or forged curved yokes located in the top of the tank. Manhole seat shall be complete with one piece ¼", neoprene gasket and positioned so that internal pressure from the filter will augment the seat. No additional hardware or through bolts will be allowed.

5. Each filter tank shall be equipped with the necessary flanges and connections for the internal and external piping. All tank connections 2" and under shall be 150 lb. T304 stainless steel threaded full couplings. All tank connections 3" and over, shall be heavy steel flush mounted bosses drilled and tapped on both sides to receive standard flanged fittings.

6. Tank shall be equipped with a UL listed grounding lug.

D. Exterior Coatings

1. Prepared steel surfaces shall be free of weld spatter and fabrication contaminants. A mechanically applied wash of 5% phosphoric acid and multiple rinses shall be performed within four hours of primer application to assure complete grease/oil removal.

2. One coat of high solids epoxy with cross link polymerization cure shall be applied for a total developed film thickness of 5-6 mils.

3. Exterior finish coating shall be supplied and field applied after installation by contractor (or others).

E. Three (3)-way Valve Control Assembly

1. A mechanical linkage shall connect two (2) valves in order to create simultaneous movement.

2. Connecting pieces shall vary with the size of face piping in order to operate with suitable mechanical advantage.

3. All linkage parts shall be T304 stainless steel.

4. Linkage shall be designed so that filter and backwash cycles can be accomplished by repositioning two (2) pairs of valves.

5. Each pair of valves shall be operated as specified with lever, gear or electric actuation.

6. All linkage components shall be grit blasted to a 1.2 mil profile. Blast media shall be completely non-ferric.
7. All linkage components shall be finish coated with 3-4 mils DFT of Type 316 pigmented stainless steel paint.

F. Automatic Air Relief Valve
1. A 1" valve shall be provided to automatically and continuously release air in the filter. The valve shall be fabricated of plastic with Buna-N seals. A plumbing kit shall be provided with two (2) PVC ball valves to allow manual air relief and isolation of the automatic valve. Valves fabricated of cast iron, bronze or stainless steel shall not be acceptable

G. Filter System Packaging
1. All filter piping and valves shall be factory assembled and knocked down into sub-assemblies for shipment.
2. The components shall be carefully packaged in a totally enclosed wooden crate to prevent damage during transport.

H. Filter Media
1. Filter media shall be a carefully selected grade of hard uniformly graded silica material. Media shall be milled angular shaped particles of silica quartz. The filter sand shall have a particle size between 0.45 mm and 0.55 mm and have a uniformity coefficient not to exceed 1.53. Specific gravity shall not be less than 2.5 with a pH of 7.0.
2. All media (sand) shall be cleaned and free from any clay or limestone deposits. Bottom layer of support media shall be placed by hand to avoid damage to the under drain system and leveled before the addition of the upper layer of filter media.
3. All media shall be delivered after approval by the manufacturer of the filter and stored in 100 pound bags for ease of handling and elimination of possible contamination.
4. Media to be supplied by the filter manufacturer and approved by the filter manufacturer prior to shipping.

I. Filter Size
1. Filters have been sized based on a maximum allowable filtration rate of 14.0 GPM/SF:

	Units	Competition Pool
Volume	Gallons	170,000
Flow Rate	GPM	460
Filter Model		78 SRF-6
Filter Size	Sq. Ft.	33.2
Turnover Rate	Hours	6.16
Filtration Rate	GPM/Sq.Ft.	13.9

2.2 RECIRCULATION FITTINGS

A. Main outlets (main drains) shall be fiberglass box with PVC grating and sized as shown on the plan. Grate openings shall not exceed 11/32 inch in width, providing an open flow area to allow water velocity not to exceed 1.0 fps. The grate shall be PVC and fit closely and flush with top surface of frame, and secured to frame with vandal proof fasteners. All exposed edges of main outlets shall be

rounded and smooth, free of burrs and sharp edges. All main drain covers shall comply with the Virginia Graeme Baker Act and ANSI/APSP-16 2011.

B. Provide hydrostatic relief valves consisting of a 2" cycolac relief valve connected to a FPT commercial style Schedule 80 PVC collector tube. The collection tube shall have seepage holes, 3/8 inch in diameter, and shall be screwed securely to the valve body. The hydrostatic relief valve shall be designed to seal with minimum pressure and shall have a non-plugging, self-cleaning raised valve seat. Hydrostatic relief valve to be Hayward Number SP1056 with collector tube model Hayward Number SP1055, or approved equal.

C. Sight sump frame and cover shall be size appropriately to provide access to the vertical sight sump standpipe as indicated in the plans. Frame and cover shall be Zurn model #ZANB-1461-14-VP, nickel bronze with polished scored top, vandal proof screws or approved equal.

D. Provide one (1) portable utility pump for pool draining. The pump shall be a 1 HP, 3600 RPM, 115/230 volt, 1 phase, 60 cycle unit capable of 60 GPM at 25 ft. TDH. Basis of Design: Pump to be a Godwin GSP10 or approved equal.

2.3 PIPING SYSTEMS

A. General

1. Provide main drain suction piping between the pool and the surge tank.
2. Provide all necessary pipe supports and support systems required to support all associated piping and valves.
3. Provide all other tubing, conduit, or piping associated with equipment specified herein. Coordinate with other trades.

B. Pipes

1. Pipe routing as shown and detailed on the contract drawings is diagrammatic only and is not intended to show minor details or exact locations of piping systems. Installation is required to be adjusted to accommodate interference and adjustments anticipated and encountered. Pipe sizes on plans refer to nominal inside diameter of the pipe.
2. All PVC swimming pool piping shall be NSF approved and conform to the requirements of ASTM D-1785.
3. All PVC pipes shall be the product of one manufacturer. Approved manufacturers of PVC piping are Eslon, Harvel, and Chemtrol or approved equal.
4. Swimming pool piping below the deck shall be NSF approved, Schedule 80 PVC.
5. All swimming pool piping under the pool floor shall be NSF approved, Schedule 40 PVC and concrete encased. All transitions between Schedule 40 and Schedule 80 shall be encased in concrete.
6. All PVC fittings shall be the product of one manufacturer. Molded fittings shall be as manufactured by Asahi, Eslon, Chemtrol, Harvel, Spear, Lasco or acceptable substitute. Fabricated fittings shall be as manufactured by Harrison Machine, Plastinetics, or acceptable substitute.
7. Vertical sight sump piping shall be NSF approved, Schedule 40 PVC. Horizontal sight sump piping shall be NSF approved, Schedule 40 PVC that is perforated and wrapped with fabric and have 3/8" diameter holes located top and bottom on 4 ft centers. Horizontal sight sump piping shall extend 1 ft minimum beyond the main drain.

8. All flanged plumbing connection hardware shall be stainless steel.
9. All materials shall be installed by workmen thoroughly skilled in their trades and all work shall present a neat and mechanical appearance when complete. The CONTRACTOR, at no additional expense to the Owner, shall replace or correct any work not judged acceptable by the Architect, Owner's testing agency, or their consultants.
10. All support hardware, brackets, fasteners, hangers, etc. installed in the surge tank shall be 316L stainless steel.
11. No installation shall be made that will provide a cross-connection or interconnection between a distributing supply for drinking purposes and the swimming pool, or between the pool and a sanitary or storm water sewer system that will permit a backflow of water into the pool water system.
12. All piping shall be hydrostatically (water) pressure tested for leaks before and after backfilling to guarantee water tightness. Pneumatic (air) pressure test not allowed.
13. The CONTRACTOR shall provide 1/4" PVC water stops for this work for watertight penetration of concrete walls. Water stops shall be round and the O.D. shall be sized to 150% of the O.D. of the pipe. The water stops shall be thermo-welded to the pipe from both sides and shall be located at the centerline of the wall being penetrated prior to placing the concrete to assure a watertight seal. Manufactured fiberglass and PVC water stop fittings by Daldorado, A.S.A. Manufacturing, or approved equal shall also be acceptable.
14. All mechanical equipment to be connected into the recirculation piping system shall be done so using flanged or union connections.
15. Provisions shall be made to purge all pipes in the system.
16. Concentric reducers shall be fiberglass by MerMade Filter, Inc., or equivalent reducers of schedule 80 PVC construction.

2.4 SWIMMING POOL FINISHES

A. Pool Cementitious Finish – Reference specification section 13 11 04, Swimming Pool Cementitious Finish.

B. Pool Tile – Reference specification section 13 11 03, Swimming Pool Tile.

2.5 WATERPROOFING

A. Products
   1. For waterproofing applications that are to receive cementitious finish: Apply two (2) coats of Aquron CPSP directly to pool concrete surface.
   2. For waterproofing applications that are to receive ceramic tile finish: Apply two (2) coats Aquron CPSP directly to the surface of the pool structure. Prior to the application of the waterproofing material thoroughly inspect the structure for cracking and repair cracks as needed. Upon completion of proper curing apply flexible or polymer modified thin/thick-set tile adhesive over top coat.

B. Surface Preparation
   1. Surface shall be structurally sound and free of any foreign substances and debris that could reduce or impair adhesion. Surfaces shall be roughened by sand blasting, water jetting, shot

blasting, scarifying, or grinding. Surface defects or holes shall be patched per manufacturer's recommendations.

C. Application

1. Do not apply materials under conditions where the ambient air temperature is less than 40 degrees Fahrenheit, or to a frozen substrate.
2. All mixing of products, quantities and application procedures shall be done in accordance with the manufacturer's recommendations.

2.6 SEALANTS

A. Provide sealed expansion joints as shown on the pool and pool structural drawings or noted on the Contractor's construction/expansion joint layout, and as required. Expansion joints shall be constructed and sealed as indicated and in accordance with the manufacturer's recommendation. Sealant to be manufactured by LATICRETE International, Inc., Mapei, or Deck-O-Seal.

1. For submerged joints:
   a. Latasil, one component, neutral cure, high performance, 100% silicone sealant in the color(s) as selected. Shall be used in conjunction with Latasil 9118 Primer per manufacturer's recommendations.
   b. Mapesil T, 100% silicone sealant in the color(s) as selected.
2. For joints behind the gutter on the deck:
   a. Deck-O-Seal, two component (gun-grade or pourable, self-leveling), high resilience, non-sag, non-flowing, polysulfide-based sealing compound in the color(s) as selected. Shall be used in conjunction with P/G Primer per manufacture's recommendations.

B. Material Storage

1. All materials are to be stored in the original unopened factory containers in a cool dry location 60 to 80 degrees F. Protected from the elements and the hazards of construction. Open only as many containers as can be used in any particular period.

C. Joint Preparation

1. Clean the joints of all deleterious material, to sound, clean and dry substrate.
2. For the existing joints that will be remediated within the pool structure and around the perimeter overflow gutter, inspect and verify that all joints have firm, solid sub-surface support up to the underside of the structural slab. Identify those joints that do not have such support and fill any voids under the joint with a cement slurry (being careful not to fill the joint space itself) consisting of the following:
   a. Two (2) parts water (by weight) 10 gallons
   b. One (1) part Portland cement 47 lb bag
   c. ¼ to ½ part bentonite ½, 50 lb bag
3. In mixing the slurry it is recommended that the water be added first, then the cement, and finally the bentonite. The more bentonite the faster the set. Do not get the slurry on the joint itself.
4. Joint is to be formed or filled with an approved, resilient, non-asphaltic, closed cell, polyethylene joint filler material down to firm substrate. Allow space at the top of the joint for the installation of

approved closed cell polyethylene backer rod and install same to the required depth below the surface of the slab to control the depth of the sealant bead to within manufacturer requirements.

D. Surface Preparation

1. Concrete surfaces to receive sealant must be fully cured, clean, dry and free of dirt, dust and any deleterious material that might compromise the adhesion and performance of the sealant. Curing aids, form release agents and joint former residue must be completely removed, if necessary by sand blasting and/or grinding. Loose dust must be brushed off.
2. Prime all surfaces to receive Latasil sealant with Latasil 9118 Primer prior to sealant application, and surfaces to receive Deck-O-Seal sealant with P/G Primer prior to application.

E. Application

1. Apply sealant in accordance with the manufacturer's recommendations.
2. Tool the joint immediately after application to insure a firm, intimate contact with the joint interface.
3. Remove excess sealant and smears from adjacent surfaces with Xylol or Toluol before sealant cures.
4. After the sealant has fully cured (generally a minimum period of five days at 72 degrees and 50% humidity), paint the surface of the sealant with a chlorine resistant chlorinated rubber or equivalent pool paint, such as Ramuc, in a compatible color as selected by the Architect. NOTE: Latasil cannot be painted.

PART 3 - EXECUTION

3.1 EXISTING CONDITIONS, INSPECTION AND PREPARATION

A. Carefully examine all of the contract documents for requirements that affect the work of this section. Prior to starting any work, notify the General Contractor of defects requiring correction. Do not start work until conditions are satisfactory.

B. Verify that all work by others, related to this section, has been completed. This includes all earthwork, concrete work, and mechanical, electrical and plumbing connections.

C. Protect all materials and work completed by others from damage while completing the work in this section.

3.2 FIELD MEASUREMENTS

A. Verify benchmark and pool location prior to layout.

B. If field measurements differ from the construction drawing dimensions, notification shall be given to the Architect prior to proceeding with work.

3.3 WATER TIGHTNESS TEST

A. This test applies to the pool. The water tightness test shall be completed prior to the application of the pool finish.

B. Water Tightness Test Procedure

1. Preparation

a. Allow the concrete structure to set 28 days for curing purposes. Once the pool shell has gained sufficient strength to withstand the test load and after all the outlets have been securely sealed, the pool shall be filled with water.

2. Fill: Fill and then isolate the pool. The water tightness test shall begin after the vessel has been filled for a minimum of three (3) days. During the filling, all outlets shall be monitored for water tightness and all concrete joints shall be monitored for any visible leakage. If any visible leakage from the vessel is observed, the condition shall be corrected prior to the start of the test.

   a. After the initial fill, all ground water shall be removed from the pool sight sump or the pool location de-watering system. This shall be completed prior to the start of the water tightness test. De-watering of the pool sight sump shall be maintained during the entire duration of the test.

3. Evaporation Measurement Procedure

   a. Fill a floating, restrained, partially filled, calibrated, open container with water and allow the container to float within the pool during the testing period. This will be used to measure evaporation.

4. Measurement

   a. On a separate sheet of paper draw a sketch of the pool. Measurements shall be taken at the pool. Multiple test points with averaging are recommended for vessels which will be exposed to wind. Document the separate findings on the chart below. Repeat the measurements and document every 12 hours for a total of three (3) days. The General Contractor shall check the pool for water loss with the Architect or Owner's representative every 12 hours. The Contractor(s) shall submit photo documentation of each measurement with the completed water tightness report.

Total Allowable Water Loss:	Total Volume: _____	Allowable Loss: (0.1%) x 0.001 = _____
Pool Measurements	Competition Pool	Pan Measurements
12 Hrs.		
24 Hrs.		
36 Hrs.		
48 Hrs.		
60 Hrs.		
72 Hrs.		

5. Total Loss = 7.481 x Structure Surface Area (SF) x Total Water Loss per Day (FT) – Evaporation per Day (FT)

   a. Day #1 =

   b. Day #2 =

   c. Day #3 =

6. Repair

a. The allowable leakage rate for an unlined pool structure shall not exceed 0.1 percent of the total water volume in a 24-hour period. (Example: 0.001 x 200,000 gallon pool = 200 gallons per 24 hour period.) This excludes the loss of evaporation.

7. Absorption

   a. Waiting 3 days after the initial water fill will allow the concrete to absorb water and shall be sufficient to minimize the effect of absorption on the test results.

8. Evaporation

   a. Evaporation shall not have a significant effect on natatoria that are completely enclosed with no air circulation during the water tightness test. However, evaporation will have a significant effect on the water level in natatoria that has air movement across the water surface or are still partially uncovered.

9. If leaks are detected, repair the vessel and make water tight in accordance with these requirements.

10. With regard to this test, the curing requirements, the final fill and the cost of the water for two (2) complete fillings shall be borne by the Owner. Any subsequent fillings or partial fillings (more than 25%) of the pool shall be by the CONTRACTOR, at its own expense.

3.4 PIPING INSTALLATION

A. General

1. Provide and erect, according to the best practices of the trade, all piping shown on the drawings and required for the complete installation of these systems. The piping shown on the drawings shall be considered as diagrammatic in indicating the general run and connections, and may or may not in all parts be shown in its true position. The piping may have to be off set, lowered or raised as required or as directed at the site. This does not relieve the CONTRACTOR from responsibility for the proper erection of the systems or piping in every respect suitable for the work intended as described in the specifications and approved by the Architect. In the erection of all piping, it shall be properly supported and proper provisions shall be made for expansion, contraction and anchoring of piping. All piping shall be cut accurately for fabrication to measurements established at the construction site. Pipe shall be worked into place without springing and/or forcing, properly clearing all windows, doors, and other openings and equipment. Cutting or other weakening of the building structure to facilitate installation will not be permitted. All pipes shall have burrs and/or cutting slag removed by reaming or other cleaning methods in strict accordance with the manufacturer's instructions. All changes in direction shall be made with fittings. All open ends of pipes and equipment shall be properly capped or plugged to keep dirt and other foreign materials out of the systems. Plugs of rags, wool, cotton waste or similar materials will not be used in plugging. All piping shall be arranged so as not to interfere with removal and maintenance of equipment, filters or devices, and so as not to block access to manholes, access openings, etc. Flanges or unions as applicable for the type of piping specified shall be provided in the piping at connections to all items of equipment. All piping shall be installed to ensure noiseless circulation. All valves and specialties shall be so placed to permit easy operation and access.

B. Concrete Inserts

1. Provide inserts for placement in form work before concrete is poured.

2. Provide inserts for suspending hangers from reinforced concrete slabs and sides of reinforced concrete beams.

3. Where concrete slabs form finished ceilings, provide inserts to be flush with the slab surface.

4. Provide hook rods to concrete reinforcement section for inserts carrying pipe over 4 inches.

C. Piping Installation

1. Trench bottoms shall be smooth and free of rocks and debris. If the trench is dug in ledge rock, hardpan or where large boulders are not removed, place 3 inches of sand or compacted fine-grained soil below pipe. Pipe must be supported over its entire length with firm, stable material. Blocking will not be used to change pipe grade or provide intermittent support over low sections in the trench. Surround the pipe with backfill meeting the requirements of Section 31 20 00 with a particle size of 1-1/2 inch or less and in accordance with the project geotechnical report. Compact in layers not to exceed 6 inches with vibratory method. Follow installation methods of ASTM D2774 "Underground Installation of Thermoplastic Pressure Piping".

2. Installations are to be installed in a straight run of pipe, with a minimum 10 pipe diameters upstream and minimum 5 pipe diameters downstream of any pipe fitting.

D. Flushing, Draining and Cleaning Pipe Systems

1. The CONTRACTOR shall flush out all water systems with water before placing them in operation. Other systems shall be cleaned by using compressed air or nitrogen. After systems are in operation and during the test period, all strainer screens shall be removed and thoroughly cleaned.

E. Expansion and Contraction

1. The CONTRACTOR shall make all necessary provisions for expansion and contraction of piping with offsets, loops, flexible connections and anchors as required to prevent undue strain. The CONTRACTOR shall provide shop drawings for proposed method and arrangement for control of expansion and contraction of piping.

F. Testing

1. All piping installation and pressure testing shall be reviewed by the Owner's testing agency before commencement of backfilling. A minimum notice of one (1) week is required prior to review. Results of review shall be documented.

2. All pool related piping, shall be hydraulically pressure tested (with water, not air) to a pressure of not less than 50 PSI for a period of no less than two (2) hours.

3. Contractor is responsible for the maintenance of a sustained 20 PSI pressure on all pool related piping throughout the course of construction.

3.5 EQUIPMENT AND SYSTEMS INSTALLATION

A. The CONTRACTOR shall assemble and install all equipment, special parts and accessories as shown on pool drawings, specifications and shop drawings of the equipment suppliers.

B. The CONTRACTOR shall install all equipment and systems in accordance with manufacturer's directions. Equipment shall all be assembled and in place for final observation.

C. All items necessary to complete this section are shown on the plans or described in the specifications including items that may be purchased by the Owner. Items are detailed and specified as a guide for dimensional purposes. The CONTRACTOR must make provisions accordingly and submit shop drawings and submittals based on that data.

3.6 START-UP AND INSTRUCTION

A. The CONTRACTOR shall supply the services of an experienced swimming pool operator/instructor for a period of not less than 4 hours after the pool has been filled and initially placed in operation. During this period, the Owner's representatives who will be operating the pool shall be thoroughly instructed in all phases of the pool's operation. The CONTRACTOR shall deliver six (6) complete sets of operating and maintenance instructions for the swimming pool, structures, finishes and all component equipment. Prior to leaving the job, the CONTRACTOR shall obtain written certification from the designated Owner's representative acknowledging that the instruction period has been completed and all necessary operating information provided. The CONTRACTOR shall, in his contract, include the cost of four (4) hours of instruction and operational check out by the qualified representative of the CONTRACTOR during the first season of operation.

B. Written reports of each of these visits outlining the pool's operation, competence and performance of the pool's operation personnel, and other pertinent comments shall be submitted to the Owner and Architect/Engineer within one (1) week after each visit.

C. The CONTRACTOR shall provide specific written procedures to be followed for emptying and refilling the pool as mentioned previously in this section. The procedures must be included in the bound volume of operating instructions and references in the front index with a note headed by the words: "CAUTION -- VERY IMPORTANT".

END OF SECTION

13 11 03 - SWIMMING POOL TILE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The drawings and General Provisions of the contract, including General and Supplementary Conditions apply to work of this section.

1.2 SUMMARY

A. The cementitious pool finish shall have ceramic tile markings and trim at locations including the nosings, wall targets, floor lane markings, 4" contrasting bands, construction joint installations, and all other tile installations as shown and detailed on the contract drawings and in strict accordance with these specifications.

B. Add Alternate #1 – Provide an all 2" x 2" ceramic tile finish for the 5,187 SF of swimming pool interior that in of the base bid marcite plaster.

C. The CONTRACTOR shall furnish and install the work of this section.

1.3 RELATED SECTIONS

A. Section 13 11 00 – Swimming Pool

B. Section 13 11 04 – Swimming Pool Cementitious Finish

C. Section 03 01 30 – Maintenance of Cast-in-Place Concrete

D. Section 31 20 00 – Earth Moving

1.4 QUALITY ASSURANCE

A. Reference Standards: Conform to the following standards unless otherwise required herein.

1. American National Standards Institute (ANSI)

a. A108.01 – General Requirements: Subsurfaces and Preparations by Other Trades.

b. A108.02 – General Requirements: Materials, Environmental, and Workmanship.

c. A108.1, Glazed Wall Tile, Ceramic Mosaic Tile, Quarry Tile and Paver Tile installed with Portland Cement Mortar.

d. A108.1C – Contractor's Option: Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar or Installation of Ceramic Tile on a Cured Portland Cement Mortar or Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry Set or Latex-Portland Cement Mortar.

e. A108.5 – Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar.

f. A108.6 – Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile Setting and Grouting Epoxy for the Epoxy Grouting Installation Process.

g. A108.10 – Installation of Grout in Tile Work.

h. A108.13 – Installation of Load Bearing, Bonded, Waterproof Membranes for Thin Set Ceramic Tile and Dimension Stone for the Waterproofing Membrane Installation Process

i. A137.1 Standard Specifications for Ceramic Tile.

2. American Society for Testing and Materials (ASTM)

a. C144-99, Aggregate for Masonry Mortar

b. C150-00, Portland Cement

c. C171-97a, Sheet Materials for Curing Concrete

d. C206-97, Finishing Hydrated Lime

e. C207-91 (R1997), Hydrated Lime for Masonry Purposes

f. D5957, Standard Guide for Flood Testing Horizontal Waterproofing Installations

g. F-1869, Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride

h. F-2170, Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using In Situ Probes

3. Tile Council of North America (TCNA); 2013 Edition, Handbook for Ceramic Tile Installation.

4. International Standards Organization (ISO)

a. ISO 13007 – Part 1: 2004 Ceramic Tiles – Grouts and adhesives; specifies the value of performance requirements for all tile adhesives.

b. ISO 13007 – Part 2: 2005 Ceramic Tiles – Grouts and adhesives; test method for adhesives.

c. ISO 13007 – Part 3: 2005 Ceramic Tiles – Grouts and adhesives; terms, definitions and specifications for grout.

d. ISO 13007 – Part 4: 2005 Ceramic Tiles – Test methods for grout.

5. American Concrete Institute

a. ACI 302 – Guide for Concrete and Floor Slab Construction

6. International Concrete Repair Institute (ICRI)

a. Concrete Surface Profile (CSP)

B. Tile installers shall have two years experience in similar pool projects which the Owner may require written proof thereof and proper tools to install tile.

1.5 MANUFACTURERS

A. Subject to compliance with requirements provide ceramic tile, mortar and grout of the following manufacturers: American Olean Tile Co. (tile), Dal-Tile Co. (tile), Buchtal (tile), KlinkerSire (tile), Mapei Corp. (thin-set, waterproofing, grout and admixtures), and Laticrete International Inc. (thin-set, waterproofing, grout and admixtures) or approved equal.

1.6 SUBMITTALS

A. Submit shop drawings indicating tile layout, patterns, joint layout, color arrangement, perimeter conditions, junctions with dissimilar materials, thresholds and setting details.

B. Submit product data indicating material specifications, characteristics, and instructions for using adhesives and grouts.

C. Samples:

1. Mount tile and apply grout on 24 x 24 inch backerboard to indicate pattern, color variation and grout joint size variations of each pattern. Furnish mounted tile samples as requested by the architect/owner.

D. Submit manufacturer's installation instruction.

E. Submit maintenance data.

1. Include recommended cleaning and stain removal methods, cleaning materials.

1.7 PRODUCT DELIVERY AND STORAGE

A. Deliver tile materials to site in unopened factory containers sealed with grade seals bearing printed name or manufacturer and the words "Standard Grade". Keep the grade seals intact and containers dry until tiles are used. Keep cementitious materials dry until used.

1.8 JOB CONDITIONS

A. Inspect and verify job conditions. Report all defects in base surfaces for correction before proceeding.

B. Maintain a temperature range of 40 degrees Fahrenheit to 90 degrees Fahrenheit during installation of tile and grout materials. Tile installation should cure for a minimum 14 days with average an temperature of 70 degrees, while maintaining the minimum 40 degrees and maximum 90 degrees Fahrenheit, prior to filling pool with water.

C. Vent temporary heaters to outside to avoid carbon dioxide damage to the new tile work.

1.9 COLORS

A. Colors to be recommended by the Architect with final decision made by the Owner. Note that swimming pool regulations may dictate color selections within the pool tank. See 2.01 Tile Materials for price group breakdowns.

1.10 WARRANTIES

A. The CONTRACTOR warrants to the Owner that materials and equipment furnished under the contract will be of good quality and new unless otherwise required or permitted by the contract documents, that the work will be free from defects not inherent in the quality required or permitted and that the work will conform with the requirements of the contract documents. Work not conforming to these requirements including substitutions not properly approved and authorized, may be considered defective. The CONTRACTOR’S warranty excludes remedy for damage or defect caused by abuse, improper or insufficient maintenance, improper operation, modifications not executed by the CONTRACTOR or improper wear and tear under normal usage. If required by the Owner, the CONTRACTOR shall furnish satisfactory evidence as to the kind and quality of materials and equipment. All warranties shall be for a period of five years, unless otherwise specified.

B. All setting materials shall be provided by the same manufacturer. All mixing materials and application procedures shall be done in accordance with manufacturer’s recommendations and requirements. Documentation shall be provided to this effect by the contractor with verification from the manufacturer. This documentation shall be included in the operations and maintenance manual under

warranties as documentation qualifying the project for a 15 Year Systems Warranty by Laticrete International, Inc., Mapei, Inc. or approved equal.

C. The CONTRACTOR shall agree to repair or replace any work at no cost to the Owner upon written notification from the Owner within the warranty period. Pro-rated warranties are not acceptable.

PART 2 - PRODUCTS

2.1 TILE MATERIALS

A. Standard grade conforming to ANSI A137.1. Provide trimmer units as indicated and specified, including special shapes as detailed or required. Tile patterns and colors shall be as indicated and specified, colors of approved shades. Mesh mounted or perforated paper backed tile is not allowed where the mesh of paper remains as a permanent part of the installation. If dot mounting is used, a minimum of 67% of the depth of the tile shall be free from any dots to ensure proper grout curing.

B. All tile shall be “frost-proof”.

C. Unglazed Ceramic Mosaic Tile

1. Alternate #1: Slip-resistant porcelain unglazed ceramic mosaic tile, cushion or all-purpose edges, two inch square from price group 2 for floor, walls, and stair treads unless otherwise noted. Minimum dynamic coefficient of friction shall be 0.42 for wet surfaces and 0.65 for ramped surfaces. Where (special shapes) are required they shall be selected from price group 3. Equivalents provided by Knoxtile, Dal-Tile or American Olean. For wet surfaces: Buchtal Chroma Mosaics with front mount film (seven color options) 2x2 7161HVF or American Olean Unglazed color-body porcelain mosaics 2”x2”, price group 1-3. For ramps: Buchtal Chroma non-slip mosaics with glass fiber net (four color options) 2x2 7161H. Or for wet surfaces or ramps: Buchtal Chroma non-slip 5x5 32020H thirteen color options) or Dal-Tile or American Olean Unglazed color-body mosaics 2”x2” with 7.5% abrasive grain (7 color options). Colors to be recommended by the Architect with final decision made by the Owner.

2. The 15-meter resurfacing marker shall be ceramic tile selected by the Architect from Dal-Tile, Keystone Unglazed Mosaic, 2”x2”, price group 4, American Olean Unglazed color-body porcelain mosaics 2”x2”, price group 1-3.

3. Contrasting ceramic tile nosings at pool stairs shall be selected by the Architect from Dal-Tile, Keystone Unglazed Mosaic, price group 3 and 4, American Olean Unglazed color-body porcelain mosaics 2”x2”, price group 1-3.

4. 4” wide contrasting ceramic tile stripe and 12” lane markers on the pool floor shall be selected by Architect from Dal-Tile, Keystone Unglazed Mosaic, 2”x2” price group 3, American Olean Unglazed color-body porcelain mosaics 2”x2” price group 3, or from Knoxtile, as 4x4 Buchtal Chroma Colors 22010H-717, 5556 Grey Black and 5535 Blue or 2x2 Mosaic 7160HVF 5535 Grey Black. The main race course wall targets and lane markers shall be black. The cross course wall targets and lane markers shall be midnight blue.

2.2 SWIMMING POOL TILE SETTING MATERIALS AND INSTALLATION

A. Refer to section 13 11 00. Contractor to provide tile and setting materials over a waterproof membrane as noted in this section. Refer to and coordinate with the Architectural Drawings for extent and detailing. Coordinate for installation, interface, and flashing between pool and deck waterproofing systems. Confirm all installation requirements with the manufacturer.

B. Surface Preparation

1. Surface preparation shall be in accordance with ACI 302. The surface shall be structurally sound and free of any foreign substances and debris that could reduce or impair adhesion. Sound and remove all loose concrete to firm substrate. Surfaces shall be roughened by bead blasting to a CSP of 2 or 3 (reference ICRI CSP Standards 7 to 9 for acceptable profile height). Thoroughly wash/rinse with clean potable water. Surface defects or holes in the substrate shall be patched per manufacturer's recommendations.

2. Moisture vapor emissions rate (MVER) when measured with a calcium chloride test (ASTM F-1869) shall be less than 5 lbs per 1000 SF per 24 hours. Relative humidity shall be measured with a probe and shall be less than 75%.

3. At the conclusion of all surface preparation and prior to the installation of the tile, measure the pH level of the substrate. Tile work components shall not be installed until the pH has a value less than 10.

C. Slurry Bond Coat

1. Horizontal surfaces to receive a thick bed mortar application with waterproofing and finishes is to be installed over a slurry bond coat of either Laticrete 254 Platinum one-step, polymer-fortified, thin-set, or , Mapei 4:1 bag mix with Planicrete AC Additive over firm concrete substrate. As manufactured by Laticrete International, Mapei, Inc., or approved equal. Note that slurry bond coats are not required under vertical applications of the render and scratch coat.

D. Mortar Bed / Render and Scratch Coat

1. Bonded Thick Bed Method (Floor / Horizontal Surfaces): Provide a dry pack, thick mortar bed on horizontal surfaces consisting of either Laticrete 3701 Fortified Mortar Bed, or Mapei, 4:1 bag mix with Planicrete AC Additive. Apply over a properly prepared slurry bond coat. Maximum lift thickness not to exceed 2".

2. Render- Scratch and Float Coats (Wall / Vertical Surfaces): Provide wall render (scratch and float coats) on vertical competition turning surfaces to a depth of 4 feet below the water surface, consisting of either Laticrete 3701 Fortified Mortar Bed (formerly Laticrete 226 Thick Bed Mortar mixed with Laticrete 3701 Admix now polymer modified), or Mapei, 4:1 bag mix with Planicrete AC Additive or lift thicknesses up to ½". Wall render is made to a plastic consistency when used vertically. Apply scratch coat to properly prepared substrate, scratch mortar surface and allow to harden. Apply subsequent "float coat" lifts to hardened, clean and well bonded scratch coated surfaces. Fill all holes and bring surface up to line and plane as required. As manufactured by Laticrete International, Mapei, Inc. or approved equal. Note that slurry bond coats are not required under vertical applications of the render and scratch coat. (Refer to Course Length Tolerances for competitive pools.)

E. Waterproof Membrane

1. Waterproofing shall be a modified rubber latex system intended specifically for the application. It shall be part of a compatible finish system from the surface of the concrete to the tile grout / plaster finish, be of one approved manufacturer and warranted by them. Waterproofing shall extend uniformly from coping to coping, without gaps or holidays, sealed at all fittings and penetrations, over which shall be applied tile swimming pool finishes as required.

2. Over thick bed mortar / render and/or scratch coat apply Laticrete's HydroBan or Mapei's Mapelastic Aquadefense single component, self-curing liquid rubber polymer waterproofing membrane. Apply to twenty mils thick minimum, without gaps, holes or holidays and three coats with reinforcing fabric over properly prepared corners, cracks and joints. Carefully seal at all pipe and equipment penetrations. Refer to drawings for additional information. As manufactured by Laticrete International, Mapei, Inc. or approved equal.

F. Elastomeric Sealant

1. Use Laticrete Latasil sealant for all inside/outside corners, expansion/movement joints, and to seal lighting/plumbing fixture penetrations. Apply sealant over Latasil 9118 primer. All primer and sealant installation shall be in accordance with the manufacturer's requirements. As manufactured by Laticrete International, Inc., or approved equal.

G. All mixing and application procedures shall be done in accordance with the manufacturer's recommendations and requirements. The manufacturer's representative shall visit the site to verify field conditions, confirm materials and application requirements and ascertain that all materials and systems are so installed. Documentation shall be provided to this effect.

H. Tile Thin-Set

1. Use either Laticrete 254 Platinum one-step, polymer fortified, thin-set mortar or Mapei Ultraflex 3 one-step, polymer modified, thin-set mortar, used in accordance with the manufacturer's requirements. As manufactured by Laticrete International, Mapei, Inc., or approved equal.

I. Tile Grout

1. Epoxy Based Grout – Use either Laticrete Spectra LOCK Pro Premium Grout or Mapei Kerapoxy CQ Grout in accordance with the manufacturer's requirements as manufactured by Laticrete International, Mapei, Inc. or approved equal.

PART 3 - EXECUTION

3.1 PREPARATION

A. Complete water tightness test prior to tile installation. Concrete tank shall be watertight per ASTM D5957, the Tile Council of North America, and specification 131100.

B. Clean substrates of dust, dirt, oil, grease and deleterious substances and mechanically roughen concrete and shotcrete for bond. Conform to applicable reference standards and to recommendations of manufacturers of materials used and meeting ICRI, CSP of 2-3.

C. Substrates to Receive Mortar Setting Beds

1. Dampen concrete substrate to receive tile work according to above referenced standards or tile manufacturer's instructions, as required.

D. Substrates to receive thin set tile applications shall meet normal construction tolerances of 1/4" in 10' where competition tolerances do not apply, and shall meet competition tolerances where required elsewhere in these specifications, and shall be free of bumps, dips and surface irregularities that may effect the satisfactory installation of the tile.

E. Tile Wetting

1. Dampen tile according to above reference standards or tile manufacturer's instructions, as required.

F. Screeds

1. Accurately set temporary screeds to control the finish plane of mortar-bed set tile and remove as soon as setting bed is sufficiently hardened. Fill void spaces from screeds with same mortar.

3.2 TILE INSTALLATION

A. Arrange tile according to patterns detailed. Set tile with flush well-fitted joints, finished in true planes, plumb, square, joints of uniform size. Provide approved trimmers as shown or required. Cut tile without marring. Carefully grind and joint tile edges and cuts.

B. Follow Tile Council of North America installation methods P601 and B417 to achieve total tile system thickness for thin or thick-set.

1. Thick Set

   a. Apply specified setting bed mortar, up to 2” in thickness, on cured and dried concrete pool shell. Tamp and screed to required planes. Spread no more mortar than can be covered with tile before initial set. Do not use re-tempered mortar. Trowel 3/32” to 1/8” thick bond coat over plastic setting bed mortar just before setting tile or apply bond coat to back of each tile placed. 95% coverage of the back of the tile or tile sheet is required. Set tile in position and beat firmly into the setting bed mortar. Bring tile faces to a true and correct plane. Complete all beating and leveling before mortar sets and in no case later than one hour after first placing. When ready, wet and remove paper and glue avoiding excess water. At this time adjust any out-of-line or out-of-level tile.

2. Thin Set

   a. Apply specified bond coat on cured and dried concrete pool shell. Trowel 3/32” to 1/8” thick bond coat over concrete pool shell just before setting tile or apply bond coat to back of each tile placed. 95% coverage of the back of the tile or tile sheet is required. Set tile in position and beat firmly into the setting bed mortar. Bring tile faces to a true and correct plane. Complete all beating and leveling before mortar sets and in no case later than one hour after first placing. When ready, wet and remove paper and glue avoiding excess water. At this time adjust any out-of-line or out-of-level tile.

C. Finished tile surface shall be level and in plane, with no sharp or protruding edges. Tiles out or plane more then 1/16" shall be removed and replaced. Sharp edges shall be stoned smooth.

D. Grout Joint Sizes

1. Unless otherwise approved, install tile with uniform 3/32 inch joint width. A maximum 1/8" joint width may be utilized to meet specific installation requirements, if required.

E. Ceramic Tile Joint Grouting

1. Mix grout to a thick creamy consistency and force into joints for entire thick depth, flush with surface. Clean off all excess and fill skips and gaps before grout sets. Colors to be recommended by the Architect with final decision made by the Owner. Provide dampness for minimum 3-day curing and polish with clean dry cloths (not required when epoxy grouts are used).

F. Expansion Joints

1. Place expansion joint per applicable TCNA Method P601MB, P601TB, or P602 and conforming to Method EJ171. Provide shop drawings showing backer rod and joint dimensions. All expansion, control, construction, cold, and seismic joints in the pool structure should continue through the tile work, including such joints at vertical surfaces. Movement joints shall be placed at all changes in direction and elevation. Refer to the structural engineer for additional required movement joints. Joint size shall be a minimum of 1/8”. Joints through tile work directly over structural joints shall not be narrower than the structural joint. The Contractor shall use cement compatible coatings when using chalk lines for joint layout purposes.

G. Fill and Empty Rates

1. Use a fill and drain rate of 2 feet per 24 hours to minimize thermal shock and structural movement. Maintain a temperature differential of 10 degrees Fahrenheit or less between the pool water and the substrate during fill and drain cycles.

3.3 TESTING AND INSPECTION

A. Before filling of the pool, and its subsequent provisional acceptance at substantial completion, the tile installation shall be visually inspected and sounded in the presence of the Architects and/or the Owner's representative to verify adhesion of the tile to its substrate as well as its overall compliance with the requirements of this Section.

B. Any and all tile work found to be loose, improperly adhered, out of plane, misaligned or otherwise non-conforming shall be removed and replaced at no additional cost to the Owner.

C. Monitor the pH level of the substrate prior to laying tile. Do not install tile until the pH has a value less than 10. Properly balance the pool water immediately upon fill.

D. At the conclusion of all surface preparation and prior to the installation of tile, measure the relative humidity of the slab. The relative humidity shall not exceed 75%.

E. At the conclusion of all surface preparation and prior to the installation of the tile, measure the moisture vapor emissions rate (MVER) with a calcium chloride test (ASTM F-1869). The MVER shall be less than 5 lbs per 1000 SF in 24 hours.

3.4 CLEANING

A. Upon completion of placement and grouting, clean tile installation as recommended by TCNA and manufacturers of proprietary materials. Tile shall be cleaned with pH neutral solutions, free of both sodium and potassium, in accordance with the tile and grout manufacturer's printed instruction.

B. Leave finished installation clean and free of cracked, chipped, broken, un-bonded or otherwise defective tile work.

C. Protect installed tile work with non-staining Kraft paper, polyethylene sheeting, or other approved heavy covering during the construction period to prevent damage.

3.5 REPLACEMENT TILE

A. Provide Owner with approximately 10% or 25 square feet (whichever is least) of each color and type tile used on the project for Owner's repair and replacement requirements.

END OF SECTION

131104 - SWIMMING POOL CEMENTITIOUS FINISH

PART 1 - GENERAL

1.1 SUMMARY

A. Provide a conventional white marble plaster interior finish to the pool structure. Provide installation of bond coat prior to application of pool finishes. A ceramic tile trim shall be furnished and installed on the nosings, wall targets, floor lane markings, 5'-0" depth contours, construction joints, and all other tile installations as shown and detailed on the contract drawings and in strict accordance with these specifications.

B. Provide water analysis and pre-fill requirements.

1.2 SUBMITTALS

A. Samples

1. Prepare 12-inch square panel at the site showing color and texture for pool plaster. Finished cementitious finish work shall match the approved sample panel.

B. Certificates

1. Submit certificates attesting that the materials furnished meet the requirements specified herein.

C. Test Report

1. Submit results of domestic water analysis and calculation of amounts of chemicals required to balance pool water on initial fill of pool.

1.3 PRODUCT DELIVERY AND STORAGE

A. Deliver manufactured materials to site in manufacturers' original unbroken packages or containers bearing manufacturers' name and brand labels. Keep cementitious materials dry until ready to be used and stored off the ground, under cover and away from damp surfaces.

1.4 JOB CONDITIONS

A. Apply plaster in swimming pool only when ambient temperature is above 40 degrees F and below 90 degrees F, and protect applied plaster from rapid drying by sun or wind until curing is completed or pool is filled with water. Confirm and comply with all applicable manufacturer's installation requirements.

1.5 QUALITY ASSURANCE

A. Plaster installers shall have two years' experience in similar pool projects which the Owner may require written proof thereof and proper tools to install plaster.

1.6 SURFACE PREPARATION

A. Surface Preparation

1. Surface shall be structurally sound and free of any foreign substances and debris that could reduce or impair adhesion, free of dirt, oil, grease or other foreign materials. Sound and remove all loose concrete to firm substrate. Surfaces shall be roughened by sand blasting, water jetting, shot blasting, scarifying, or grinding. Pressure-wash the entire surface. Wash with trisodium phosphate (TSP) using a stiff broom. Thoroughly wash/rinse with clean potable water. Surface defects or holes in the substrate shall be patched per manufacturer's recommendations.

2. Apply and cure bond coat per manufacturer's recommendations. After proper curing of bond coat, lightly moisten with clean potable water prior to application of cementitious finish. Ensure bond coat is free of any foreign matter prior to plastering.

PART 2 - PRODUCTS

2.1 GENERAL MATERIALS AND REQUIREMENTS

A. Portland Cement
   1. ASTM C150, type I white Portland cement.

B. Hydrated Lime
   1. ASTM C206, type S.

C. Aggregates for Conventional Pool Plaster Finish Coat
   1. White marble aggregates uniformly graded within following limits, all passing the no. 30 sieve (percentage retained (by weight plus or minus 2%) on each sieve):

Sieve Size	Minimum	Maximum
No. 30	0	0
No. 50	25	50
No. 100	75	90
No. 200	90	100

D. Water
   1. Clean, fresh, from domestic potable source.

E. Bond Coat
   1. Scratch Kote System by Multicoat Corporation, Bond Kote by SGM, Inc., or approved equal. Apply and cure bond coat per manufacturer's recommendations. After proper curing of bond coat, lightly moisten with clean potable water prior to application of cementitious finish. Ensure bond coat is free of any foreign matter prior to plastering. Refer to waterproof section of Swimming Pool specification, section 13 11 00.

F. Proportions and Mixing
   1. Materials are specified on a volume basis and shall be measured in approved containers which will ensure that the specified proportions will be controlled and accurately maintained during the progress of the work. Measuring materials with shovels ("shovel count") is not permitted.
   2. Conventional White Marble Pool Plaster Finish Coat: Mix finish in proportion of one part by volume of white Portland cement to not more than two parts by volume of aggregates (specified white marble dust).
   3. Mixing
      a. Perform mixing in approved mechanical mixers of the type in which quantity of water can be controlled accurately and uniformly. While mixer is in continuous operation, charge approximately 90% of estimated quantity of water, half of sand, all cement, and the other one-half of the sand into mixer in that sequence and mix thoroughly with remainder of water until mixture is uniform in color and consistency. Avoid excess mixing to prevent hasty solution of cement resulting in accelerated set. Discard plaster that has begun to set before it is used; re-tempering is not allowed. Do not use any caked or lump materials. Completely empty mixer and mixing boxes after each batch is mixed and keep free of old plaster.
   4. Coverage
      a. Each 80 lb. bag shall cover approximately 25 square feet to a thickness of 3/8".

PART 3 - EXECUTION

3.1 PREPARATION OF SURFACES AND BOND COAT

A. Clean base surfaces of projections, dust, loose particles, grease, bond breakers, and foreign matter; make sufficiently rough to provide a strong mechanical bond. Sandblast, acid etch, or waterblast to achieve appropriate profile. If acid etching, surfaces must be neutralized and powerwashed prior to proceeding. Do not apply cementitious finishes directly to the surfaces of masonry or concrete that is coated with any acidic solution compound or similar agent until compound or agent is completely removed by water blasting. Thoroughly wash entire surface with 2,000 psi high-pressure water immediately prior to application of finishes. Wet cementitious base surfaces with a fine fog water spray to produce a uniformly moist condition and check screeds, pool equipment, and accessories for correct alignment before work is started. Do not apply finish materials to base surfaces containing frost. Install temporary coverings as required to protect adjoining surfaces from staining or damage by plastering operations.

B. Prepare and clean concrete surfaces by removing oil or grease. Repair all cracks, surface damage as required prior to proceeding. Protect or mask all adjacent surfaces that are not scheduled to receive cementitious finish. If expansion or construction joints exist in the areas where cementitious finish will be applied cover plastic joints for protection (if plastic joints are used). Additionally, mark joints for saw-cutting if area will be saw-cut.

C. Apply and cure bond coat per manufacturer's recommendations. After proper curing of bond coat, lightly moisten with clean potable water prior to application of cementitious finish. Ensure bond coat is free of any foreign matter prior to plastering.

D. Contractor to thoroughly verify the site conditions prior to the application of cementitious finish. Verify concrete is free of ridges and sharp projections. Verify that all concrete surfaces that are to receive a cementitious finish have cured for a minimum of 5 days. Consideration should be given for the application of a primer for all concrete structures that is over 28 days old to improve bonding.

3.2 APPLICATION OF CEMENTITIOUS FINISH

A. General

1. Confirm all application requirements with the manufacturer. Apply finish plaster to the properly prepared substrate at the minimum thickness required by the manufacturer, but no less than 3/8 inch thickness at any location. Apply finish plaster by hand or machine. If plastering machine is used, control fluidity of plaster to have a slump not exceeding 2-1/2 inches when tested using a 2" by 4" by 6" high slump cone. Do not add additional water to the mix subsequent to determining water content to meet this slump. Perform slump test according to following procedure:
   a. Place cone on level, dry non-absorptive base plate.
   b. While holding cone firmly against base plate, fill cone with plaster taken directly from hose or nozzle of plastering machine, tamping with a metal rod during filling to release all air bubbles.
   c. Screed off plaster level with top of cone. Remove cone by lifting it straight up with a slow and smooth motion.
   d. Place cone in a vertical position adjacent to freed plaster sample suing care not to jiggle base plate.
   e. Lay straightedge across top of cone being careful not to vibrate cone; measure slump in inches from bottom edge of straightedge to the top of slumped plaster sample.
2. All mixing of materials and application procedures shall be done in accordance with the manufacturer's recommendations and requirements. The manufacturer's representative shall visit

the site to verify field conditions, confirm materials and application requirements and ascertain that all materials and systems are so installed. Documentation shall be provided to this effect.

B. Workmanship

1. Unless otherwise required by the manufacturer, apply finish plaster in two coats by "double-back" method with second coat applied as soon as first coat is tamped and initially floated. Apply plaster with sufficient pressure to provide a good bond on bases. Work plaster to screeds at intervals of from 5 feet to 8 feet on straight surfaces. Apply smooth trowel finish without waves, cracks, trowel marks, ridges, pits, crazing, discoloration, projections, or other imperfections. Form plaster carefully around curves and angles, well up to screeds. Take special care to prevent sagging and consequent drooping of applications. Produce surfaces free of visible junction marks in finish coat where one day's work adjoins another. Finish proprietary plaster as required by the manufacturer.
2. All cementitious finishes shall be applied by a licensed applicator as approved by the manufacturer.
3. Waterproofing system shall be provided with a manufacturer’s warranty of no less than 10 years.

C. Curing

1. Curing cementitious finishes with fine fog water spray applied to finish coat as frequently as required to prevent dry-out of surface, or as directed by the manufacturer of the cementitious finish. Keep plaster damp until pool is filled. Prevent damage or staining of plaster by troweling or curing.

D. Patching, Pointing, and Cleaning Up

1. Upon completion, cut out and patch loose, cracked, damaged, or defective plaster; patches matching existing plaster in texture, color, and finish, flush with adjoining plaster. Perform pointing and patching of surfaces and plasterwork abutting or adjoining any other finish work in a neat and workmanlike manner. If 10 percent or more of the pools plaster finish is found to be defective, the plaster shall be removed and replaced complete from all surfaces. Remove plaster droppings or spattering from all surfaces. Leave plaster surfaces in clean, unblemished condition ready for pool filling. Remove protective coverings from adjoining surfaces. Remove rubbish and debris from the site.

3.3 PRE-FILL SPECIFICATION

A. Contractor shall employ a qualified water testing agency to analyze the domestic water with which the pool will be filled within 2 weeks of the plaster date, and shall employ a swimming pool experienced water chemistry consultant to determine types and quantities of chemicals required to ensure calcium-balanced water immediately upon the completion of water filling. Refer to section 13 11 00 for water filling requirements.

1. Have on hand quantities of the chemicals as determine above, plus 25% overage for follow-up treatment. These chemicals, typically including calcium chloride, bicarbonate of soda, and muriatic acid are in addition to standard bromine/chlorine products and alkalizer/pH control products required elsewhere.

B. The pool shall not be plastered until directed by the Owner’s representative and the filtration system and chlorination system are complete and ready for start-up. The Contractor shall supply all chemicals required for treatment of the pool water.

C. The Contractor shall submit domestic water analysis to the Owner and/or Architect at least 2 weeks prior to filling the pool.

END OF SECTION

SECTION 312000 - EARTH MOVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Excavating and backfilling for structures.
2. Excavating and backfilling trenches for utilities.

1.2 DEFINITIONS

A. Backfill: Soil material used to fill an excavation.
1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
2. Final Backfill: Backfill placed over initial backfill to fill a trench.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct preexcavation conference at Project site.

1.4 INFORMATIONAL SUBMITTALS

A. Material test reports.

1.5 FIELD CONDITIONS

A. Utility Locator Service: Notify utility locator service for area where Project is located before beginning earth-moving operations.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
B. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940/D2940M; with at least 90 percent passing a 1-1/2-inch (37.5-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth-moving operations.

3.2 COMPACTION OF BACKFILLS

A. Place backfill and fill soil materials in layers not more than 8 inches (200 mm) in loose depth for material compacted by heavy compaction equipment and not more than 4 inches (100 mm) in loose depth for material compacted by hand-operated tampers.

B. Place backfill materials evenly on all sides of structures to required elevations and uniformly along the full length of each structure.

C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D1557:

1. Under all structures, scarify and recompact top 12 inches (300 mm) of existing subgrade and each layer of backfill or fill soil material at 95 percent.

3.3 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified geotechnical engineering testing agency to perform tests and inspections.

B. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.

1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

END OF SECTION