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Invitation for Sealed Bids

Renovations at Western Heights

Solicitation Number	C19010
Due Date	November 8, 2018
Due Time	2:00 p.m. EST
Deliver Responses to	Knoxville's Community Development Corporation Procurement Division 901 N. Broadway Knoxville, TN 37917 The Procurement Building is behind the main office building.
Electronic Copies	Electronic copies are available on KCDC's webpage or by email at **purchasinginfo@kcdc.org**.
Responses may be emailed to KCDC	☐ Yes ☒ No
Printed responses required	☒ Yes ☐ No
Solicitation Meeting	☒ Yes ☐ No
Solicitation Meeting is Mandatory	☐ Yes ☒ No
Solicitation Meeting Date	October 24, 2018
Solicitation Meeting Time	2:00 p.m.
Solicitation Meeting Location	In KCDC's Board Room at 901 N Broadway in Knoxville.
Site Tour	Following the pre-bid meeting.
Questions About This Solicitation	KCDC will not accept questions via telephone. Submit questions to **purchasinginfo@kcdc.org by** 4:00 p.m. on November 1, 2018**.**
Award Results	KCDC posts a summary of the proposals received and the award decision to its web page: **http://www.kcdc.org/procurement/**
Open Records/Public Access to Documents	All document provided to KCDC are subject to the Tennessee Open Meetings Act (TCA 8-44-101) and open records requirements.
Plans/Blueprints	Blueprints/plans are available from ACS Printing, 201 Center Park Drive Suite 1120, Knoxville, TN 37922. Call 309-4287 or **craig@acsprint.com**

Check KCDC's webpage for addenda and changes before submitting your response

General Information

1. **Background and Intent**

a. Knoxville's Community Development Corporation (KCDC) is the public housing and redevelopment agency for the City of Knoxville and for Knox County in Tennessee. KCDC's affordable housing property portfolio includes 20 sites with approximately 3,525 dwelling units. KCDC also oversees approximately 3958 Section 8 Vouchers, 82 Moderate Rehabilitation units and 20 Redevelopment areas. Several of the properties have transformed to the Project Based Rental Assistance program (PBRA) and KCDC is the management company for those sites. The properties for which KCDC is the management company include Five Points 1, LP; Lonsdale Homes, LP; Northridge Crossing, LP and The Vista at Summit Hill, LP.

b. Western Heights, one of KCDC's properties, has received an emergency grant for work to control water infiltration issues and remediate mold issues in 244 of Western Heights 440 units. This solicitation's purpose is to select a supplier to accomplish the required renovations described herein.

c. Work details are in the scope of work section herein.

2. **Bonds**

Bid, payment and performance bonds are required if the bid exceeds $100,000 in value. Bonding requirements include:

a. A bid bond from each supplier equivalent to five percent (5%) of the bid price. Such bid bond must accompany the bid. Bid bonds will not be returned until a contract is signed.

b. Performance and payment bonds for 100% of the contract price.

c. All bonding companies must be listed in the Federal Register, Department of the Treasury Fiscal Service, Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies; Notice. Companies licensed to do business in the State of Tennessee must issue all required bonds.

3. **Changes after Award**

It is possible that after award KCDC will need to revise the service needs or requirements specified in this document. KCDC reserves the right to make such changes after consultation with the supplier. Should additional costs arise, the supplier must document increased costs. KCDC reserves the right to accept or reject and negotiate these charges.

4. **Codes and Ordinances**

All work covered is to be done in full accord with national, state and local codes and ordinances and orders that are in effect at the time the work is performed.

5. **Contact Policy**
   The supplier may not contact anyone at KCDC, other than the KCDC's Procurement Division, about matters pertaining to this solicitation, from the issuance of this solicitation until its award. Information obtained from an unauthorized officer, agent or employee of KCDC will not affect the risks or obligations assumed by the supplier or relieve the supplier from fulfilling any of the conditions of the project. Such contact can disqualify the supplier from participation in the solicitation process.

6. **Contract Approval**
   The resulting contract is subject to KCDC's Board approval at its November meeting.

7. **Contract Documents**
   KCDC has posted a prototype of its standard contract and rider that will be used to its webpage. Please review these documents before submitting a bid.

8. **Damage**
   The supplier is responsible for all damage to buildings, equipment, grounds, premises and all other types of potential damage resulting from the provision of the services requested herein.

9. **Employees**
   Supplier will:

a. Allow only personnel thoroughly trained and skilled to work on the job.

b. Have sufficient personnel to complete the work in a timely manner.

c. Enforce strict discipline and good order among his/her employees.

d. Provide at least one employee on every job assignment with the ability to speak, read, write and understand English so KCDC's staff can communicate effectively with them.

e. Employ the quantity and quality of supervision necessary for both effective and efficient management at all times.

f. Ensure that employees have proper identification displayed while on the job site. Employees must wear a company uniform or have photo identification badges at all times.

g. Employees parking vehicles (whether corporately or privately owned) must ensure that company identification is on the vehicles. This may be by placards on the vehicle's side, laminated paper with the company name placed on the dashboard or other means.

10. **Entrance to Sites**
    Supplier employees are not to be on KCDC premises unless they are working on a KCDC project. Acquaintances, family members, assistants, or any person not working on KCDC's behalf will not accompany employees on KCDC sites.
11. **Equipment**
    Supplier shall provide all necessary equipment, materials, supplies, et cetera needed for the work. Include the cost for such equipment, materials and supplies in the price quoted.

12. **Evaluation**

KCDC will evaluate this as a formal sealed bid and the award is to the "lowest and best." KCDC alone determines (using NIGP's definition and other relevant sources as appropriate) the supplier's "responsive" and "responsible" status prior to award. Responsible means a business with the financial and technical capacity to perform the requirements of the solicitation and subsequent contract. A responsive bid is one that fully conforms in all material respects to the solicitation document and all of its requirements, including all form and substance. KCDC reserves the right to request additional information to assist in the evaluation process; this includes references and business capacity information.

13. **General Instructions**

KCDC does not insert "General Instructions to Suppliers" in solicitation documents. These instructions are at www.kcdc.org. Click on "Procurement" and the link to the instructions. The supplier's submittal means acceptance of the terms and conditions set forth in KCDC's "General Instructions to Suppliers."

14. **Indemnity and Hold-Harmless**

State of Tennessee laws and requirements for local governments (which KCDC is), do not allow KCDC to indemnify suppliers. Nor do the State's laws allow KCDC to limit supplier responsibility.

15. **Insurance**

The supplier shall maintain, at supplier's sole expense, on a primary and non-contributory basis, at all times during the life of the contract insurance coverages, limits, and endorsements described herein. All insurance must be underwritten by insurers with an A.M. Best rating of A-: VI or better. Upon award, the supplier shall provide Certificate(s) of Insurance to KCDC evidencing said insurance coverages.

The supplier agrees the insurance requirements herein as well as KCDC's review or acknowledgement, is not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the supplier under this contract. KCDC's failure to require a certificate of insurance, acceptance of a non-conforming certificate, or allowing the supplier to commence work shall not operate as a waiver of these minimum insurance requirements or the liabilities and obligations assumed by the supplier under this contract.

a. *Commercial General Liability Insurance:* occurrence version commercial general liability insurance with a limit of not less than $2,000,000 each occurrence for bodily injury, personal injury, property damage, and products and completed operations. If such insurance contains a general aggregate limit, it shall apply separately to the work/location in this contract or be no less than $3,000,000.

Such insurance shall contain or be endorsed to contain a provision that includes KCDC, its officials, officers, employees, and volunteers as additional insureds with respect to the supplier's ongoing and completed operations, providing coverage at least as broad as CG 20 10 07 04 and 20 37 07 04 endorsements. The coverage shall contain no special limitations on the scope of its protection afforded to the above-listed insureds.

The Additional Insured shall read "Knoxville's Community Development Corporation (KCDC)".

If necessary, umbrella/excess liability insurance can be used in conjunction with the general liability insurance to meet these requirements. Unless the umbrella/excess liability insurance provides coverage on a pure/true follow-form basis, or KCDC is automatically defined as an additional insured, the supplier shall add by endorsement, KCDC, its officials, officers, employees, and volunteers as an additional insured for both ongoing and completed operations, providing coverage at least as broad as CG 20 10 07 04 and 20 37 07 04 endorsements.

b. *Automobile Liability Insurance:* including vehicles owned, hired, and non-owned, with a combined single limit of not less than $1,000,000 each occurrence. Such insurance shall include coverage for loading and unloading hazards. Such insurance shall contain or be endorsed to contain a provision that includes KCDC as additional insureds

c. *Workers' Compensation Insurance and Employers Liability Insurance:* with statutory limits as required by the State of Tennessee or other applicable laws and Employers Liability.

d. *Pollution Liability Insurance*: Supplier shall maintain pollution liability coverage, ISO CG 0039, or equivalent. If the coverage is written on a claims-made form:

1. The "Retro Date" must be shown and must be before the date of the contract or the beginning of contract work.

2. Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of the contract work and acceptance by KCDC.

3. If coverage is cancelled or non-renewed and not replaced with another claims- made policy form with a "Retro Date" prior to the contract effective date, bidder must purchase "extended reporting" coverage for a minimum of five (5) years after completion of contract work.

e. *Other Insurance Requirements:* Supplier shall:

1. Upon award, furnish KCDC with original Certificates of Insurance and amendatory endorsements effecting coverage required by this section. Certificates of Insurance shall provide a minimum 30-day endeavor to notify KCDC of cancellation when available by supplier's insurance.

   If the supplier receives a non-renewal or cancellation notice from an insurance carrier affording the required coverage, or receives notice that coverage no longer complies with the insurance requirements herein, supplier shall notify KCDC by email or fax within five (5) business days and provide a copy of the non-renewal for cancellation notice or written specifics as to which coverage is no longer in compliance.

2. Provide certified copies of endorsements and policies if requested by KCDC in lieu of or in addition to Certificates of Insurance.

3. Replace certificates, policies, and endorsements for any such insurance expiring prior to completion of services.

4. Maintain such insurance from the time services commence until services are completed. Failure to maintain or renew coverage or to provide evidence of renewal may be treated by KCDC as a material breach of contract.

5. Require all sub-contractors to maintain during the term of the resulting contract commercial general liability insurance, automobile liability insurance, and workers' compensation/employer's liability insurance (unless sub-contractors' employees are covered by supplier's insurance) in the same manner and limits as specified for the supplier, including requirements for additional insured endorsements and waivers of subrogation. Supplier shall furnish sub-contractor(s)' Certificates of Insurance to KCDC without expense prior to sub-contractor(s) commencing work.

6. Any deductibles and/or self-insured retentions greater than $50,000 must be disclosed to and approved by KCDC prior to the commencement of services. Use of large deductibles and/or self-insured retentions will require proof of financial ability as determined by KCDC.

7. Provide a waiver of subrogation for each required policy herein. When required by the insurer, or should a policy condition not permit supplier to enter into a pre-loss agreement to waive subrogation without an endorsement, the policy should be endorsed with a Waiver of Transfer of Rights of Recovery Against Others, or its equivalent. This waiver of subrogation requirement shall not apply to any policy which includes a condition specifically prohibiting such an endorsement, or voids coverage should supplier enter into such an agreement on a pre-loss basis.

8. All policies must be written on an occurrence basis.

g. Right to Revise or Reject: KCDC reserves the right, but not the obligation, to review or revise any insurance requirement, not limited to limits, coverages and endorsements based on insurance market conditions affecting the availability or affordability of coverage; or changes in the scope of work / specifications affecting the applicability of coverage.

h. No Representation of Coverage Adequacy: The coverages, limits or endorsements required herein protect the primary interests of KCDC, and the supplier agrees in no way should these coverages, limits or endorsements required be relied upon when assessing the extent or determining appropriate types and limits of coverage to protect the supplier against any loss exposures, whether as a result of the project or otherwise.

i. Once KCDC sends the successful supplier the notification of intent to award, the supplier is required to provide a Certificate(s) of Insurance evidencing coverage as required above within the timeline detailed noted below. Failure to comply within the set timeframe may constitute unresponsiveness and KCDC reserves the right, at its sole discretion, to reconsider the award.

KCDC has determined the following timeline applies to this solicitation:

General Services:	7 calendar days	☐ Yes	☒ No
Construction Services	15 calendar days	☒ Yes	☐ No

16. **Invoicing**

a. KCDC will process pay applications once per month.

b. Suppliers are required to submit invoices within 90 days following the delivery of the goods or services. KCDC may deny invoices submitted after the 90-day threshold.

c. KCDC normally pays by electronic transfer (ACH) only. KCDC does not issue checks. Suppliers will need to set up their access to KCDC's Supplier Portal to track actual payments made.

d. KCDC's purchases of goods are exempt from Tennessee sales and use tax pursuant to Tennessee Code Annotated 67-6-329(a) (4) and KCDC is generally exempt from the Federal Excise tax. Suppliers are subject to Tennessee sales and use tax on all materials and supplies used in the performance of a contract, whether such materials and supplies are purchased by the supplier, produced by the supplier, or provided to the supplier by KCDC, pursuant to Tennessee Code Annotated 67-6-209. The supplier will pay all taxes incurred in the performance of an awarded contract. Upon the placement of a purchase order or the award of a contract, KCDC will provide a State of Tennessee Sales Tax Exemption form to the supplier. KCDC will not pay taxes on invoices.

17. **Licensure**

a. Suppliers must possess and maintain proper licensure from the State of Tennessee and all other authorities having jurisdiction throughout the term of this award.

b. In addition to any City or County licenses that may be required, all suppliers must be licensed as required by the State of Tennessee's "Contractor's Licensing Act of 1994."
Any subsequent rulings by the State Licensing Board automatically revise these specifications-irrespective of the timing of the notice from the State and irrespective of the status of this solicitation. The Executive Director of the State Contractor Licensing Board says one of these licenses is required:

- BC
- BC-B
- BC-b(sm)

18. **Liquidated Damages**
Liquidated damages of $300.00 per calendar day for each day beyond the scheduled completion date apply and are included in the award. However, KCDC will consider explanatory information if it provides a valid reason for delays in schedule.

19. **Materials and Workmanship**
All materials and equipment furnished shall be new and of high quality. Work shall be accurate, skilled and subject to approval of KCDC. All materials and equipment provided shall conform to regulations of enforcement bodies having jurisdiction. Supplier shall furnish material samples for approval if desired by KCDC.

20. **Measurements and Drawings**
Complete responsibility for the final determination of dimensions lies with the supplier. The supplier shall verify all dimensions with the actual on-site conditions. Where the supplier's work is to join another trade, the supplier's shop drawings shall show actual dimensions and the method of joining the work of those trades.

21. **Permits**
The supplier shall obtain and pay for or cause its subcontractors to obtain and pay for all permits required to complete required work. In addition, supplier shall arrange, schedule and pay for or cause its subcontractors to arrange, schedule and pay for all required final inspections by state, local, or independent certified inspecting authorities necessary for issuance of all required KCDC utilization permits for the work.

22. **Questions**
Direct questions to purchasinginfo@KCDC.org with "Renovations at Western Heights" in the subject line by 4:00 p.m. on November 1, 2018**.**

23. **Renovation, Repair and Painting Rule**
Suppliers performing renovation, repair and painting projects that disturb lead-based paint in homes, childcare facilities and schools built before 1978 must be certified and must follow specific work practices to prevent lead contamination. When work is occurring at a site, the supplier must submit proof of the applicable certification before commencing work. The supplier will keep such certification current throughout the life of the award.

To the best of KCDC's knowledge RRP applies to this work: Yes ☒ No ☐
Additional information is at:

1. HUD's website:
http://portal.hud.gov/hudportal/HUD?src=/program_offices/healthy_homes/training/rrp/rrp

2. State of Tennessee's website:
http://www.state.tn.us/environment/swm/leadpaint/

24. **Representations**
By submitting a response, the supplier represents and warrants:

a. That the supplier is financially solvent and that it is experienced in and competent to perform the type of work, and/or to furnish the personnel, plans, materials, supplies, or equipment to be performed or furnished by it; and

b. That the supplier is familiar with all federal, state, municipal and county laws, ordinances and regulations, which may in any way affect the work of those employed therein, including but not limited to any special acts relating to the work or to the project of which it is a part; and

c. That the supplier carefully examined the plans, specifications and the worksite and that from its own investigations, has satisfied itself as to the nature and location of the work, the character, quality, quantity of surface and subsurface materials likely to be encountered, and character of equipment and other facilities needed for the performance of the work, the general and local conditions and all other materials which may in any way affect the work or its performance.

25. **Responsibilities**
At no expense to KCDC, the supplier will:

a. Provide quality control for all services provided.

b. Provide competent supervision.

c. Provide competent workers.

d. Take precautions necessary to protect persons or property against injury and/or damage and be responsible for any such damage or injury that occurs because of their fault or negligence.

e. Perform work without unnecessary interference with the activities of KCDC, residents, or suppliers.

26. **Safety**

a. The supplier is responsible for providing and placing barricades, tarps, plastic, flag tape and other safety/traffic control equipment to protect the public, surrounding areas, equipment and vehicles.

b. The safety of staff and the public is of prime concern to KCDC and all costs associated are the responsibility of the supplier.

c. The supplier shall ensure that its employees exercise all necessary caution and discretion to avoid injury to persons or damage to property.

d. The supplier will protect all buildings, appurtenances and furnishings from damage. The supplier shall, at his expenses, repair such damages (or replace the items) by approved methods to restore the damaged areas to their original condition.

e. Supplier shall use caution signs as required by OSHA Regulation 1910.144 and 1910.145 at no cost to KCDC. Caution signs shall be on-site at commencement of contract.

f. Supplier shall comply with all other OSHA and TOSHA safety standards that apply.

27. **Safety Data Sheets (SDS)**
Supplier will leave Safety Data Sheets (SDS) when installing covered items. Supplier must be certain the manufacturer properly labels (including the appropriate hazardous material symbols) all products.

28. **Section 3 of the HUD Act of 1968**

Section 3 is a provision of the Housing and Urban Development Act of 1968 which requires that programs of direct financial assistance administered by the U.S. Department of Housing and Urban Development (HUD) provide, to the greatest extent feasible, opportunities for job training and employment to lower income residents in connection with projects in their neighborhoods. Further, to the greatest extent feasible, contracts in connection with these projects are to be awarded to local businesses. Section 3 is a tool for fostering local economic development, neighborhood economic improvement and individual self-sufficiency.

a. Recipients and suppliers must make a good faith effort to utilize Section 3 area residents as trainees and employees in connection with the project. Targeted recruitment and the selection of Section 3 area residents for available positions are two examples of good faith efforts to meet this requirement.

b. Recipients and suppliers must make a good faith effort to award contracts to Section 3 business concerns for work in connection with the project. An example of a good faith effort to meet this requirement is the implementation of an affirmative action plan, which includes targets for the number and dollar value for awarding contracts to Section 3 business concerns.

c. Recipients and suppliers must keep records and submit reports to HUD documenting the good faith efforts taken and the results of these actions. Examples of such documentation include letters to community organizations, employment development and business development centers, copies of solicitations for bids or proposals; and copies of affirmative action plans.

d. How can businesses find Section 3 residents to work for them? This can be accomplished by recruiting in the neighborhood and public housing developments to tell about available training and job opportunities. Distributing flyers, posting signs, placing ads, and contacting resident organizations and local community development and employment agencies to find potential workers are a few effective ways of getting jobs and people together.

e. All contracts awarded are subject to Section 3 requirements. Supplier shall seek to fill any and all positions that are needed and unfilled with residents of KCDC communities. For additional information, please go to http://www.hud.gov/offices/fheo/section3/Section3.pdf. The successful supplier will supply KCDC with job announcements for any position that must be filled as a result of the award of KCDC work. Additionally the successful supplier will supply the same job announcement to the Knoxville-Knox County Committee Action Committee's Workforce Connections group. These can be faxed to 544-5269.

f. A Section 3 resident is one who lives within a public housing authority's site. It is also people who live in an area with a HUD assisted program and whose income is below HUD's low income requirements.

g. A Section 3 business is one that:

1. Is at least 51% owned by a Section 3 resident; or

2. Employs Section 3 residents for at least 30% of its employee base; or

3. Makes a commitment to sub contract at least 25% of the project's dollars to a Section 3 business.

h. Upon award, the successful supplier will supply two documents to KCDC:

1. A Section 3 Business determination (forms supplied by KCDC) provided one is not already on file.

2. A Section 3 Business plan for this work.

29. **Security**

The successful supplier is responsible for providing (if necessary) any and all security to equipment, materials, personnel, tools and the site that are required for this job. KCDC is not responsible for damage or losses to equipment, materials, personnel, tools or the site.

30. **Site Examination**

a. Suppliers are required to visit the site and become fully acquainted and familiar with conditions, as they exist and the required operations. The supplier shall make such investigations as necessary so that they may fully understand the scope of the work and related facilities and possible complexities when executing the work.

b. The failure or omission of the supplier to receive or examine the solicitation document or any part of the specifications, or to visit the site(s) and acquaint themselves as to the nature and location of the work, the general and local conditions and all matters which may in any way affect performance shall not relieve the supplier of any obligation to perform as specified herein. Supplier understands the intent and purpose hereof and its obligations hereunder and that it shall not make any claim for, or have any right to damages resulting from any misunderstanding or misinterpretation of the resulting agreement, or because of any lack of information.

c. By submitting a response to this solicitation, each supplier is certifying that they have inspected the site and have read the solicitation and all appendices and addenda. The failure or omission of any supplier to receive or examine any form, instrument, or document shall in no way relieve the supplier from any obligation in respect to its bid.

31. **Smoking Policy**

KCDC has a Smoke Free policy that applies to you, your employees and all subcontractors. Specifically, the policy (which is HUD required) mandates:

- No smoking on KCDC property
- No e-vape or similar usage on KCDC property
- The Smoke Free policy applies in personal or corporate vehicles on KCDC's property

HUD definitions include:

✓ "Smoking" means inhaling, exhaling, burning or carrying any lighted or heated cigar, cigarette or pipe, or any other lighted or heated tobacco or plant product intended for inhalation, including hookahs and marijuana, whether natural or synthetic, in any manner or in any form. "Smoking" also includes the use of an electronic smoking device which creates an aerosol or vapor, in any manner or in any form.

- ✓ "Electronic Smoking Device" means any product containing or delivering nicotine or any other substance intended for human consumption that can be used by a person in any manner for the purpose of inhaling vapor or aerosol from the product. The term includes any such device, whether manufactured, distributed, marketed or sold as an e-cigarette, e-cigar, e-pipe, e-hookah or vape pen or under any other product name or descriptor.

- ✓ Property means all buildings, parking lots, streets, structures and **land** owned by KCDC.

Should supplier staff be observed violating these requirements, KCDC's Procurement Division will notify the corporate level contact about the problem. Should there be recurrences; KCDC may ask the supplier to not send the employee to KCDC property. Repeated offenses may result in forfeiture of your awarded "contract."

32. **Storage**
Most KCDC sites have limited storage space for suppliers to access. Suppliers are responsible for the storage of materials and their security. If possible, KCDC will allow suppliers to use space but the safety and security of the items stored is solely the responsibility of the supplier.

33. **Storm Water and Street Ordinances**
The City of Knoxville's Storm Water and Street Ordinances apply to this solicitation. The successful supplier will comply with all aspects of the City's ordinances. Compliance includes but is not limited to:

a. Retaining all sediments on the project site using structural drainage controls. Drainage control costs are incidental to the work.

b. Not discharging any construction or demolition related materials, wastes, spills, or residues from the project site to streets, drainage facilities, or adjacent properties by wind or runoff.

c. Containing non-storm water runoff from equipment and vehicle washing and any other activity at the project site.

d. Additional information about NPDES, BMPs and the Land Development Manual at http://www.cityofknoxville.org/engineering/stormwater/npdes.asp**.**

e. The successful supplier is responsible for all work, remediation, repair and monetary penalties or fines arising out of a Notice of Violation of the City of Knoxville's Storm Water and Street Ordinances. The supplier will be charged costs KCDC incurs to install structural drainage controls or remedy a Notice of Violation. KCDC shall also charge a $50 fee per violation for related administrative costs.

f. KCDC will prepare, submit and pay the permitting fees. Upon award, the successful bidder will be required to sign onto the permit and be responsible for implementing and maintaining all erosion control measures as required on the SWPPP.

34. **Subcontractors**
Subcontractors must:

a. Be approved by KCDC prior to beginning work.

b. Carry the insurance coverages as outlined herein.

c. Comply with the Davis Bacon requirements and submit certified payrolls.

d. Not be on HUD's Debarment List.

e. Not be changed without KCDC's permission.

35. **Time for Completion**
Supplier will complete the project within 14 months from the date of the Notice To Proceed.

36. **Utilities**

a. When work is at or in its apartments, KCDC does not normally supply utilities for suppliers because the residents pay their own utility bills. In such cases, the supplier will arrange for any necessary utilities.

b. When work is at its office areas, vacant apartments and other non-resident locations, KCDC will normally provide utilities for suppliers as long as they are currently available at the area.

c. The supplier must ascertain the availability of utilities for this work prior to submitting a bid.

37. **Wage Compliance (Davis Bacon Requirements)**

a. Federal Davis Bacon Wage Requirements apply to this work. The successful supplier will:

- Submit certified payrolls showing compliance with the Davis Bacon requirements herein. Failure to do so will be sufficient cause for withholding payment and/or termination of the contract.

- Must pay its employees at least weekly pursuant to the Davis Bacon determination listed herein.

- Will display all pages of Wage Posters, in a "prominent spot" at the job site. These are available from the Procurement Division.

- Will allow KCDC to conduct on-site Davis Bacon interviews of the supplier's employees. KCDC will use HUD forms and record the information.

- Classify employees by the applicable Davis Bacon classification. Classifications are determined by the work performed and the tools used-not by job titles.

b. General Decision Information for the non-parking lot work:

General Decision Number	TN180023
Date	01-05-2018
State	Tennessee
Construction Types	Residential
Counties	Anderson and Knox Counties in Tennessee
Residential	Residential Construction Projects (consisting of single-family homes and apartments up to and including 4 stories.
Modification Number	0

Classifications and rates:

Classifications and Rates	**Rate**	**Fringe 1**
Bricklayer	$12.72	$0.00
Carpenter Including Cabinet Installation	$13.89	$0.00
Cement Mason/Concrete Finisher	$16.00	$0.00
Electrician	$18.52	$2.32
Laborer: Common or General	$8.00	$0.00
Laborer: Landscape	$12.33	$0.30
Operator: Backhoe	$13.17	$0.00
Plumber	$17.50	$0.00
Roofer: Including Shake and Shingle	$10.25	$0.00
Welders: Receive rate prescribed for craft performing operation to which welding is incidental.		

c. Suppliers may not "use a classification" because there is not one listed that exactly identifies the work performed. Unlisted Classifications needed for work not included within the scope of the classifications listed above may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)). To request an additional classification:

1. Write a brief letter to KCDC (upon award) stating the title needed and the proposed pay rate. Indicate that the employees agree with the rate and are in agreement with the rate. The rate must bear a reasonable resemblance to other rates on the classification.

2. If the additional classification is for a subcontractor, the subcontractor writes a similar letter to the General Supplier who then sends a cover letter to KCDC officially requesting the classification.

3. KCDC will review the request and forward it to HUD and officially request it or KCDC will suggest that the supplier revise the request.

4. HUD will review the request and approve it (or decline it) and send it to the Department of Labor for final approval.

5. The Department of Labor will either approve the request or recommend a different minimum rate.

6. HUD will notify KCDC of the decision.

7. Should either HUD or the Department of Labor require a higher minimum rate, KCDC will notify the supplier. The higher minimum rate, if any, must be paid for work completed (back wages) and for all future work under this project.

d. These requirements apply to all subcontractors that are used by the successful supplier.

e. Davis Bacon rates are locked in at the bid opening provided that a contract is awarded within 90 days. If a contract is not awarded within 90 days after the bid opening and if a new decision is released, it will apply. Modifications released 10 days or less before a bid opening are not applicable as there is not time to incorporate the changes in the bid. In all cases however, KCDC is required to adhere to Davis Bacon standards as the Department of Labor determines - irrespective of any announcements KCDC may have made.

38. **Weather**

KCDC provides allowances for excessive inclement weather since this solicitation calls for liquidated damages, provided the supplier exceeds the guaranteed number of days for completion.

a. Extensions of Contract Time

If the basis exists for an extension of time in accordance with this solicitation, then an extension of time based on weather may be granted only for the number of weather delay days in excess of the number of weather days listed as the Standard Baseline for that month.

b. Standard Baseline for Average Climatic Range

The Standard Baseline is the normal and anticipated number of calendar days for each month during which adverse weather will prevent activity. Suspension of activity for the number of days each month as listed in the Standard Baseline is to be included in the work and not eligible for an extension of the contract time. The baseline is:

Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
7.4	7.5	8.1	7.3	7.9	7.1	7.8	6.0	4.8	5.2	7.2	7.9

c. Adverse Weather and Weather Delay Days

1. Adverse weather is the occurrence of one or more of the following conditions which prevents only exterior activity or access to the site within a twenty-four hour period:

   a. Precipitation (rain, snow or ice) in excess of one-tenth inch (0.10”) liquid measure.

   b. Temperatures which do not rise above 32 degrees Fahrenheit by 10:00 a.m.

   c. Standing snow in excess of one inch (1.00”).

2. Adverse weather may include, if appropriate, “dry-out” or “mud” days when all of the following are met:

   a. For rain above the Standard Baseline.

b. Only if there is a hindrance to site access or site work, such as excavation, backfill and footings.

c. At a rate no greater than one make-up day for each day or consecutive days or rain beyond the Standard Baseline that total 1.0 inch or more, liquid measure, unless specifically recommended otherwise by the owner.

3. A weather delay day occurs only if adverse weather prevents work on the project for 50 percent or more of the supplier's scheduled workday, including a weekend day or holiday if the supplier has scheduled construction activity that day.

d. Documentation and Submittals

1. Submit Daily Jobsite Work Log showing which and to what extent activities were affected by weather on a monthly basis.

2. Submit actual weather data to support a claim for the time extension obtained from nearest NOAA weather station or other independently verified source approved by the owner at the beginning of the project.

3. Maintain a rain gauge, thermometer and clock at the jobsite. Keep daily records of precipitation, temperature and the time of each occurrence throughout the project.

4. Use the Standard Baseline data provided in this section when documenting actual delays due to weather in excess of the average.

5. Organize claim documentation on calendar month periods and submit in accordance with the procedures for claims established by the owner.

e. Approval by Owner

1. If the extension of the contract time is appropriate, it will occur in accordance with the provisions of this solicitation.

2. Owner shall not incur extra costs for any extra time increase to the contract.

39. **Work Hours**

Acceptable work hours are Monday through Friday from 7:30 a.m. until 4:00 p.m. Work on Saturdays, Sundays or holidays requires KCDC's approval. After 4:00, KCDC staff may not be available to assist you. However, this does mean that KCDC expects you to stop at exactly 4:00 if a few additional minutes will allow you to get to a reasonable stopping point.

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END OF SECTION

SECTION 00 0115
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E101	Electrical Legends, Schedules And Building Type A Typical Unit Plan
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END OF SECTION

SECTION 01 1000
SUMMARY

PART 1 GENERAL

1.01 PROJECT

A. Project Name: Western Heights

B. Owner's Name: Knoxville Community Development Corporation.

C. Architect's Name: McCarty Holsaple McCarty.

D. The Project consists of the Alterations and repairs of sixty-six existing building envelopes, sanitary and domestic water piping, and minor site regrading.

1.02 CONTRACT DESCRIPTION

A. Contract Type: A single prime contract based on a Stipulated Price.

1.03 DESCRIPTION OF ALTERATIONS WORK

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

B. Scope of alterations work is indicated on drawings.

C. Contractor shall remove, and store residential unit, the following prior to start of demolition work, for later reinstallation by Contractor:

1. All bathroom fixtures, including shower and toilet valves, shower panels, medicine cabinet, and bathroom accessories.
2. Kitchen base and wall cabinets, countertops, plumbing fixtures, electrical cover plates, range and range hood, and hot water heater.
3. All light fixtures, security cameras, telecom devices and wiring, exhaust vent hood, signage, downspouts and anchors

1.04 OWNER OCCUPANCY

A. Owner intends to occupy the Project upon Substantial Completion.

B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

C. Schedule the Work to accommodate Owner occupancy.

1.05 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Construction shall be conducted on unoccupied buildings. Due to current occupancies, some buildings will become available during the construction process; coordination between the General Contractor and the Owner is required.

B. Provide access to and from site as required by law and by Owner:

1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.

2. Do not obstruct roadways, sidewalks, or other public ways without permit.

END OF SECTION

SECTION 01 2200
UNIT PRICES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. General Provisions of the Contract, including General and Supplementary Conditions, and Division 01 specification sections, apply to this Section.

1.02 SECTION INCLUDES

A. List of unit prices, for use in preparing Bids.

B. Measurement and payment criteria applicable to Work performed under a unit price payment method.

C. Defect assessment and non-payment for rejected work.

1.03 COSTS INCLUDED

A. Unit Prices included on the Bid Form shall include full compensation for all required labor, products, tools, equipment, plant, transportation, services and incidentals; erection, application or installation of an item of the Work; overhead and profit.

1.04 UNIT QUANTITIES SPECIFIED

A. Quantities indicated on the drawings are for bidding and contract purposes only. Quantities and measurements of actual Work will determine the payment amount. Unit prices shall include the costs to increase or decrease the costs based upon the actual amount of work installed.

1.05 MEASUREMENT OF QUANTITIES

A. Measurement methods delineated in the construction drawings complement the criteria of this section.

B. Take all measurements and compute quantities. Measurements and quantities will be verified by independent company hired by the Owner.

C. Assist by providing necessary equipment, workers, and survey personnel as required.

D. Measurement by Volume: Measured by cubic dimension using mean length, width and height or thickness.

E. Measurement by Area: Measured by square dimension using mean length and width or radius.

F. Linear Measurement: Measured by linear dimension, at the item centerline or mean chord.

G. Stipulated Price Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as a completed item or unit of the Work.

H. Perform surveys required to determine quantities, including control surveys to establish measurement reference lines. Notify Architect prior to starting work.

1.06 PAYMENT

A. Payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities of Work that is incorporated in situ or made necessary by the Work and accepted by the Architect, multiplied by the unit price upwards or downwards.

B. Payment will not be made for any of the following:

1. Products wasted or disposed of in a manner that is not acceptable.

2. Products determined as unacceptable before or after placement.

3. Products not completely unloaded from the transporting vehicle.

4. Products placed beyond the lines and levels of the required Work.

5. Products remaining on hand after completion of the Work.

6. Loading, hauling, and disposing of rejected Products.

1.07 DEFECT ASSESSMENT

A. Replace Work, or portions of the Work, not conforming to specified requirements.

B. If, in the opinion of Owner, it is not practical to remove and replace the Work, Owner will direct one of the following remedies:

1. The defective Work may remain, but the unit price will be adjusted to a new unit price at the discretion of Owner.

2. The defective Work will be partially repaired to the instructions of the Owner, and the unit price will be adjusted to a new unit price at the discretion of Owner.

C. The individual specification sections may modify these options or may identify a specific formula or percentage price reduction.

D. The authority of Owner to assess the defect and identify payment adjustment is final.

1.08 SCHEDULE OF UNIT PRICES

A. Item No. 1 - Removal and Replacement of loose Plaster Finish.

1. Description: As indicated on drawings.

2. Unit of Measurement: Square Feet. Base bid shall include 500 square feet per dwelling unit.

B. Item No. 2 - Removal and Replacement of loose VCT Flooring.

1. Description: As indicated on drawings.

2. Unit of Measurement: Square Feet. Base bid shall include 200 square feet per dwelling unit.

C. Item No. 3 – Interior Mold Remediation.

1. Description: As indicated on drawings.

2. Unit of Measurement: Square Feet. Base bid shall include 350 square feet per dwelling unit.

D. Item No. 4 – Removal and Disposal of Debris from Crawl Space.

1. Description: As indicated on drawings.

2. Unit of Measurement: Labor/Hours. Base bid shall include (2) Laborers for (8) hours per building.

E. Item No. 5 – Masonry Repairs.

1. Description: As indicated on drawings.

2. Unit of Measurement: Square Feet. Base bid shall include 350 square feet per building.

F. Item No. 6 – Regrading Ground Surface at Perimeter of Building.

1. Description: As indicated on drawings.

2. Unit of Measurement: Labor/Hours. Base bid shall include (1) Equipment Operator/Machine and (2) Laborers for (16) hours per building.

G. Item No. 7 – Masonry Anchor Replacement at Exterior Railing System.

1. Description: As indicated on drawings.
2. Unit of Measurement: Labor/Hours. Option 1 shall include (5) locations per building.

H. Item No. 8 – Repair of existing gypsum wallboard at Kitchen wall.

1. Description: As indicated on drawings.

2. Unit of Measurement: Square Feet.

J. Item No. 9 – Cast Concrete Window Sills and Porch Slab Edge

1. Description: As indicated on drawings.

2. Unit of Measurement: Linear Foot.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 2300
DEDUCT ALTERNATES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Description of Deduct Alternates.

1.02 ACCEPTANCE OF ALTERNATES

A. Deduct Alternates & Option #1 quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Deduct Alternates & Option #1 will be identified in the Owner-Contractor Agreement.

B. Coordinate related work and modify surrounding work to integrate the Work of each Deduct Alternate & Option #1.

1.03 SCHEDULE OF ALTERNATES

A. Option #1: Consists of Exterior Porch Column & Railing Repairs, as indicated on drawings.

B. Deduct Alternate No. 1: Consists of Sanitary Plumbing Removal/Replacement, Washer Valve Box Replacement, and electrical improvements, as indicated on drawings. Provide pricing by Building Type (A, B, C, D).

C. Deduct Alternate No. 2: Consists of Domestic Water Main Shut-off Valve Removal/Replacement, as indicated on drawings.

D. Deduct Alternate No. 3: Consists of Domestic Water Piping Replacement, as indicated on drawings. Provide pricing by Building Type (A, B, C, D).

E. Deduct Alternate No. 4: Consists of Removal/Reinstallation of Existing Aluminum Windows, as indicated on drawings.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 2500
SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedural requirements for proposed substitutions.

1.02 DEFINITIONS

A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.

1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.

a. Unavailability.

b. Regulatory changes.

2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.

a. Substitution requests offering advantages solely to the Contractor will not be considered.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:

1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.

2. Agrees to provide the same warranty for the substitution as for the specified product.

3. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.

4. Waives claims for additional costs or time extension that may subsequently become apparent.

B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.

C. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.

1. No specific form is required. Contractor's Substitution Request documentation must include the following:

a. Project Information:

1) Official project name and number, and any additional required identifiers established in Contract Documents.

2) Owner's, Architect's, and Contractor's names.

b. Substitution Request Information:

1) Discrete and consecutive Substitution Request number, and descriptive subject/title.

2) Indication of whether the substitution is for cause or convenience.

3) Issue date.

4) Reference to particular Contract Document(s) specification section number, title, and article/paragraph(s).

5) Description of Substitution.

6) Reason why the specified item cannot be provided.

7) Differences between proposed substitution and specified item.

8) Description of how proposed substitution affects other parts of work.

c. Attached Comparative Data: Provide point-by-point, side-by-side comparison addressing essential attributes specified, as appropriate and relevant for the item:

1) Physical characteristics.

2) In-service performance.

3) Expected durability.

4) Visual effect.

5) Warranties.

6) Other salient features and requirements.

7) Include, as appropriate or requested, the following types of documentation:

(a) Product Data:

(b) Samples.

(c) Certificates, test, reports or similar qualification data.

d. Impact of Substitution:

1) Savings to Owner for accepting substitution.

2) Change to Contract Time due to accepting substitution.

D. Limit each request to a single proposed substitution item.

1. Submit an electronic document, combining the request form with supporting data into single document.

3.02 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

A. Submit request for Substitution for Convenience immediately upon discovery of its potential advantage to the project, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.

1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, or in other specific ways.

2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.

3. Bear the costs engendered by proposed substitution of:

a. Owner's compensation to the Architect for any required redesign, time spent processing and evaluating the request.

3.03 RESOLUTION

A. Architect may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.

B. Architect will notify Contractor in writing of decision to accept or reject request.

1. Architect's decision following review of proposed substitution will be noted on the submitted form.

3.04 ACCEPTANCE

A. Accepted substitutions change the work of the Project. They will be documented and incorporated into work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

3.05 CLOSEOUT ACTIVITIES

A. See Section 01 7800 - Closeout Submittals, for closeout submittals.

END OF SECTION

SECTION 01 3000
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General administrative requirements.

B. Electronic document submittal service.

C. Preconstruction meeting.

D. Progress meetings.

E. Construction progress schedule.

F. Progress photographs.

G. Submittals for review, information, and project closeout.

H. Number of copies of submittals.

I. Requests for Information (RFI) procedures.

J. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Section 01 6000 - Product Requirements: General product requirements.

B. Section 01 7000 - Execution and Closeout Requirements: Additional coordination requirements.

C. Section 01 7800 - Closeout Submittals: Project record documents; operation and maintenance data; warranties and bonds.

1.03 GENERAL ADMINISTRATIVE REQUIREMENTS

A. Conform to requirements of Section 01 7000 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.

B. Make the following types of submittals to Architect:

1. Requests for Information (RFI).

2. Requests for substitution.

3. Shop drawings, product data, and samples.

4. Test and inspection reports.

5. Design data.

6. Manufacturer's instructions and field reports.

7. Applications for payment and change order requests.

8. Progress schedules.

9. Coordination drawings.

10. Correction Punch List and Final Correction Punch List for Substantial Completion.

11. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 ELECTRONIC DOCUMENT SUBMITTAL

A. All documents transmitted for purposes of administration of the contract are to be in electronic (PDF) format, as appropriate to the document, and transmitted via an Internet-based submittal service that receives, logs and stores documents, provides electronic stamping and signatures, and notifies addressees via email, is preferred.

1. Besides submittals for review, information, and closeout, this procedure applies to Requests for Information (RFIs), progress documentation, contract modification documents (e.g. supplementary instructions, change proposals, change orders), applications for payment, field reports and meeting minutes, Contractor's correction punch list, and any other document any participant wishes to make part of the project record.

2. It is Contractor's responsibility to submit documents in allowable format.

3. All other specified submittal and document transmission procedures apply, except that electronic document requirements do not apply to samples or color selection charts.

3.02 PRECONSTRUCTION MEETING

A. Owner will schedule a meeting after Notice of Award.

B. Attendance Required:

1. Owner.

2. Architect.

3. Contractor.

C. Agenda:

1. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.

2. Submission of initial Submittal schedule.

3. Designation of personnel representing the parties to Contract, Owner and Architect.

4. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.

5. Scheduling.

D. Record minutes and distribute copies within five days after meeting to participants, with one copy to Architect, Owner, participants, and those affected by decisions made.

3.03 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the work at maximum bi-monthly intervals.

B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

C. Attendance Required:

1. Contractor.

2. Owner.

3. Architect.

4. Contractor's superintendent.

5. Major subcontractors.

D. Agenda:

1. Review minutes of previous meetings.

2. Review of work progress.

3. Field observations, problems, and decisions.

4. Identification of problems that impede, or will impede, planned progress.

5. Review of submittals schedule and status of submittals.

6. Maintenance of progress schedule.

7. Corrective measures to regain projected schedules.

8. Planned progress during succeeding work period.

9. Maintenance of quality and work standards.

10. Effect of proposed changes on progress schedule and coordination.

11. Other business relating to work.

E. Record minutes and distribute copies within five days after meeting to participants, with one copy to Architect, Owner, participants, and those affected by decisions made.

3.04 CONSTRUCTION PROGRESS SCHEDULE

A. Within 10 days after date of the Agreement, submit preliminary schedule defining planned operations for the first 60 days of work, with a general outline for remainder of work.

B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.

C. Within 10 days after review of preliminary schedule, submit draft of proposed complete schedule for review.

1. Include written certification that major contractors have reviewed and accepted proposed schedule.

D. Within 10 days after joint review, submit complete schedule.

E. Submit updated schedule with each Application for Payment.

3.05 PROGRESS PHOTOGRAPHS

A. Submit photographs with each application for payment, taken not more than 3 days prior to submission of application for payment.

B. Photography Type: Digital; electronic files.

C. Digital Photographs: 24-bit color, minimum resolution of 1024 by 768, in JPG format; provide files unaltered by photo editing software.

1. Delivery Medium: Via email.

2. File Naming: Include project identification, date and time of view, and view identification.

3.06 REQUESTS FOR INFORMATION (RFI)

A. Definition: A request seeking one of the following:

1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in the Contract Documents.

2. A resolution to an issue which has arisen due to field conditions and affects design intent.

B. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of the Contract Documents. Failure to submit an RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.

1. Prepare in a format and with content acceptable to Owner.

2. Prepare using an electronic version of the form appended to this section.

3. Combine RFI and its attachments into a single electronic file. PDF format is preferred.

C. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.

1. Unacceptable Uses for RFIs: Do not use RFIs to request the following:

a. Approval of submittals (use procedures specified elsewhere in this section).

b. Approval of substitutions (see Section - 01 6000 - Product Requirements)

c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).

D. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.

1. Official Project name and number, and any additional required identifiers established in Contract Documents.

2. Owner's, Architect's, and Contractor's names.

3. Discrete and consecutive RFI number, and descriptive subject/title.

4. Issue date, and requested reply date.

5. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).

6. Annotations: Field dimensions and/or description of conditions which have engendered the request.

7. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.

E. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.

F. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.

1. Indicate current status of every RFI. Update log promptly and on a regular basis.

2. Note dates of when each request is made, and when a response is received.

3. Highlight items requiring priority or expedited response.

4. Highlight items for which a timely response has not been received to date.

G. Review Time: Architect will respond and return RFIs to Contractor within seven calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 12:00 noon will be considered as having been received on the following regular working day.

1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.

H. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.

1. Response may include a request for additional information, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.

2. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.

3. Upon receipt of a response, promptly review and distribute it to all affected parties, and update the RFI Log.

4. Notify Architect within seven calendar days if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

3.07 SUBMITTAL SCHEDULE

A. Submit to Architect for review a schedule for submittals in tabular format.

1. Format schedule to allow tracking of status of submittals throughout duration of construction.

2. Arrange information to include scheduled date for initial submittal, specification number and title, submittal category (for review or for information), description of item of work covered, and role and name of subcontractor.

3. Account for time required for preparation, review, manufacturing, fabrication and delivery when establishing submittal delivery and review deadline dates.

3.08 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:

1. Product data.

2. Shop drawings.

3. Samples for selection.

4. Samples for verification.

B. Submit to Architect for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.

C. Samples will be reviewed for aesthetic, color, or finish selection.

D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 7800 - Closeout Submittals.

3.09 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:

1. Design data.

2. Certificates.

3. Test reports.

4. Inspection reports.

5. Manufacturer's instructions.

6. Manufacturer's field reports.

7. Other types indicated.

B. Submit for Architect's knowledge as contract administrator or for Owner.

3.10 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout in conformance to requirements of Section 01 7800 - Closeout Submittals:

1. Project record documents.

2. Operation and maintenance data.

3. Warranties.

4. Bonds.

5. Other types as indicated.

D. Submit for Owner's benefit during and after project completion.

3.11 NUMBER OF COPIES OF SUBMITTALS

A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.

B. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.

1. After review, produce duplicates.

2. Retained samples will not be returned to Contractor unless specifically so stated.

3.12 SUBMITTAL PROCEDURES

A. General Requirements:

1. Use a separate transmittal for each item.

2. Submit separate packages of submittals for review and submittals for information, when included in the same specification section.

3. Sequentially identify each item. For revised submittals use original number and a sequential numerical suffix.

4. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.

5. Deliver each submittal on date noted in submittal schedule, unless an earlier date has been agreed to by all affected parties and is of the benefit to the project.

a. Upload submittals in electronic form to Electronic Document Submittal Service website.

6. Schedule submittals to expedite the Project, and coordinate submission of related items.

a. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.

b. For sequential reviews involving Architect's consultants, Owner, or another affected party, allow an additional 5 days.

c. For sequential reviews involving approval from authorities having jurisdiction (AHJ), in addition to Architect's approval, allow an additional 30 days.

7. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.

8. Provide space for Contractor and Architect review stamps.

9. When revised for resubmission, identify all changes made since previous submission.

10. Distribute reviewed submittals. Instruct parties to promptly report inability to comply with requirements.

11. Incomplete submittals will not be reviewed, unless they are partial submittals for distinct portion(s) of the work and have received prior approval for their use.

12. Submittals not requested will be recognized, and will be returned "Not Reviewed",

B. Product Data Procedures:

1. Submit only information required by individual specification sections.

2. Collect required information into a single submittal.

3. Do not submit (Material) Safety Data Sheets for materials or products.

C. Shop Drawing Procedures:

1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting the Contract Documents and coordinating related work.

2. Do not reproduce the Contract Documents to create shop drawings.

3. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.

D. Samples Procedures:

1. Transmit related items together as single package.

2. Identify each item to allow review for applicability in relation to shop drawings showing installation locations.

3.13 SUBMITTAL REVIEW

A. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action.

B. Submittals for Information: Architect will acknowledge receipt and review. See below for actions to be taken.

C. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.

D. Architect's and consultants' actions on items submitted for review:

1. Authorizing purchasing, fabrication, delivery, and installation:

a. "Approved", or language with same legal meaning.

b. "Approved as Noted, Resubmission not required", or language with same legal meaning.

1) At Contractor's option, submit corrected item, with review notations acknowledged and incorporated.

c. "Approved as Noted, Resubmit for Record", or language with same legal meaning.

2. Not Authorizing fabrication, delivery, and installation:

a. "Revise and Resubmit".

1) Resubmit revised item, with review notations acknowledged and incorporated.

2) Non-responsive resubmittals may be rejected.

b. "Rejected".

1) Submit item complying with requirements of Contract Documents.

E. Architect's and consultants' actions on items submitted for information:

1. Items for which no action was taken:

a. "Received" - to notify the Contractor that the submittal has been received for record only.

2. Items for which action was taken:

a. "Reviewed" - no further action is required from Contractor.

END OF SECTION

SECTION 01 31 93
ADMINISTRATIVE LOGS

PART 1 - GENERAL

1.01 SUBMITTALS LOG

A. If environmental submittals, waste logs, third-party reports, laboratory data, or waste disposal documentation submittals are required by the Contract Documents, maintain a Submittals Log to record the status of submittals made to the Environmental Consultant, and Owner for records.

1. Clearly identify the Project.

2. Record activities with respect to submittals as desired.

3. Indicate for each submittal made to date:

a. Title or name, and type of submittal.

b. Date submitted to the Environmental Consultant.

c. Date returned by the Environmental Consultant.

d. General nature of the Environmental Consultant response.

B. Submit three (3) copies with each application for payment.

1.02 VISITOR (SIGN-IN / SIGN-OUT) LOG

A. Maintain Sign In/Out Log in the field office (or with the Project Superintendent when no field office is required) to record entry and exit of persons entering the Work Areas. Allow no one to enter or exit Work Areas without making record in log.

1. Clearly identify the Project.

2. Indicate:

a. Visitor name and affiliation.

b. Date of visit.

c. Time of arrival and departure.

d. Company or agency represented and reason for presence.

B. Submit three (3) copies with each application for payment.

1.03 HAZARDOUS MATERIALS WASTE LOG

A. Maintain paint debris waste log showing date, type of container removed from Work Area, signature of recorder, and time of day.

END OF SECTION 01 31 93

SECTION 01 33 43
LEAD-CONTAINING AND LEAD-BASED PAINT REMOVAL AND DISPOSAL SUBMITTALS

PART 1: GENERAL

1.01 DESCRIPTION

A. Make removal and disposal submittals required by the Contract Documents in a timely manner and at appropriate times to allow for sufficient review by Environmental Consultant. Revise and resubmit as necessary to establish compliance with the specified requirements.

1.02 WORK INCLUDED

A. Submit complete bound sets of the submittals required in the Contract Documents. Submit separate sets entitled "Pre-Job Submittals" and "Post-Job Submittals".

B. Update submittals to Designer on a weekly basis to account for all new equipment and employees used on the Project.

C. Submit three (3) complete sets of "Pre-Job Submittals" to the Environmental Consultant, at the pre-construction meeting. The Work may not proceed until the complete pre-job submittal package has been reviewed and accepted by Environmental Engineer.

D. Submit three (3) complete sets of "Post-Job Submittals" to Environmental Consultant for review following the final inspection of Work. Requests for final payment will not be approved until Post-Job Submittal package has been reviewed and accepted by Environmental Consultant.

E. Identify individual submittals by name and include a table of contents in each submittal package.

1.03 QUALITY ASSURANCE

A. Carefully review and coordinate the various aspects of each item being submitted.

B. Verify that each submittal conforms to specified requirements.

C. Certify, by affixing signature of Subcontractor's authorized representative to the corner of each submittal package, that review, coordination, and verification has taken place.

1.04 PRE-JOB SUBMITTALS

A. Provide proposed preliminary progress schedule for Work. Revise and submit progress schedule on a weekly basis, as needed.

B. Provide Paint Removal and Disposal Pre-Job Submittals, to include:

1. All required permits, site location, and plans/arrangements for transport and disposal of lead debris waste. Identification of disposal site proposed for use in disposing of hazardous and/or non-hazardous LBP debris generated in Work. Include owner/operator, address and telephone number.

2. Manufacturer’s specifications for chemical means and/or large equipment (dry abrasion or wet abrasion equipment) used for paint removal.

3. Manufacturer's specifications for air cleaning, vacuum equipment, air handling equipment, special tools, and safety equipment to be utilized in Work.

4. If utilized, documentation that negative air filtration system meets requirements of Contract Documents. Also, submit copies of manufacturer's specifications including rated flow capacity.

5. Manufacturer's certification or independent test reports confirming that materials to be utilized in Work meet or exceed all performance criteria required by Specifications. Include manufacturer's safety data sheets (SDS) for all materials to be used, if applicable.

6. Written description and/or sketch of plans for construction of a worker and equipment decontamination enclosure system and for isolation of Work Areas in compliance with Contract Documents.

7. Descriptions of special equipment, techniques, etc., to be used in Work.

8. Paint removal procedures or practices to be utilized in Work.

9. Listing of supervisory personnel (including foremen) and their experience, qualifications and training to include:

a. Supervisor(s) name.

b. Proof of experience in like projects.

10. Listing of workers to be utilized in Work and their experience, qualifications and training.

11. Specimen copy of worker Sign In/Out Log form to be used.

12. Written description, and sketch, of security plan to be utilized.

13. Health and Safety Plan for workers/employees conducting the removal, handling, and containerization of paint debris, and appropriate personal protective clothing and engineering controls.

14. Exposure Assessment in accordance with Section 02 83 19.13.1, within first seven calendar days of the beginning of paint removal, if performed.

1.05 POST-JOB SUBMITTALS

A. Provide Certificate of Completion.

B. Provide Copy of supplied-air (Type C) respirator equipment test results, if utilized, obtained during course of Work signed by an independent testing laboratory competent in this field, that air supplied by this equipment is Grade D or better.

C. Provide listing of each employee used in Work and exact dates on which present in abatement Work Areas.

D. Provide copy of Sign In/Out Log showing the following: date, name, entering and leaving time, company or agency represented and reason for entry for all persons entering work areas.

E. Provide notarized waste log showing date, items removed from Work Area, signature of recorder, and time of day.

F. Provide name and address of landfill or recycling/disposal firm accepting other hazardous and non-hazardous materials, and special wastes.

PART 2: PRODUCTS - NOT USED

PART 3: EXECUTION

3.01 IDENTIFICATION OF SUBMITTALS

A. Number pages consecutively and clearly identify submittals. Show identification on at least the first page of each submittal, and elsewhere as necessary for positive identification of submittal.

B. Accompany each submittal package with letter of transmittal showing information required for identification and checking.

3.02 TIMING OF SUBMITTALS

A. Make submittals far enough in advance of scheduled dates of commencement, execution, or installation to provide time required for reviews, for securing necessary approvals, for possible revisions and re-submittals, and for placing orders and securing delivery.

B. Accept responsibility for delays resulting from incomplete submittal packages.

3.03 DESIGNER'S REVIEW

A. Partial submittals may be rejected for non-compliance with Contract Documents.

B. Review by Environmental Consultant does not relieve Subcontractor from responsibility for errors which may exist in submitted data.

C. Make revisions when required by Environmental Consultant and resubmit for review.

3.04 PAYMENT FOR REVIEW

A. Initial Services: Owner will pay for initial review and first subsequent review, if required.

B. Subsequent Reviews: Costs of Environmental Consultant additional services associated with reviews required beyond first subsequent review will be responsibility of Subcontractor, and Owner may deduct corresponding amounts from Contract Sum by appropriate Modification.

END OF SECTION 01 3343.

SECTION 01 4000
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. General Provisions of the Contract, including General and Supplementary Conditions, and Division 01 specification sections, apply to this Section.

1.02 SECTION INCLUDES

A. Submittals.

B. Quality assurance.

C. Control of installation.

D. Mock-ups.

E. Defect Assessment.

1.03 RELATED REQUIREMENTS

A. Section 01 3000 - Administrative Requirements: Submittal procedures.

1.04 DEFINITIONS

A. Contractor's Quality Control Plan: Contractor's management plan for executing the Contract for Construction.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Test Reports: After each test/inspection, promptly submit two copies of report to Architect and to Contractor.

1. Include:

    a. Date issued.

    b. Project title and number.

    c. Name of inspector.

    d. Date and time of sampling or inspection.

e. Identification of product and specifications section.

f. Location in the Project.

g. Type of test/inspection.

h. Date of test/inspection.

i. Results of test/inspection.

j. Conformance with Contract Documents.

k. When requested by Architect, provide interpretation of results.

2. Test report submittals are for Architect's knowledge as construction contract administrator for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents, or for Owner's information.

C. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Architect, in quantities specified for Product Data.

1. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

D. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.06 QUALITY ASSURANCE

A. Testing Agency Qualifications:

1. Prior to start of work, submit agency name, address, and telephone number, and names of full-time registered Engineer and responsible officer.

2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.

3. Qualification Statement: Provide documentation showing testing laboratory is accredited under IAS AC89.

1.07 TESTING AND INSPECTION AGENCIES AND SERVICES

A. Contractor shall employ and pay for services of an independent testing agency to perform other specified testing.

B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

C. Contractor Employed Agency:

1. Laboratory: Authorized to operate in the State in which the Project is located.

2. Laboratory Staff: Maintain a full-time registered Engineer on staff to review services.

3. Testing Equipment: Calibrated at reasonable intervals either by NIST or using an NIST established Measurement Assurance Program, under a laboratory measurement quality assurance program.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

B. Comply with manufacturers' instructions, including each step-in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

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

E. Have work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on 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, and disfigurement.

3.02 MOCK-UPS

A. Refer to Section 04.20.00 - Unit Masonry for requirements of mock-ups.

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

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

D. Where mock-up has been accepted by Architect and is specified in product specification sections to be removed, protect mock-up throughout construction, remove mock-up and clear area when directed to do so by Architect.

3.03 TESTING AND INSPECTION

A. Testing Agency Duties:

1. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.

2. Perform specified sampling and testing of products in accordance with specified standards.

3. Ascertain compliance of materials and mixes with requirements of Contract Documents.

4. Promptly notify Architect and Contractor of observed irregularities or non-conformance of Work or products.

5. Perform additional tests and inspections required by Architect.

6. Submit reports of all tests/inspections specified.

B. Limits on Testing/Inspection Agency Authority:

1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.

2. Agency may not approve or accept any portion of the Work.

3. Agency may not assume any duties of Contractor.

4. Agency has no authority to stop the Work.

C. Contractor Responsibilities:

1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.

2. Cooperate with laboratory personnel and provide access to the Work and to manufacturers' facilities.

3. Provide incidental labor and facilities:

a. To provide access to Work to be tested/inspected.

b. To obtain and handle samples at the site or at source of Products to be tested/inspected.

c. To facilitate tests/inspections.

d. To provide storage and curing of test samples.

4. Notify Architect and Testing Agency 24 hours prior to expected time for operations requiring testing/inspection services.

5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

D. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Architect, at the Contractor's expense

3.04 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not conforming to specified requirements, as directed by Architect.

B. If, in the opinion of Owner, it is not practical to remove and replace the work, Owner will direct an appropriate remedy or adjust payment.

END OF SECTION

SECTION 01 4050
CUTTING AND PATCHING

PART ONE - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings, general provisions of the Contract, including General and Supplementary Conditions, and other Division 1 specification sections, apply to work of this section.

1.02 DESCRIPTION OF WORK

A. Cutting and patching includes cutting into existing construction to provide for the installation or performance of other work and subsequent fitting and patching required to restore surfaces to their original condition. Cutting and patching shall be held to a minimum and shall be performed only as required to complete the construction. Cutting and patching shall be performed for coordination of the work, to uncover work for access or inspection, to permit alterations to be performed, or for other similar purposes.

1.03 QUALITY ASSURANCE

A. Requirements for Structural Work: Do not cut and patch structural work in a manner that would result in a reduction of load-carrying capacity or of load-deflection ratio. Obtain the Architect's approval before cutting and patching any structural members.

B. Operational and Safety Limitations: Do not cut and patch operating elements or safety related components in a manner that would result in reducing their capacity to perform as intended, or result in increased maintenance, or decreased operational life or safety. Obtain the Architect's approval before cutting and patching any operating elements or safety related components, including, but not limited to, water, moisture, or vapor barriers.

C. Visual Requirements: Do not cut and patch exposed work in a manner that would, in the Architect's opinion, result in lessening the building's aesthetic qualities. Do not cut and patch work in a manner that would result in visual evidence of cut and patch work. Work judged by the Architect to be visually unsatisfactory shall be removed and replaced at no additional cost to Owner. Retain a firm and/or personnel for cutting and patching which is recognized and experienced in the type of work being cut and patched.

PART TWO - PRODUCTS

2.01 MATERIALS

A. Except as otherwise indicated, or as directed by the Architect, use materials for cutting and patching that are identical to existing materials.
If identical materials are not available, or cannot be used, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect and that have been approved by

Architect for such use. Use materials whose installed performance will equal or surpass that of existing materials.

PART THREE - EXECUTION

3.01 EXAMINATION

A. Before cutting existing surfaces, examine the surfaces to be cut and patched and the conditions under which the work is to be performed. If unsafe or otherwise unsatisfactory conditions are encountered, take corrective action before proceeding with the work.

3.02 PREPARATION

A. To prevent failure, provide temporary support of work to be cut. Protect other work during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project that might be exposed during cutting and patching operations. Damage of adjacent finished surfaces due to improper protection by Contractor shall be repaired to the satisfaction of Architect at Contractor's expense.

3.03 PERFORMANCE

A. General: Employ skilled workmen to perform cutting and patching work. Proceed with cutting and patching at the earliest feasible time and complete without delay.

B. Cutting

1. Cut existing construction using methods that are least likely to damage work to be retained or adjoining construction.

2. In general, where cutting is required use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut through concrete and masonry using a cutting machine such as a carborundum saw or core drill to insure a neat hole. Cut holes and slots neatly to size required with minimum disturbance of adjacent work.

3. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.

4. Comply with requirements of applicable Sections of Division 2 specifications where cutting and patching requires excavating and backfilling.

5. By-pass utility services such as pipe or conduit, before cutting, where services are shown or required to be removed, relocated, or abandoned. Cut-off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and cutting.

C. Patching

1. Patch with seams which are durable and as invisible as possible. Comply with specified tolerances.

2. Where feasible, inspect and test patched areas to demonstrate integrity of work.

3. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining work in a manner which will eliminate evidence of patching and refinishing.

4. Where removal of walls or partitions extends one finished area into another, patch and repair floor and wall surfaces in the new space to provide an even surface of uniform color and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary to achieve uniform color and appearance.

5. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken area containing the patch, after the patched area has received primer and second coat.

6. Patch, repair, or rehang existing ceilings as necessary to provide an even plane surface of uniform appearance.

3.04 CLEANING

A. Thoroughly clean areas and spaces where cutting and patching is performed and areas used as access to work. Completely remove paint, mortar, oils, putty, and items of similar nature. Thoroughly clean piping, conduit, and similar features before painting or other finishing is applied. Restore damaged pipe covering to its original condition. Thoroughly clean patched surfaces before painting or other finishing is applied.

END OF SECTION

SECTION 01 5000
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary utilities.

B. Temporary sanitary facilities.

C. Temporary Controls: Barriers.

D. Security requirements.

E. Waste removal facilities and services.

F. Field offices.

1.02 RELATED REQUIREMENTS

A. Section 01 5100 - Temporary Utilities.

B. Section 01 5213 - Field Offices and Sheds.

1.03 TEMPORARY UTILITIES - SEE SECTION 01 5100

A. Owner will provide the following:

1. Electrical power, consisting of connection to existing facilities.

2. Water supply, consisting of connection to existing facilities.

B. Existing facilities may be used.

1.04 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.

B. Use of existing facilities is permitted.

C. Maintain daily in clean and sanitary condition.

D. At end of construction, return facilities to same or better condition as originally found.

1.05 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing 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.

1.06 SECURITY - SEE SECTION 01 3553

A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

1.07 WASTE REMOVAL

A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

B. Provide containers with lids. Remove trash from site periodically.

C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.08 FIELD OFFICES - SEE SECTION 01 5213

A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture and drawing display table.

B. Provide space for Project meetings, with table and chairs to accommodate 6 persons.

C. Locate offices a minimum distance of 30 feet (10 m) from existing structures.

PART 2 PRODUCTS - NOT USED
PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 6000
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General product requirements.

B. Re-use of existing products.

C. Transportation, handling, storage and protection.

D. Substitution limitations.

E. Procedures for Owner-supplied products.

F. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 RELATED REQUIREMENTS

A. Section 01 2500 - Substitution Procedures: Substitutions made during and after the Bidding/Negotiation Phase.

B. Section 01 4000 - Quality Requirements: Product quality monitoring.

C. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions: Requirements for VOC-restricted product categories.

D. Section 01 7419 - Construction Waste Management and Disposal: Waste disposal requirements potentially affecting packaging and substitutions.

1.03 REFERENCE STANDARDS A. NEMA MG 1 - Motors and Generators; 2014. B. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.04 SUBMITTALS

A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by the Contract Documents.

B. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.

C. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

D. Specific Products to be Reused: The reuse of certain materials and equipment already existing on the project site is required.

1. See drawings for list of items required to be salvaged for reuse and relocation.

2.02 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by the Contract Documents.

B. DO NOT USE products having any of the following characteristics:

1. Made using or containing CFC's or HCFC's.

2. Made of wood from newly cut old growth timber.

3. Containing lead, cadmium, asbestos.

C. Where all other criteria are met, Contractor shall give preference to products that:

1. If used on interior, have lower emissions, as defined in Section 01 6116.
2. If wet-applied, have lower VOC content, as defined in Section 01 6116.

3. Are extracted, harvested, and/or manufactured closer to the location of the project.

4. Have longer documented life span under normal use.

5. Result in less construction waste.

6. Are made of vegetable materials that are rapidly renewable.

7. Are made of recycled materials.

8. If made of wood, are made of sustainably harvested wood, wood chips, or wood fiber.

9. Are Cradle-to-Cradle Certified.

10. Have a published Environmental Product Declaration (EPD).

11. Have a published GreenScreen Chemical Hazard Analysis.

2.03 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS

A. See Section 01 2500 - Substitution Procedures.

3.02 OWNER-SUPPLIED PRODUCTS

A. Owner's Responsibilities:

1. Arrange for and deliver Owner reviewed shop drawings, product data, and samples, to Contractor.

2. Arrange and pay for product delivery to site.

3. On delivery, inspect products jointly with Contractor.

4. Submit claims for transportation damage and replace damaged, defective, or deficient items.

5. Arrange for manufacturers' warranties, inspections, and service.

B. Contractor's Responsibilities:

1. Review Owner reviewed shop drawings, product data, and samples.

2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.

3. Handle, store, install and finish products.

4. Repair or replace items damaged after receipt.

3.03 TRANSPORTATION AND HANDLING

A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.

B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

D. Transport and handle products in accordance with manufacturer's instructions.

E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.04 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.

B. Store and protect products in accordance with manufacturers' instructions.
C. Store with seals and labels intact and legible.

D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.

E. For exterior storage of fabricated products, place on sloped supports above ground.

F. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.

G. Comply with manufacturer's warranty conditions, if any.

H. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

I. Prevent contact with material that may cause corrosion, discoloration, or staining.

J. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

K. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 6116
VOLATILE ORGANIC COMPOUND (VOC) CONTENT RESTRICTIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Requirements for Indoor-Emissions-Restricted products.

B. Requirements for VOC-Content-Restricted products.

1.02 RELATED REQUIREMENTS

A. Section 01 3000 - Administrative Requirements: Submittal procedures.

B. Section 01 6000 - Product Requirements: Fundamental product requirements, substitutions and product options, delivery, storage, and handling.

C. Section 07 9200 - Joint Sealants: Emissions-compliant sealants.

1.03 DEFINITIONS

A. Indoor-Emissions-Restricted Products: All products in the following product categories, whether specified or not:

1. Interior paints and coatings applied on site.

2. Interior adhesives and sealants applied on site, including flooring adhesives.

3. Flooring.

4. Composite wood.

5. Products making up wall and ceiling assemblies.

B. VOC-Content-Restricted Products: All products in the following product categories, whether specified or not:

1. Interior paints and coatings applied on site.

2. Interior adhesives and sealants applied on site, including flooring adhesives.

C. Interior of Building: Anywhere inside the exterior weather barrier.

D. Adhesives: All gunnable, trowelable, liquid-applied, and aerosol adhesives, whether specified or not; including flooring adhesives, resilient base adhesives, and pipe jointing adhesives.

E. Sealants: All gunnable, trowelable, and liquid-applied joint sealants and sealant primers, whether specified or not; including firestopping sealants and duct joint sealers.

F. Inherently Non-Emitting Materials: Products composed wholly of minerals or metals, unless they include organic-based surface coatings, binders, or sealants; and specifically the following:

1. Concrete.

2. Clay brick.

3. Metals that are plated, anodized, or powder-coated.

4. Glass.

1.04 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

B. ASTM D3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings; 2005 (Reapproved 2013).

C. CAL (CDPH SM) - Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions From Indoor Sources Using Environmental Chambers; California Department of Public Health; v1.1, 2010.

D. CARB (ATCM) - Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products; California Air Resources Board; current edition.

E. CARB (SCM) - Suggested Control Measure for Architectural Coatings; California Air Resources Board; 2007.

F. CHPS (HPPD) - High Performance Products Database; Current Edition at **www.chps.net/**.

G. CRI (GLP) - Green Label Plus Testing Program - Certified Products; www.carpet-rug.org; current edition.

H. SCAQMD 1113 - Architectural Coatings; 1977 (Amended 2016).

I. SCAQMD 1168 - South Coast Air Quality Management District Rule No.1168; current edition.

J. SCS (CPD) - SCS Certified Products; current listings at **www.scscertified.com**.

K. UL (GGG) - GREENGUARD Gold Certified Products; current listings at **http://http://productguide.ulenvironment.com/QuickSearch.aspx**.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: For each VOC-restricted product used in the project, submit evidence of compliance.

1.06 QUALITY ASSURANCE A. Indoor Emissions Standard and Test Method: CAL (CDPH SM), using Standard Private Office exposure scenario and the allowable concentrations specified in the method, and range of total VOC's after 14 days.

1. Wet-Applied Products: State amount applied in mass per surface area.

2. Paints and Coatings: Test tinted products, not just tinting bases.

3. Evidence of Compliance: Acceptable types of evidence are the following; a

    a. Current UL (GGG) certification.
    b. Current SCS (CPD) Floorscore certification.
    c. Current SCS (CPD) Indoor Advantage Gold certification.
    d. Current listing in CHPS (HPPD) as a low-emitting product.
    e. Current CRI (GLP) certification.
    f. Test report showing compliance and stating exposure scenario used.

4. Product data submittal showing VOC content is NOT acceptable evidence.

5. Manufacturer's certification without test report by independent agency is NOT acceptable evidence.

B. VOC Content Test Method: 40 CFR 59, Subpart D (EPA Method 24), or ASTM D3960, unless otherwise indicated.

1. Evidence of Compliance: Acceptable types of evidence are:

    a. Report of laboratory testing performed in accordance with requirements.

C. Composite Wood Emissions Standard: CARB (ATCM) for ultra-low emitting formaldehyde (ULEF) resins.

1. Evidence of Compliance: Acceptable types of evidence are:

    a. Current SCS "No Added Formaldehyde (NAF)" certification; www.scscertified.com.
    b. Report of laboratory testing performed in accordance with requirements.
    c. Published product data showing compliance with requirements.

D. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

PART 2 PRODUCTS

2.01 MATERIALS

A. All Products: Comply with the most stringent of federal, State, and local requirements, or these specifications.

B. Indoor-Emissions-Restricted Products: Comply with Indoor Emissions Standard and Test Method, except for:

1. Composite Wood, Wood Fiber, and Wood Chip Products: Comply with Composite Wood Emissions Standard or contain no added formaldehyde resins.

2. Inherently Non-Emitting Materials.

C. VOC-Content-Restricted Products: VOC content not greater than required by the following:

1. Adhesives, Including Flooring Adhesives: SCAQMD 1168 Rule.
2. Joint Sealants: SCAQMD 1168 Rule.
3. Paints and Coatings: Each color; most stringent of the following: a. 40 CFR 59, Subpart D. b. SCAQMD 1113 Rule. c. CARB (SCM).

PART 3 EXECUTION

3.01 FIELD QUALITY CONTROL

A. Owner reserves the right to reject non-compliant products, whether installed or not, and require their removal and replacement with compliant products at no extra cost to Owner.

B. Additional costs to restore indoor air quality due to installation of non-compliant products will be borne by Contractor.

END OF SECTION

SECTION 01 7000
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Requirements for alterations work, including selective demolition.

C. Pre-installation meetings.

D. Cutting and patching.

E. Surveying for laying out the work.

F. Cleaning and protection.

G. Demonstration and instruction of Owner personnel.

H. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

I. General requirements for maintenance service.

J. Unit Turn Over

K. Site logistics Plan

1.02 RELATED REQUIREMENTS

A. Section 01 1000 - Summary:

B. Section 01 3000 - Administrative Requirements: Submittals procedures.

C. Section 01 4000 - Quality Requirements: Testing and inspection procedures.

D. Section 01 5000 - Temporary Facilities and Controls: Temporary exterior enclosures.

E. Section 01 7419 - Construction Waste Management and Disposal: Additional procedures for trash/waste removal, recycling, salvage, and reuse.

F. Section 01 7800 - Closeout Submittals: Project record documents, operation and maintenance data, warranties, and bonds.

G. Section 02 4100 - SELECTIVE DEMOLITION:

H. Section 07 8400 - Firestopping.
1.03 REFERENCE STANDARDS

A. All execution and closeout requirements shall be in compliance with HUD Multifamily Accelerated Processing (MAP) Guide, 4430.G.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:

1. Structural integrity of any element of Project.

2. Integrity of weather exposed or moisture resistant element.

3. Efficiency, maintenance, or safety of any operational element.

4. Visual qualities of sight exposed elements.

5. Work of Owner or separate Contractor.

C. Project Record Documents: Accurately record actual locations of capped and active utilities.

D. Contractor is required to keep all areas accessible by the public clean and free of debris and or stored materials.

E. Pre-Installation conference is required for any construction task or modification that involves the building envelope.

1.05 QUALIFICATIONS

A. For demolition work, employ a firm specializing in the type of work required.

1. Minimum of 10 years of documented experience.

B. For field engineering, employ a professional engineer of the discipline required for specific service on Project, licensed in the State in which the Project is located. Employ only individual(s) trained and experienced in establishing and maintaining horizontal and vertical control points necessary for laying out construction work on project of similar size, scope and/or complexity.

C. For design of temporary shoring and bracing, employ a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

D. Contractor’s onsite supervision is required to have completed a minimum of a 30-hour osha training class within 12 months of the project start date and have up to date State Erosion Control Certifications

1.06 PROJECT CONDITIONS

A. Use of explosives is not permitted.

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

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

D. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

E. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.

F. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.

1. Minimize amount of bare soil exposed at one time.

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

G. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.

1. Outdoors: Limit conduct of especially noisy exterior work to the hours of 8 am to 5 pm.

H. Pest and Rodent Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.

I. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.07 COORDINATION

A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements.

B. Notify affected utility companies and comply with their requirements. Notification and approval by Owner of any utility service interruptions. Owner has to have this coordinated with tenants

C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

E. Coordinate completion and clean-up of work of separate sections.

F. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 6000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.
D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or mis-fabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions. Notify Owner/Arch of any questionable surfaces, asbestos or unacceptable subsurface issues

G. Any coordination of cable, internet requires a 45-day notice to Owner.

H. Coordination of any Property Office services and office renovation schedule to be approved by Owner prior to initiation of construction.

3.02 PREPARATION

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

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

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

3.03 PREINSTALLATION MEETINGS

A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.

B. Require attendance of parties directly affecting, or affected by, work of the specific section.

C. Notify Architect four days in advance of meeting date.

D. Prepare agenda and preside at meeting:

1. Review conditions of examination, preparation and installation procedures.

2. Review coordination with related work.

E. Record minutes and distribute copies within five days after meeting to participants, with one copy to Architect, Owner, participants, and those affected by decisions made.

3.04 LAYING OUT THE WORK

A. Verify locations of survey control points prior to starting work.

B. Promptly notify Architect of any discrepancies discovered.

C. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:

1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.

D. Periodically verify layouts by same means.

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

F. Construction Progress Schedule

1. Contractor is required to keep a short-term progress schedule per floor and or building to monitor progress and assure timely turnover of units back to the Owner.

2. Contractor is to include in project schedule the designated time for the Owner to move tenants out and back into the unit.

3.05 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

E. Make neat transitions between different surfaces, maintaining texture and appearance.

F. Saws are to be located away from public and measures taken to eliminate dust and debris.

3.06 ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.

1. Verify that construction and utility arrangements are as indicated.

2. Report discrepancies to Architect before disturbing existing installation.

3. Beginning of alterations work constitutes acceptance of existing conditions.

B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.

C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.

1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.

2. Insulate existing ducts or pipes that are exposed to outdoor ambient temperatures by alterations work.

D. Remove existing work as indicated and as required to accomplish new work.

1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction specified.

2. Remove items indicated on drawings.

3. Relocate items indicated on drawings.

4. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.

5. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.

E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, Telecommunications, and _____): Remove, relocate, and extend existing systems to accommodate new construction.

1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.

2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.

3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.

a. Disable existing systems only to make switchovers and connections; minimize duration of outages.

b. Provide temporary connections as required to maintain existing systems in service.

4. Verify that abandoned services serve only abandoned facilities.

5. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.

F. Protect existing work to remain.

1. Prevent movement of structure; provide shoring and bracing if necessary.

2. Perform cutting to accomplish removals neatly and as specified for cutting new work.

3. Repair adjacent construction and finishes damaged during removal work.

G. Adapt existing work to fit new work: Make as neat and smooth transition as possible.

1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.

2. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.

3. Where a change of plane of 1/4 inch (6 mm) or more occurs in existing work, submit recommendation for providing a smooth transition for Architect review and request instructions.

4. Trim existing wood doors as necessary to clear new floor finish. Refinish trim as required.

H. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.

I. Refinish existing surfaces as indicated:

1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.

2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.

J. Clean existing systems and equipment.

K. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.

L. Do not begin new construction in alterations areas before demolition is complete.

M. Comply with all other applicable requirements of this section.

3.07 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. See Alterations article above for additional requirements.

C. Perform whatever cutting and patching is necessary to:

1. Complete the work.

2. Fit products together to integrate with other work.

3. Provide openings for penetration of mechanical, electrical, and other services.

4. Match work that has been cut to adjacent work.

5. Repair areas adjacent to cuts to required condition.

6. Repair new work damaged by subsequent work.

7. Remove samples of installed work for testing when requested.

8. Remove and replace defective and non-conforming work.

D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

E. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

G. Restore work with new products in accordance with requirements of Contract Documents.

H. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 8400, to full thickness of the penetrated element.

J. Patching:

1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

2. Match color, texture, and appearance.

3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

4. Cleanup of public areas is required daily to keep dust and debris out of areas used and accessed by public.

3.08 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Broom and vacuum clean interior areas prior to start of surface finishing and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.09 PROTECTION OF INSTALLED WORK

A. all asbestos removal records showing location, removal and disposal per State requirements

B. Close out documents to be provided in electronic format and are to be tabbed per section and item as noted in the Table of Contents. One hard copy is to be delivered to the site at Substantial Completion including a written warranty procedure.

C. Protect installed work from damage by construction operations.

D. Provide special protection where specified in individual specification sections.

E. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

F. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

G. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

H. Protect work from spilled liquids. If work is exposed to spilled liquids, immediately remove protective coverings, dry out work, and replace protective coverings.

I. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

J. Prohibit traffic from landscaped areas.

K. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.10 UNIT TURN OVER

A. Contractor is to provide a schedule per floor or per apartment building (as it applies) for approval and acceptance by the Owner.

B. Contractor’s planned duration per floor/building cannot be altered except for unforeseen conditions and agreed on by Architect.

C. When work has progressed for Owner/Architect inspection, the Contractor is to provide a list of punch list items that have been completed per unit along with the Owner’s ready to rent form signed by the

Project Superintendent. This is to verify that the unit has been inspected and the scope of work is complete, and the unit has been cleaned.

D. The Architect will provide the Contractor with the Architect/Owner's punch list and the Contractor will have 2 calendar days to complete any remaining punch list item.

E. The Owner will schedule the Tenant move back to occur 2 calendar days after the initial inspection.

F. Provided the Contractor does not meet the turnover of the units per the agreed-on schedule, the Contractor will be responsible for any additional cost occurred by the Owner has a result of the late delivery.

G. Contractor is to note that per the HUD Map Guide units are not to be reoccupied until all work is complete.

3.11 DEMONSTRATION AND INSTRUCTION

A. Demonstrate operation and maintenance of products to Owner's personnel two weeks prior to date of Substantial Completion.

B. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time, at equipment location.

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

D. Provide a qualified person who is knowledgeable about the Project to perform demonstration and instruction of Owner's personnel.

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

3.12 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operational at Substantial Completion..

3.13 FINAL CLEANING

A. Execute final cleaning prior to final project assessment.

1. Clean areas to be occupied by Owner prior to final completion before Owner occupancy.

B. Use cleaning materials that are nonhazardous.

C. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces,

D. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

E. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

F. Clean site; sweep paved areas, rake clean landscaped surfaces.

G. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.14 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.

1. Provide copies to Architect and Owner.

B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.

C. Notify Architect and provide written Contractor's Correction Punch List when work is considered ready for Architect's Substantial Completion inspection.

D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.

E. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.

F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

G. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.

H. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

I. Field location notes:

1. Contractor to provide lead based paint, asbestos, and mold records - where located and removed illustrated graphically in locations on plans locating extents of removal.

3.15 MAINTENANCE

A. Provide service and maintenance of components indicated in specification sections.

B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.

C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.

E. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION

SECTION 01 7419
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.01 WASTE MANAGEMENT REQUIREMENTS

A. Owner 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.

5. Bricks: May be reused for repairs, if whole.

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.

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.

F. 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.

5. Incineration, either on- or off-site.

G. 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.

1.02 RELATED REQUIREMENTS

A. Section 01 3000 - Administrative Requirements: Additional requirements for project meetings, reports, submittal procedures, and project documentation.

B. Section 01 5000 - Temporary Facilities and Controls: Additional requirements related to trash/waste collection and removal facilities and services.

C. Section 01 6000 - Product Requirements: Waste prevention requirements related to delivery, storage, and handling.

D. Section 01 7000 - Execution and Closeout Requirements: Trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

1.03 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.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. 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 Owner.

3. Landfill Disposal: Include the following information:

a. Identification of material.

b. Amount, in tons or cubic yards (cubic meters), 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. 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 (cubic meters), 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.

5. 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 (cubic meters).

c. Include weight tickets as evidence of quantity.

6. Other Disposal Methods: Include information similar to that described above, as appropriate to disposal method.

PART 3 EXECUTION

2.01 WASTE MANAGEMENT PROCEDURES

A. See Section 01 3000 for additional requirements for project meetings, reports, submittal procedures, and project documentation.

B. See Section 01 5000 for additional requirements related to trash/waste collection and removal facilities and services.

C. See Section 01 6000 for waste prevention requirements related to delivery, storage, and handling.

D. See Section 01 7000 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

2.02 WASTE MANAGEMENT PLAN 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, Owner, and Architect.

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.

4. Job safety 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 materials for barriers and enclosures that are nonhazardous, recyclable, or reusable to the maximum extent possible; reuse project construction waste materials if possible.

3. Locate enclosures out of the way of construction traffic.

4. Provide adequate space for pick-up and delivery and convenience to subcontractors.

5. 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

SECTION 01 7800
CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project Record Documents.

B. Operation and Maintenance Data.

C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

A. Section 00 7200 - General Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.

B. Section 01 3000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

C. Section 01 7000 - Execution and Closeout Requirements: Contract closeout procedures.

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

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

1.03 SUBMITTALS

A. Project Record Documents: Submit documents to Architect at Substantial Completion. One electronic and one hard copy required.

B. Operation and Maintenance Data:

1. Submit 1 hard copy and 1 electronic copy of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.

2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.

3. Submit one copy of completed documents at Substantial Completion. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.

4. Submit 1 hard copy and 1 electronic copy sets of revised final documents in final form within 10 days after final inspection.

5. Submit 1 hard copy and 1 electronic copy Excel spreadsheet with serial number of all appliances and space where they are located.

C. Warranties and Bonds:

1. For equipment or component parts of equipment put into service during construction with Owner'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.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:

1. Drawings.

2. Specifications.

3. Addenda.

4. Change Orders and other modifications to the Contract.

5. Reviewed shop drawings, product data, and samples.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:

1. Manufacturer's name and product model and number.

2. Product substitutions or alternates utilized.

3. Changes made by Addenda and modifications.

F. As- Built Drawings

1. The GC/CM is responsible to keep a progressive set of record documents. These notes are to be transferred at the end of the project to a record set of contract documents that include all drawing updates and supplemental sketches issued by the Architect/Engineers.

2. The Owner will provide a hard copy of the units numbered typical to the property. These unit layouts are to be used for the unit as-built record. Any modification to the plan or scope specific to the unit is to be noted on this drawing. For example, if bathroom abatement is not included in the typical scope but it was completed in a specific unit, that unit should note what was abated. Or if hot water heater replacement is not included but was done in unit 100, then unit 100 would be noted that the hot water heater was replaced.

3. At Substantial Completion, the Architect is to issue an updated set of contract documents for the GC/CM that includes all drawing revisions from the Architect and Engineering discipline so the GC/CM can incorporate all of the field modifications and any other necessary information as noted below for a complete record set.

4. It is to be noted that per the contract specifications, it is the GC/CM's responsibility to produce the as-constructed record. The GC/CM is responsible for it being thorough and accurate.

5. The final set of As-Built Record drawings to be submitted 30 days after Substantial Completion are to include all items such as:

a. All abatement needs to be marked per unit.

b. All structural repairs need to be marked per unit.

c. All water line location and repairs and or new lines need to be marked per unit.

d. All new sewer repairs and or replacements need to be marked per unit.

e. All cutoff/shut offs not shown on the contract documents need to be located on the as-built.

f. A unit labeled photograph of all open wall cavities after the new work is complete is to be provided for each unit.

g. Any additional scope added but not shown in an architectural/engineer drawing revision should be marked.

h. List any product variance or installation change required that differs from the contract documents. These changes should be initialed by the Architect as acceptable.

i. As-Built Drawings are to note any field directive given by the Architect/Engineer and this change should be initialed and dated by the all parties.

j. As-Built Drawings should reference all RFI's.

k. As-Built Drawings should reference any change orders.

l. As-Built Drawings should note any field modification. These changes should be initialed by the Architect as acceptable.

m. All Architectural/Engineering supplemental drawings are to be added by the Architect/Engineer into a record set. This record set is to have all As-Built notifications added and is to be become the final As-Built record set provided to the Owner at closet out.

G. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:

1. Field changes of dimension and detail.

2. Details not on original Contract drawings.

3.02 OPERATION AND MAINTENANCE DATA

A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:
1. Product data, with catalog number, size, composition, and color and texture designations.

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.

D. Additional information as specified in individual product specification sections.

E. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.04 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.

B. Where systems involve more than one specification section, provide separate tabbed divider for each system.

C. Binders: Commercial quality, 8-1/2 by 11 inch (216 by 280 mm) three D side ring binders with durable plastic covers; 2 inch (50 mm) maximum ring size. When multiple binders are used, correlate data into related consistent groupings.

D. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.

E. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.

F. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.

G. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.

H. Text: Manufacturer's printed data, or typewritten data on 20-pound paper.

I. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

3.05 WARRANTIES AND BONDS

A. 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 Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined. Any item that needs to be registered with the manufacturer for the warranty to be in affect is to be registered by the GC/CM and or Subcontractor that provided the item. If registration is not required, then this is to be stated by the GC/CM in the warranty documents Otherwise the GC/CM assumes responsibility.

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

C. Co-execute submittals when required.

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

E. Cover: Identify each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.

F. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.

G. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

H. At project Substantial Completion General Contractor/Construction Manager is to provide:

1. The GC/CM is to schedule a close out meeting with the Property Manager and Area Manger through the LHP Construction contact. In that meeting the GC/CM provide a copy of the warranty manual and as-built drawings to the Property Manager

2. The GC/CM's contact during the 1-year warranty along with the written 1-year warranty letter.

3. Letter should note that all items being turned over to the Owner at that time.

4. O&M items, complete warranties and as-built drawings are to intended to be complete on the date of the Substantial Completion.
However, if not the GC/CM is responsible to manage the warranty process until which time the GC/CM has provided the warranty information to the Property Manager and explained how their warranty process works.

5. The subcontractor call list for the 1-year warranty services. The contact person is to be listed. The GC/CM is responsible to provide this from the Subcontractor/Supplier on the Subcontractor/Supplier letterhead.

6. The extended warranty call list for all items that have an extended warranty. In the close out manual a cover sheet should be provided that includes the contact information of the manufacturer and the scope of the warranty as noted in the specifications. The executed warranty is also to be included. Note this is to begin at the date of Substantial Completion.

7. A record of Training for items such as:

a. Location of any Shut-offs

END OF SECTION

SECTION 02 4100
SELECTIVE DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Selective demolition of building elements for alteration purposes.

1.02 RELATED REQUIREMENTS

A. Section : Limitations on Contractor's use of site and premises.

B. Section 01 1000 - Summary: Description of items to be salvaged or removed for re-use by Contractor.

C. Section 01 5000 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.

D. Section 01 7000 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.

E. Section 01 7419 - Construction Waste Management and Disposal: Limitations on disposal of removed materials; requirements for recycling.

1.03 REFERENCE STANDARDS A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition. B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2013.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

1.05 QUALITY ASSURANCE

A. Demolition Firm Qualifications: Company specializing in the type of work required.

1. Minimum of 5 years of documented experience.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.01 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with other requirements specified in Section 01 7000.

B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.

1. Obtain required permits. 2. Comply with applicable requirements of NFPA 241.

2. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.

3. Provide, erect, and maintain temporary barriers and security devices.

4. Conduct operations to minimize effects on and interference with adjacent structures and occupants.

5. Do not close or obstruct roadways or sidewalks without permit.

6. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.

7. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.

C. Do not begin removal until receipt of notification to proceed from Owner.

D. Protect existing structures and other elements that are not to be removed.

1. Provide bracing and shoring.

2. Prevent movement or settlement of adjacent structures.

3. Stop work immediately if adjacent structures appear to be in danger.

E. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution. F. Hazardous Materials: Comply with 29 CFR 1926 and state and local regulations.

G. Perform demolition in a manner that maximizes salvage and recycling of materials.

1. Comply with requirements of Section 01 7419 - Waste Management.

2. Dismantle existing construction and separate materials.

3. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.

3.02 EXISTING UTILITIES

A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.

E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.

F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

H. Prepare building demolition areas by disconnecting and capping utilities outside the demolition zone; identify and mark utilities to be subsequently reconnected, in same manner as other utilities to remain.

3.03 SELECTIVE DEMOLITION FOR ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.

1. Verify that construction and utility arrangements are as indicated.

2. Report discrepancies to Architect before disturbing existing installation.

3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.

B. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.

C. Remove existing work as indicated and as required to accomplish new work.

1. Remove items indicated on drawings.

D. Protect existing work to remain.

1. Perform cutting to accomplish removals neatly and as specified for cutting new work.

2. Repair adjacent construction and finishes damaged during removal work.

3. Patch as specified for patching new work.

3.04 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site.

B. Remove from site all materials not to be reused on site; comply with requirements of Section 01 7419 - Waste Management.

C. Leave site in clean condition, ready for subsequent work.

D. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 02 83 19.13
LEAD-CONTAINING AND LEAD-BASED PAINT REMOVAL AND DISPOSAL

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Furnish all labor, services, appliances, materials, equipment, insurance, and permits necessary to meet regulatory compliance and disposal requirements, and to control or otherwise protect workers and untrained occupants working or residing in nearby areas from airborne concentrations of lead from surfaces during the removal of lead-containing paint and lead-based paint (LBP) from interior and exterior building components at the Western Heights Apartments complex. LBP is present below surface coatings on porch and stairwell components (including most columns, handrails, stair half-wall caps, and stair stringers and risers) identified during previous testing at the site. LBP is defined as painted, coated, or varnished surfaces where lead concentrations are ³ 1.0 mg/cm2 (using XRF analysis) or 0.5% by weight. The surface paint layers are not LBP, but may be lead-containing with concentrations <1.0 mg/cm2. LBP abatement of the lower coating is not the objective of the Work, but preparation for repainting will include some removal of loose paint layers which may include LBP.

B. Information is available to aid in determining the concentrations of lead in painted surfaces on the subject components. The information is available in the following data report: Lead-Based Paint Inspection Report, Western Heights Apartments, Knoxville, Tennessee, prepared by QE2, dated September 11, 2018. Verify the actual current site conditions, and evaluate and estimate locations and quantities of LBP, by performing a thorough site inspection prior to Work. The Owner and its representatives will not be held responsible for additional work caused by the Contractor's not performing a thorough site inspection.

C. The previous survey work indicates that lead-containing paint and LBP occurs on components identified for renovation and re-coating activities during this project. U.S. Department of Labor, Occupational Safety and Health Administration (OSHA), and Tennessee OSHA (TOSHA) regulations for worker safety apply to activities where workers may be exposed to lead and lead dust debris. Precautions shall be taken, including the adherence to the requirements of Subparagraph 3.02 of this Section, to ensure that workers are not exposed to lead dust during the Work.

1.02 RELATED WORK

A. Section 01 33 43: Lead-Containing and Lead-Based Paint Removal and Disposal Submittals

1.03 REGULATING AGENCIES

A. Two primary sets of regulations and regulating agencies apply for lead-containing paint and LBP in regard to the building renovation project:

1. OSHA and TOSHA regulations for worker safety.

2. TDEC Division of Solid and Hazardous Waste Management (DSHWM) regulations regarding disposal of LBP debris.

1.04 SCOPE OF WORK

A. Scope of Work: The scope of work for removal of lead-containing paint and LBP removal and disposal includes:

** Protection of general workers from exposure to lead-based paint or lead dust in debris.

** Removal of lead-containing paint and incidental removal of LBP from components including, but not limited to columns, railings, stairwell wall caps, stringers, risers, and handrails as specified in the painting scope of work.

** Performing or providing a (negative) Exposure Assessment in accordance with Part 3, Item 3.02, if desired, to attempt to lessen personal protective equipment requirements.

** Containment of paint chips and debris, and any removal media used during removal.

** Test waste materials for determination of hazardous lead concentrations using laboratory analysis by the Toxicity Characteristic Leaching Procedure (TCLP) for lead, based upon representative composite samples of the LBP chips and debris. If desired, Contractor may assume waste materials are hazardous for disposal purposes.

** Disposal of paint chips and removed debris as either non-hazardous or hazardous waste, depending on TCLP results or assumption as hazardous.

B. Visit the site and become familiar with the existing quantities, layers, condition of materials to be removed, and local conditions prior to commencement of work. Lack of knowledge relative to these conditions will in no way relieve the obligations and responsibilities assumed under the contract. Provide all of the items, necessary and/or incidental, to complete the work consistent with this specification.

1.05 COORDINATION

A. Ensure that paint removal is properly managed to control airborne concentrations of lead during the Work.

B. Coordinate Work to ensure that containment is functioning properly and protecting workers from exposure in other areas.

1.06 DEFINITIONS

AL Action Level. Action level means employee exposure, without regard to the use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air (30 mg/m3) calculated as an 8-hour time-weighted average (TWA). The AL is an exposure level established by OSHA/TOSHA.

Building Individual buildings at the Western Heights Apartments complex, including interior and exterior Work Areas.

Competent
Person One who is capable of identifying existing and predictable lead hazards in the surroundings or working conditions and who has authorization to take prompt corrective measures to eliminate them.

Controlled Areas Areas that are restricted to persons directly associated with the Work. Signs and restrictive tape identify these areas. Areas where lead-containing paint and LBP removal are being performed.

Control Lead-containing paint and lead-based paint debris must be controlled to the extent that is required to keep the project in compliance with federal, state and local regulations regarding worker and environmental impact.

EPA United States Environmental Protection Agency

LBP Lead-Based Paint

OSHA Occupational Safety and Health Administration

PEL Permissible Exposure Limit. An 8-hour time weighted average (TWA) exposure limit established by OSHA. The PEL-TWA for lead is 50 micrograms per cubic meter (mg/m3). Ensure that no employee is exposed to lead at concentrations greater than 50 mg/m3 averaged over an 8-hour period, or if exposure exceeds the PEL the employees' allowable exposure must be reduced according to the formula in 29 CFR 1926.62 (c)(2).

TOSHA Tennessee Occupational Safety and Health Administration

1.07 NON-HAZARDOUS PAINT DISPOSAL

A. Contractor may assume loose paint debris generated during the abatement process is hazardous for disposal purposes, or Contractor may test to determine whether the material may be disposed as non-hazardous construction/demolition waste, or special waste. Analyze any waste samples collected by the TCLP method to determine proper disposal requirements. Make laboratory results available to Environmental Consultant within 24 hours of receipt from laboratory, and prior to the disposal of the waste debris.

B. All waste must be kept secured and labeled in accordance with 29 CFR 1910.145 – Signs and Tags, until analyzed by the TCLP test. If it is characterized or assumed as hazardous, the waste must be labeled in accordance with 49 CFR 172, 173, 178 and 179 Regulations for Labeling, Mailing and Transporting Hazardous Waste.

C. After the waste is characterized, if non-hazardous, it shall be disposed in accordance with all applicable local, federal, state and/or county regulations at a facility licensed for receiving this type of waste.

D. Provide manifests and receipts to document waste disposal.

1.08 HAZARDOUS LEAD PAINT DISPOSAL

A. If the waste is assumed as hazardous by the Contractor, or if any portion of the debris is found to be hazardous waste by Contractor's TCLP analysis [i.e. if TCLP concentrations of lead are ≥ 5 milligrams per liter (mg/L), or 5 ppm], all entities and/or individuals involved in the off-site removal and disposal work must possess valid permits and/or licenses required under the Resource Conservation and Recovery Act (RCRA) as well as any other federal, State or local permits or licenses required for removal, packaging, transportation and disposal of hazardous waste.

B. All hazardous waste (debris assumed as hazardous, or debris failing the TCLP analysis) must be disposed by the Contractor at an Environmental Protection Agency (EPA) permitted Treatment, Storage and Disposal Facility (TSD).

C. Provide manifests and receipts to document waste disposal.

1.09 QUALITY ASSURANCE

A. Contractor: The Contractor shall certify that all site workers for the Work have prior experience on projects similar in nature and extent to perform the work in a satisfactory manner and to comply with TOSHA/OSHA requirements for worker safety as defined in 29 CFR 1926.62 (Lead in Construction) and to comply with all State and Federal regulations regarding the disposal of lead paint debris.

B. Competent Person: The Contractor shall certify that a full-time, on-site Competent Person is assigned to the Work, and meets the Competent Person requirements of 29 CFR 1926.62. The Competent Person shall be experienced in the administration and supervision of LBP projects (See OSHA definition of Competent Person in the definitions section).

C. Testing Laboratory: The Contractor shall provide the name, address, and telephone number of any third-party contractor or independent testing laboratory that will collect or analyze any samples. Documentation that the laboratory performing the analysis is an EPA National Lead Laboratory Accreditation Program (NLLAP) accredited laboratory and that it is rated proficient in the NIOSH/EPA Environmental Lead Proficiency Analytical Testing Program (ELPAT) will also be provided.

1.10 REGULATORY REQUIREMENTS

A. All Work shall be performed in strict compliance with current federal, State and local regulations, codes and standards, as listed below:

1. OSHA

    a. 29 CFR 1910 General Industry Standard

    b. 29 CFR 1910.1025 Lead Hazard Standard

    c. 29 CFR 1910.134 Respiratory Protection

    d. 29 CFR 1910.1200 Hazard Communication

e. 29 CFR 1910.145 Signs and Tags

f. 29 CFR 1926 Construction Industry Standard

g. 29 CFR 1926.62 Lead Standard for the Construction Industry

2. EPA

a. 40 CFR 260, 261, 262, 263, 264 and 265 Hazardous Waste Regulations

3. United States Department of Transportation (DOT)

a. 49 CFR 172, 173, 178 and 179 Regulations for Labeling, Mailing and Transporting Hazardous Waste

4. State of Tennessee: Rules of the Tennessee Department of Labor and Workforce Development Occupational Safety and Health, Rules and Regulations of the State of Tennessee (Rules) Chapter 0800-1-6, [the TOSHA has adopted the federal standards under 29 CFR 1926]. Rules of Tennessee Department of Environment and Conservation (TDEC) Division of Solid Waste Management (DSHWM) Chapter 1200-1-18 Lead-Based Paint Abatement and TDEC DSHWM policy for the management and disposal of LBP debris is addressed in a policy letter dated September 1, 2000.

** Chapter 1200-1-7: Solid Waste Processing and Disposal

** Chapter 1200-1-11: Hazardous Waste Management

** Chapter 1200-1-18: Lead Based Paint Abatement

5. County and city codes and ordinances as applicable.

6. All attachments, update memorandums, records of decision and information sheets submitted by federal, State and local agencies.

B. Any variance from applicable regulations shall have the prior written consent of the regulatory agency and the Environmental Consultant. Any variance from the procedures and requirements of this Specification shall have the prior written consent of the Environmental Consultant.

1.11 SUBMITTALS

A. Submittals – Comply with submittals requirements in Section 01 33 43.

1.12 DELIVERY AND STORAGE

A. Store materials subject to damage off the ground, away from wet or damp surfaces, and under cover sufficient to prevent contamination.

B. Remove from the premises all damaged or deteriorating materials. Dispose of and/or decontaminate materials that become contaminated with lead dust in accordance with applicable regulatory standards.

1.13 GENERAL PROTECTION OF PERSONS

A. The Contractor shall be responsible for all personal protective equipment (PPE - clothing, respirators, etc.), engineering controls, and work practices to be used for the Work specified herein (and specifically defined in Section 3 – Execution) and as required by OSHA/TOSHA regulations for Lead in Construction - 29 CFR 1926.62.

B. Prior to commencing work, ensure that all workers are instructed and knowledgeable in appropriate procedures of personnel protection for work around lead hazards, specifically those required by OSHA/TOSHA in 29 CFR 1926.62(l), “Employee information and training”. In addition, ensure that all employees working onsite have reviewed the Health and Safety Plan for the Work.

C. Contractor shall be solely responsible for enforcing worker protection requirements as required by 29 CFR 1926.62, including protection from exposure of workers who are in the building not associated with the Work of the Contract.

D. Provide workers with personally issued respiratory protective equipment approved by NIOSH or MSHA, as needed. The respiratory equipment shall be suitable for protecting against lead exposures in the controlled areas according to OSHA Standard 29 CFR 1926.62 and OSHA 29 CFR 1910.134, Respiratory Protection. Filter cartridges that meet the criteria established in NIOSH 42 CFR 84 shall be selected, provided and replaced as required.

E. Contractor shall provide workers, Owner and/or Design Team, and authorized visitors with protective disposable clothing, head covers, gloves, eye protection and foot covers of various sizes to enter Controlled Areas. Contractor is not responsible for providing respiratory protection to anyone other than his or her employees.

F. Reporting Unusual Events: When an event of unusual and significant nature occurs at the site, a report listing the chain of events, persons participating, response and similar pertinent information shall be prepared and submitted to the Owner or Owner’s representative. When such events are known or predictable in advance, the Owner or Owner’s representative will be notified in advance, at the earliest possible date.

G. Reporting Accidents: Prepare and submit reports of significant accidents at the site. A significant accident includes events where personal injury is sustained, or property loss of substance is sustained.

H. Post telephone numbers and locations of emergency services including, but not limited to, fire, ambulance and police at the entrance to the decontamination unit.

1.14 SIGN IN/OUT LOG

A. Maintain a Sign In/Out Log at the entrance to the Controlled Area(s). The Log shall be maintained from the time the first activity is performed until the project is complete.

All persons entering the Controlled Area(s), including the Contractor's workers, Owner's representative and regulatory officials shall be required to sign in and out upon entering and exiting the Controlled Area. All persons shall record their name, time, company or agency represented and reason for entering the Controlled Area.

B. Except for Governmental Inspectors having jurisdiction, no visitors shall be allowed in any Controlled Area, except as authorized by Owner and Designer representatives.

1.15 SAFETY AND PROTECTION, OSHA/TOSHA COMPLIANCE

A. The Contractor's Competent Person shall be the onsite person responsible for coordination, safety, security and execution of the Work. The Competent Person shall be able to identify existing and predictable lead hazards and shall have the authority to take corrective measures to eliminate them.

PART 2: PRODUCTS

2.01 MATERIALS

A. Containers: Air and water-tight containers shall be utilized, suitable to receive and retain any lead-containing or contaminated materials until TCLP analysis and subsequent disposal at an approved site. All containers shall be labeled in accordance with OSHA Regulations 29 CFR 1926.62 and 1910.145, and/or DOT Regulations 49 CFR 172, 173, 178 and 179. Three types of containers may be used:

1. Six-mil plastic bags/sheet sized to fit within a drum or waste dumpster.

2. Metal or fiber drums with tightly fitting lids.

3. Waste dumpsters with lids.

B. Warning Labels and Signs will conform to OSHA regulation 29 CFR 1926.62 (Lead), DOT regulations 49 CFR 172, 173, 178 and 179 (Regulations for Labeling, Mailing and Transporting Hazardous Waste), and/or EPA regulations 40 CFR 260, 261, 262, 263, 264 and 265 (Hazardous Waste Regulations).

C. Polyethylene (poly) sheeting: 4-mil and 6-mil polyethylene sheets in sufficient sizes to minimize the frequency of joints.

D. Tape: Glass fiber or other type capable of sealing joints of adjacent plastic sheets and for attachment of plastic sheet to finished or unfinished surfaces of dissimilar materials under both dry and wet conditions.

E. Containment Materials: Polyethylene (poly) sheeting, Tarpaulins, Tape, and/or other materials used to prevent exposure above the Permissible Exposure Limits (PELs) outside of the area where lead-based paint abatement occurs.

PART 3: EXECUTION

3.01 REMOVAL OF LEAD-CONTAINING AND LEAD-BASED PAINT

A. Controlled Areas: Before the removal of paint, establish and cordon off Controlled Areas to prevent entry by unauthorized personnel by placing warning tape around the areas where paint is removed. The tape shall be no less than thirty (30) feet from the immediate area of paint removal. Provide warning signs at each access point to the controlled area and every 20 feet around the cordoned area(s). To the extent practicable, these signs must be in the primary language of the occupants and workers. These signs must be posted before beginning the renovation and must remain in place and readable until the renovation and the post-renovation cleaning verification has been completed.

B. Containing the Work Area. Before beginning the removal, configure containment system(s) in the Work Area so that no dust or debris leaves the Work Area while the Work is being performed. In addition, maintain the integrity of the containment by ensuring that any containment materials are not torn or displaced. Take precautions to ensure that dust and debris from the Work does not exit the containment and contaminate other building materials or other areas of the property or migrate to adjacent properties. Also ensure that containment is installed in such a manner that it does not interfere with occupant and worker egress in an emergency. Containment and ventilation systems for dry abrasive blasting, wet abrasive blasting, power tool cleaning, or chemical stripping shall provide protection of the workers throughout the structure from being exposed to concentrations of lead above the PEL.

C. Paint Removal: Remove paint from surfaces specified to be repainted in accordance with Specifications. Methods are acceptable so long as project goals are achieved and personnel throughout the building are in compliance with OSHA protection of workers standards. Conduct final cleaning to ensure that all dust and chips are recovered.

1. Prohibited and restricted practices. The work practices listed below shall be prohibited or restricted during abatement:

a. Open-flame burning or torching of LBP.

b. Operating a heat gun on LBP is permitted only at temperatures below 1,100 degrees Fahrenheit.

D. Use precautions to ensure that all personnel, tools, and other items, including the exteriors of containers of waste are free of dust and debris before leaving the Work Area.

E. Containerization: Ensure that all paint dust, chips, debris and removal media are captured and contained for proper disposal. Paint chips and debris removed from interior surfaces may be temporarily contained on clean, smooth, solid floors, and then swept or vacuumed into 4- to 6-mil plastic bags. 4- to 6-mil plastic sheeting shall be laid down and used to temporarily contain removed paint chips and debris. Loose paint chips/debris on plastic sheeting can be swept or vacuumed into bags or contained by completely enclosing the paint chips/debris within the plastic sheeting. After the Contractor has completed the removal of paint, all chips/paint debris shall be containerized and labeled pending Contractor’s composite sampling, and the results of TCLP laboratory analysis for lead.

Contractor may assume waste is hazardous without testing. Containers must be strong and sturdy enough to allow for ease of handling without the risk of tearing and loss of chips during handling and during off-site transportation and disposal as either hazardous waste or construction waste, depending on the results of the TCLP analysis, or assumption as hazardous waste. Containerized paint chips/paint debris shall be staged onsite pending off-site disposal.

F. For disposal purposes, Contractor may collect composite samples that are representative of the removed and containerized debris. Attempt to obtain a representative cross-section of removed paint chips and debris from containers. The number of composite samples collected for laboratory analysis shall depend on the total volume of paint chips/debris that is generated and be based on industry standards. Associate each composite sample with specific containers or groups of containerized waste so that the waste is disposed appropriately depending on the results of the TCLP analysis.

G. If the Contractor chooses to test the waste, provide laboratory results of the TCLP analysis on the composite samples to the Environmental Consultant. TCLP results from LBP chips/debris that are ³ 5.0 mg/L indicate that the waste is hazardous by toxicity, and that such chips/debris must be disposed of as hazardous waste in accordance with State and Federal regulations.

If the debris is assumed as hazardous or deemed hazardous by TCLP testing, Contractor shall coordinate off-site disposal of the debris with a vendor approved by federal and State regulations for hazardous waste disposal.

If the TCLP results are < 5.0 mg/L then the debris may require a special waste permit for disposal or may be disposed along with other demolition/construction debris in a State-permitted Class I, II, III, or IV solid waste disposal facility. Contact the TDEC DSHWM to determine whether or not the debris requires a special waste permit, and if required, apply for and receive a special waste approval notice from the DSHWM before proceeding with off-site disposal of the debris. If the DSHWM does not require a special waste permit, then the debris may be disposed as construction and demolition debris.

3.02 TOSHA/OSHA HEALTH AND SAFETY COMPLIANCE

A. General: Comply with all requirements of 29 CFR 1926.62, OSHA/TOSHA's Lead Standard for the Construction Industry with regard to execution of all the work, and with regard to the transportation, disposal, storage, and containment of lead or materials containing lead. The OSHA requirements apply to surfaces and to LBP surfaces and surfaces with lead concentrations below the standards for defining LBP (i.e. < 0.5% and < 1.0 mg/cm2). In addition, Contractor employees must comply with the req

B. Exposure Assessment: Contractor may perform an employee exposure assessment (EA) as defined in 29 CFR 1926.62(d). Under OSHA/TOSHA requirements and in conjunction with the implementation of Section 3.01 above, the Contractor, as the employer, shall collect or employ a third-party to collect personnel samples representative of a full shift including at least one sample for each job classification in each Work Area either for each shift or for the shift with the highest exposure level.

If an EA is completed, submit the results to the Environmental Consultant, and to Owner for their records, within five calendar days of the beginning of Work. Because general workers may be working next to Controlled Areas, engineering controls associated with the paint removal must be adequate for ensuring that those workers are not exposed above the PEL.

Until the Contractor performs the employee EA and documents that the employees performing each task are not exposed above the PEL (50 mg/m3), the Contractor must treat employees performing those operations as if they were exposed above the PEL. This means providing respiratory protection, personal protective work clothing and equipment, change areas, hand washing facilities, biological monitoring, and training (as required by the standard).

Alternatively, if the Contractor has previous EA monitoring results, and the data were obtained in the last 12 months during work operations conducted under workplace conditions closely resembling the processes, type of material, control methods, work practices, and environmental conditions used and prevailing in the operations defined in the current work (i.e. Section 3.01), then the Contractor may rely on those results to satisfy all requirements as defined in 29 CFR 1926.62 (specifically in section (d)(3)(iii) and elsewhere as applicable); however, those data must be provided to the Environmental Consultant before work begins.

Otherwise, the results of the employee EA must be used by the Contractor to comply with all other standards described in 29 CFR 1926.62 subparts (d)(4) through subpart (r).

C. Competent Person: The Contractor shall assign a Competent Person to be present on the work site throughout the project to supervise, monitor, and document the project's health and safety provisions. A daily log shall be maintained that provides the results of any testing performed. The Competent Person shall:

1. Verify that training meets applicable requirements.

2. Ensure compliance with all applicable requirements of 29 CFR 1926.62.

3. Enforce work practices to minimize airborne concentrations of lead.

4. Ensure that workers are not exposed to airborne lead concentrations in excess of the PEL established by 29 CFR 1926.62.

3.03 MONITORING

A. Personnel Air Monitoring: Until a negative Exposure Assessment is provided, airborne concentrations of lead shall be monitored by the Contractor and analyzed in accordance with 29 CFR 1926.62. The Competent Person shall coordinate personnel air monitoring results to determine the effectiveness of engineering controls and work practices and the adequacy of PPE. Notify Owner if any personnel air monitoring result equals or exceeds 30 mg/m3 of air and the Contractor shall ensure compliance with OSHA/TOSHA regulations to ensure and maintain appropriate safety and health requirements.

3.04 FIELD QUALITY CONTROL

A. The Contractor is responsible for performing personnel (OSHA compliance) air monitoring throughout the duration of the project unless the Exposure Assessment process described in Part 3.02B indicates monitoring is no longer necessary. The Contractor must also perform any other necessary tests required by regulations or codes and standards for the protection of his or her workers.

B. The Owner reserves the right to perform area air monitoring or surface wipe sampling at any time during the project without notifying the Contractor.

END OF SECTION 02 8319.1

SECTION 02 85 00
MOLD ABATEMENT

PART 1: GENERAL

1.01 APPLICABLE REGULATIONS, GUIDANCE, REFERENCES, AND REGULATING AGENCIES

A. General Federal Regulations/Regulatory Agencies:

1. OSHA 29 CFR 1910 – General Industry Standard

2. OSHA 29 CFR 1910.134 – Respiratory Protection

3. OSHA 29 CFR 1920.20, Subpart C – General Safety and Health Provisions

4. OSHA 29 CFR 1910.1200 – Hazard Communication

5. EPA 402-K-01-001 – Mold Remediation in Schools and Commercial Buildings

B. State of Tennessee Regulations - Rules of the Tennessee Department of Labor and Workforce Development Occupational Safety and Health, Rules and Regulations of the State of Tennessee (Rules) Chapter 0800-1-6, [the TOSHA has adopted the federal standards under 29 CFR 1926].

C. American Industrial Hygiene Association (AIHA) References

1. AIHA IMOM08-679 – Recognition, Evaluation, and Control of Indoor Mold

2. AIHA Z9.2 – Fundamentals Governing the Design and Operation of Local Exhaust Ventilation Systems

D. American Conference of Governmental Industrial Hygienists (ACGIH) Reference – Bioaerosols Assessment and Control

E. Institute of Inspection, Cleaning and Restoration Certification (IICRC) Reference S520 – Standards and Reference Guide for Professional Mold Remediation

F. National Air Duct Cleaners Association (NADCA) Reference - Standard for Assessment, Cleaning, and Restoration of Heating, Ventilating, and Air Conditioning (HVAC) Systems

G. Underwriters Laboratories (UL) Reference – Standard for High-Efficiency Particulate Air Filter Units

H. Any variance from applicable regulations shall have the prior written consent of the regulatory agency and the Environmental Consultant. Any variance from the procedures and requirements of this specification shall have the prior written consent of the Environmental Consultant.

1.02 DEFINITIONS

A. ACGIH - American Conference of Governmental Industrial Hygienists

B. AIHA – American Industrial Hygiene Association

C. AFU – Air filtration unit with High Efficiency Particulate Air (HEPA) filtered vacuum and/or exhaust ventilation equipment with a filter system capable of collecting and retaining microbial contamination. Filters shall retain 99.97% or particles 0.3 microns or larger as indicated in UL 586.

D. Containment – Physical separation and engineering controls required to prevent contamination of undamaged materials and occupied areas. The level of containment varies depending on the extent of the contamination.

1. Source Containment – Use when the contaminated surface is less than 10 square feet. At a minimum, source containment shall include the following:

a. Isolation of the Work Area. Install polyethylene barriers to isolate the areas or materials to be remediated or demolished from non- remediation area.

b. Floor Protection. Maintain protection through all activities for any finished floor coverings to remain after completion of work.

c. HEPA vacuum to control dust created during work activities. Hold HEPA vacuum intake at source of dust.

2. Limited Containment – Use when contaminated surface area is between 10 and 100 square feet per room. At a minimum, limited containment shall include the following:

a. Containment. The containment shall include the area to be remediated, plus enough additional area to allow for all equipment and work activities.

b. Isolation of the Work Area. Install polyethylene barriers to isolate the areas or materials to be remediated or demolished from non-remediation area.

c. Floor Protection. Maintain protection through all activities for any finished floor coverings to remain after completion of work.

d. Air Filtration / Pressurization Control. Install AFUs with HEPA filters in the containment. Configure the AFUs to allow some air to re-circulate within the containment. Discharge the remainder of the air directly to the outside to maintain overall negative pressure in the containment relative to outside and other adjacent spaces not undergoing remediation. AFUs shall filter a minimum of four air changes per hour and a maximum of six air changes per hour.

e. Protection of Immovable Items within Containment. Protective covers shall prevent physical damage and provide a seal to prevent dust from settling on or in the items.

f. Containment Entrance. Install a triple-flap poly door to be used during remediation or demolition to minimize egress and provide a good separation between containment and occupied areas of the building.

3. Full Containment – Use when contaminated surface area is greater than 100 square feet. At a minimum, full containment shall include the following:

a. Containment. The containment shall include the area to be remediated, plus enough additional area to allow for all equipment and work activities.

b. Isolation of the Work Area. Install polyethylene barriers to isolate the areas or materials to be remediated or demolished from non-remediation area.

c. Floor Protection. Maintain protection through all activities for any finished floor coverings to remain after completion of work.

d. Air Filtration / Pressurization Control. Install AFUs with HEPA filters in the containment. Configure the AFUs to allow some air to re-circulate within the containment. Discharge the remainder of the air directly to the outside to maintain overall negative pressure in the containment relative to outside and other adjacent spaces not undergoing remediation. AFUs shall filter a minimum of four air changes per hour and a maximum of six air changes per hour.

e. Protection of Immovable Items within Containment. Protective covers shall prevent physical damage and provide a seal to prevent dust from settling on or in the items.

f. Decontamination. Construct a decontamination airlock for entry into and exit from the Work Area. The airlock shall be used to HEPA vacuum the sealed bags of contaminated debris. When possible, the decontamination airlock shall be located so that the sealed bags can be passed directly from the airlock to the outside, through a door or window.

g. Containment Entrance. Install a triple-flap poly door to be used during remediation or demolition to minimize egress and provide a good separation between containment and occupied areas of the building.

E. Decontamination Unit (Airlock) – An enclosed area adjacent to, and connected to, a regulated Work Area. It consists of various rooms that are used for the decontamination of workers, equipment, and materials.

F. Dehumidifier – Mechanism or machine to remove moisture from the air.

G. Detergent – A cleaning agent or prepared compound that may include surfactants, builders, dry solvents, softeners, etc., but does not include true soap.

H. Disinfectants or Biocide Sanitizing Solutions – One of three groups of antimicrobials registered by the EPA for public health uses. The EPA considers an antimicrobial to be a disinfectant when it destroys or irreversibly inactivates infectious or other undesirable organisms, but not necessarily their spores.

I. EPA – Environmental Protection Agency

J. Fungicidal Agents – A coating material that contains an EPA registered fungicide that inhibits the spread and growth of mold with the ability to withstand moist and humid conditions.

K. HEPA Filter – A high efficiency particulate air filter capable of trapping and retaining 99.97% of all particulates larger than 0.3 microns.

L. HVAC – Heating, Ventilating, and Air Conditioning system

M. IICRC - Institute of Inspection, Cleaning and Restoration Certification

N. Microbial Remediation Supervisor – Individual responsible for the execution of the microbial remediation work as defined by the scope of work. This individual shall have documented training in microbial remediation and at least three years' experience in microbial remediation work.

O. Non-Porous Material – A material that does not absorb nor is easily penetrated by liquids, especially water. Generally, non-porous materials have a permeable factor less than 1. Some examples are metal, glass, plastic, ceramics, etc.

P. Occupied Space – Spaces that are occupied by unprotected non-remediation personnel while work is in progress, or areas adjacent to work areas that are not currently undergoing remediation.

Q. Personal Protective Equipment (PPE) – Any material or device worn to protect a worker from exposure to, or contact with, any harmful material or force. PPE must be cleaned or disposed of prior to removal from the remediation work area.

1. Source Containment – PPE shall include at a minimum, gloves and N-95 respirators.

2. Limited Containment – PPE shall include at a minimum, gloves, N-95 or half-face respirators, disposable coveralls, and eye protection.

3. Full Containment - PPE shall include at a minimum, gloves, half-face or full-face respirators, disposable coveralls, and eye protection.

R. Poly – Polyethylene sheeting with a minimum thickness of 6 mils.

S. Porous Materials – Permeable materials having the physical properties that allow liquids or gasses to pass through including, but not limited to, gypsum wallboard, insulation, wallpaper, ceiling tiles, carpet, padding, paper goods (e.g., cardboard, loose paper, books, files, etc.), furniture, fabrics, etc.

T. Pressure Differential Measuring Instrument – Device used to measure the relative pressure difference between the Work Area and areas outside the Work Area. For mold remediation, the device must accurately measure in the 0 to 0.04-inch range.

U. Semi-porous Material – A material that can absorb liquids if exposed over long periods of time, including wood, concrete, linoleum, vinyl wall covering, wooden furniture, plaster, etc.

V. Work Area – The area in which remediation operations are actively performed and controlled to prevent the spread of dust or spores, and entry of unauthorized personnel. A Work Area is the space, group of spaces, or the building, as defined by the Specifications.

1.03 DESCRIPTION OF WORK

A. Furnish and paying for all labor, services, appliances, materials, equipment, insurance, permits, and decontamination facilities necessary to carry out the abatement of mold and potential removal of mold-impacted materials from dwelling units at the Western Heights Apartment complex in Knoxville, Tennessee.

Verify actual materials and conditions at the site and has ultimate responsibility for the abatement of mold-impacted materials and/or conditions.

B. During demolition and/or stabilization activities which may disturb or disperse mold spores, protect Contractor employees from exposures. Transport and dispose of these materials in compliance with applicable federal, State and local requirements.

C. Remove and dispose of water-damaged materials, and clean and disinfect all horizontal and vertical surfaces within the Work Area.

1.04 COORDINATION WITH OTHER WORK

A. Conduct all mold abatement after all activities that will eliminate the reestablishment of other hazardous conditions, if present.

B. Conduct mold abatement after removal of furniture and personal belongings.

1.05 CONTRACTOR PLANS

A. Prepare a written Mold Abatement Plan that includes a description of how the work will be conducted, plans for ensuring the health and safety of workers, visitors, and building occupants. At a minimum, address the following items:

1. Description of materials to be remediated, and methods of remediation.

2. Types of biocides and fungicidal agents.

3. Containment procedures to include description and locations of engineering controls and decontamination, entry and exit procedures, and potential locations of AFUs and discharge locations.

4. Description of PPE to be used during remediation.

5. Description of barricades and barriers in occupied areas, and security procedures to prevent unauthorized entry into controlled areas and workspaces.

6. Health and safety plans for workers/employees conducting the removal, handling, and containerization of mold-impacted materials, and appropriate personal protective clothing and engineering controls.

7. Plans for the containerization, labeling, and staging of items and materials after removal, and packaging of contaminated materials in a way that minimizes exposure and contamination and facilitates proper off-site handling, transportation, and disposal.

8. Plans for effective supervision during the work.

9. Plans for coordinating the off-site disposal of materials.

10. Plan for immediate notification of Owner and Designer, clean-up procedures, and decontamination sequence to be used should mold-impacted materials be released uncontained. This Plan should be available at the work site for referral and review by workers, visitors, and the Owner/Owner representatives prior to entry into controlled areas.

1.06 QUALIFICATIONS OF PERSONNEL

A. Ensure that all Contractor or subcontractor personnel involved with the work of this section are trained in the hazards of mold remediation, engineering controls, PPE, health and safety, as well as precautions to prevent exposure.

B. Ensure that all Contractor and subcontractor personnel wearing respirators are trained in their use, are fit tested, and are in a medical monitoring program.

C. Ensure that the Microbial Remediation Supervisor has documented training in microbial remediation and at least three years' experience in microbial remediation work.

1.07 SUBMITTALS

A. Pre-Job Submittals – submit the following for Environmental Consultant review prior to beginning mold abatement work:

1. Mold Abatement Plan as required by Section 1.06.

2. Written copy of Contractor's Respiratory Protection Program.

3. Worker Records – Provide the following documents for all workers, including supervisory personnel. If new workers are added to the work crew during the work, provide same documentation for them.

a. Proof of respirator use and fit training for employees entering and working in containment.

b. Proof of training for the appropriate level of work prescribed in the description of work.

c. Proof of training in microbial remediation and at least three years' experience in microbial remediation work for the Microbial Remediation Supervisor.

4. Product Data for items identified for use in the Mold Abatement Plan and Material Safety Data Sheets (MSDS) for any materials utilized during the abatement of mold.

B. Records/Submittals during the work – keep the following records during days mold abatement is ongoing:

1. Security and safety logs showing names of persons entering the work space, date and time of entry and exit, record of any accidents, emergency evacuation and other safety and/or health incidents.

2. Daily Work Logs to include date, name of Supervisor, description of work, workers present, equipment utilized, differential pressure measurements, and waste quantities.

C. Post-Job Submittals – submit the following for Designer review at the completion of mold abatement:

1. Security and Safety Logs.

2. Daily Work Logs

3. Waste Manifests

PART 2: PRODUCTS

2.01 MATERIALS

A. Impermeable Containers: Water-tight and suitable to receive and retain any mold-impacted material or contaminated equipment until disposal and labeled in accordance with any applicable regulations. Three types of containers may be used:

1. 6-mil plastic bags or sheets sized to fit within a drum or waste dumpster.

2. Metal or fiber drums with tightly fitting lids.

3. Waste dumpsters with lids.

B. Polyethylene (poly) sheeting: 6-mil polyethylene sheets in sufficient sizes to minimize the frequency of joints.

C. Glass fiber or other tape capable of sealing joints of adjacent plastic sheets and for attachment of plastic sheet to finished or unfinished surfaces of dissimilar materials under both dry and wet conditions.

D. EPA-approved disinfectants, biocides, sanitizing solutions, and fungicidal agents used in accordance with the manufacturer's specifications. Provide MSDS for any materials utilized during the abatement of mold to the Designer as part of the Pre-Job Submittals.

PART 3: EXECUTION

3.01 EQUIPMENT

A. Provide protective clothing as required by the Mold Abatement Plan for use by authorized visitors. Provide certificates of compliance for all equipment used to contain microbial contamination. Contractor shall not be required to certify that visitors entering the Work Area be capable of wearing respirators.

1. Respirators – Select respirators from those approved by NIOSH based on the level of containment as described in Section 1.02, Q.1. through Q.3. Provide personnel engaged in set up, pre-cleaning, cleanup, handling, and removal of contaminated materials with the appropriate respiratory protection.

2. Protective Clothing – Provide all workers with protective clothing as appropriate for the work being accomplished, as required by the Mold Abatement Plan. Do not permit any person to enter the Work Area without the appropriate protective clothing and equipment.

3. Warning Signs and Labels – Provide warning signs printed in appropriate languages at all approaches to the Work Areas. Warning signs shall read:

WARNING

DO NOT ENTER

MICROBIAL REMEDIATION WORK IN PROGRESS

Alternate wording for Warning Signs may be approved by the Designer or Owner.

4. Dehumidifiers – Install and use dehumidifiers as needed in the Work Area to maintain relative humidity below 60% in the Work Area. Drain the condensate to a permanent drain, or empty as needed to prevent overflow.

5. Air Filtration Units (AFUs) – Install and use AFUs with HEPA filters, and specified pre-filters, as part of the exhaust ventilation system to develop and maintain the specified air pressure differential inside the enclosed Work Area relative to the air outside the Work Area. Replace HEPA filters and pre-filters for AFUs as required to maintain pressurization performance requirements during remediation. Bag used filters with mold-impacted waste and dispose as contaminated waste. Discharge air from AFUs located in the Work Area containment to the outside environment when creating negative pressure containment. Discharge air in excess of that required for creating the proper negative air pressure into the Work Area. The AFUs shall provide 4 to 6 air exchanges per hour in the Work Area. Under no circumstances may air from the AFUs discharge into occupied areas. Coordinate location of exterior discharge with Designer and Owner. Seal around discharge openings.

6. HEPA Vacuums – Provide sufficient vacuum cleaners equipped with HEPA filters designed for continuous operation. Any vacuum not equipped with a HEPA filter shall not be used at any time.

3.02 GENERAL REQUIREMENTS

A. Pre-Abatement Meeting – Meet with the Environmental Consultant, Design team, and Owner prior to beginning work to discuss and confirm the Mold Abatement Plan. Enforce

the Plan once work begins. Identify any variances to the Plan in writing and submit to the Environmental Consultant.

B. Containment Entry and Exit – Ensure that each worker and authorized visitor follows entry and exit procedures detailed in the Mold Abatement Plan.

3.03 REMOVAL AND CLEANING PROCEDURES FOR MOLD-IMPACTED MATERIALS

A. Protection of Existing Work Areas - Perform work in a manner to minimize the damage or contamination to areas outside or directly adjacent to the Work Area. Inspect areas inside and outside proposed Work Area to identify existing damage and notify Designer or Owner prior to start of work. If materials outside Work Area are damaged or contaminated as a result of the Contractor's work efforts, restore to original condition or decontaminate at no expense to the Owner. Should adjacent or outside areas become contaminated as a result of the Contractor's work efforts, stop work immediately and clean the newly contaminated areas.

B. Remediation of Mold-Impacted Building Materials – Follow the general listed sequence of work for the removal of contaminated materials. Make changes to improve work flow with the approval of the Designer.

1. Provide level of containment and PPE required by the Mold Abatement Plan.

2. Disable all HVAC units and exhaust fans in the area to be remediated. Remove any air supply diffusers, return grilles, or exhaust grilles in the Work Area. If present, clean diffusers and grilles using procedures detailed in Section 3.03, C., Remediation Procedures. Seal supply, return, and exhaust openings with polyethylene sheeting.

3. Protect materials to remain in Work Area. Clean materials in place when possible to prevent cross-contamination created by moving materials through non-remediation areas.

4. Remove undamaged items and materials to be cleaned and salvaged from the Work Area. Materials shall be stored in an area with relative humidity maintained below 60% and where temperatures will not damage the material. Notify Owner of existing damage to items prior to removal.

5. Set up appropriate containments per Section 1.02, D., including protection of materials remaining within the containment. Install AFUs and dehumidifiers. Existing walls can be used as a portion of the containment barriers if existing openings such as doors, vents, etc., are sealed using polyethylene sheeting. Install all equipment needed for removal work in the containment area to minimize egress during remediation.

6. Remove / clean contaminated materials.

7. Perform final cleaning in the containment.

8. Clean flooring in the containment.

9. Employ a third-party to perform clearance inspection.

10. Deconstruct containment, remove AFUs.

11. Clean previously removed items prior to returning to occupied area.

C. Remediation Procedures - Procedures for remediation depend on the amount of mold growth and the type of material with fungal growth. Requirements for containment are provided in Section 1.02, D.

1. Remediation of Non-Porous Materials - The method of remediating non-porous items shall be:

a. HEPA vacuum all surfaces.

b. Damp wipe all surfaces using clean water or a detergent solution.

2. Semi-Porous Materials (unfinished wood) - The method of remediating unfinished wood-based items shall be:

a. Cleaning

(1) HEPA vacuum all surfaces.

(2) Scrub surfaces with a brush and detergent to remove mold.

(3) HEPA vacuum all surfaces to remove dust.

b. Removal - Where unfinished wood product has been structurally damaged, remove and dispose.

3. Semi-Porous Materials - The method of surface cleaning semi-porous materials such as concrete, leather furniture, and finished wood products shall be:

a. HEPA vacuum all surfaces.

b. Damp wipe and/or brush surfaces with using clean water or a detergent solution. Avoid over-wetting the material.

4. Porous Materials

a. Gypsum Wallboard (GWB) and/or Plaster

(1) Removal: Remove GWB or plaster that is structurally unsound as indicated by swelling or failed seams. Where removal of GWB or plaster exposes insulation, remove and dispose of the insulation.

(2) Surface Cleaning: Where GWB or plaster has a small amount of surface mold growth but is structurally sound, a surface cleaning method may be used with the permission of the Owner. Surface cleaning shall not be used where mold growth penetrates wall substrate.

D. Demolition of Mold-Impacted Materials

1. Remove mold contaminated materials to be discarded, such as paper and furniture. Double bag material in 6 mil poly bags. Seal poly bags using duct tape inside the containment. HEPA vacuum bags before removing from the containment or airlock. When possible, pass the bags directly from the containment or airlock to the outside. Transport bags to a dumpster or disposal receptacle. Do not leave the bags at the site.

2. For any GWB or plaster removed, inspect back side of removed materials. If mold is observed on the back side of the materials, report this condition to the Environmental Consultant. After obtaining approval, continue removing materials until no mold is observe extents of the containment, stop work immediately and reconstruct the containment to extend past the suspected contamination. Re-evaluate level of containment and PPE. Continue to operate AFUs while reconfiguring containment.

3. If required, remove materials by cutting in pieces as large as possible to minimize aerosolization of fungal spores.

4. Use dust collection attachments on all power tools, such as sanders, saws, etc., to capture dust created when using the tools. Outlet of dust collector should discharge into inlet of AFU.

5. Remove insulation if found behind removed materials.

6. If wood studs are present and contaminated, scrub them with a brush and detergent to remove mold. Prior to removal of any structural member consult with the Designer and Owner.

7. Place drywall, insulation, plaster and remaining debris in two layers of 6 mil poly bags. Seal poly bags using duct tape inside the containment. HEPA vacuum bags before removing from containment or airlock. When possible pass the bags directly from the containment or airlock to the outside. Transport bags to a dumpster or disposal receptacle. Do not leave bags at the site. Remediation workers shall HEPA vacuum their PPE, then remove it within the airlock chamber. Discard disposable coverall suits into a 6-mil poly bag.

8. Employ a third-party consultant to inspect the containment area to verify that all contaminated materials have been removed.

9. Allow a minimum of 12 hours after completion of removal work, with AFUs operating, for airborne dust in the containment to settle and / or be removed by the AFUs.

E. Cleaning after Demolition, and Cleaning of Settled Spores from Porous/Non-Porous Materials

1. Continue to operate AFUs during cleaning.

2. Clean exposed surfaces.

a. HEPA vacuum all surfaces.

b. Damp wipe all non-porous exposed surfaces including polyethylene sheets used to protect materials, and floors with clean rag and clean potable water or detergent solution.

c. Remove poly sheeting inside the containment.

d. HEPA vacuum all surfaces protected by poly sheeting.

e. Damp wipe non-porous surfaces protected by poly sheeting with clean water or a detergent solution.

3. Employ a third-party consultant to perform final clearance inspection. Clearance inspections will be performed using the procedures detailed in Section 3.04, Post-Remediation Inspection, and 3.05, Clearance. Maintain containments in place until spaces are inspected and accepted as being fully remediated. Provide third-party report to Environmental Consultant.

F. Waste Management and Removal

Keep the site and Work Area free from accumulations of dust, waste materials, or rubbish caused by Contractor operations and free from any flammable materials or other sources of fire hazard. Remove all waste materials and rubbish from and about the building and site in strict accordance with the specifications and applicable codes and regulations.

3.04 POST-REMEDIATION INSPECTION

Clean up all debris and dust in interior spaces outside the Work Area resulting from the Contractor's remediation work. After all visible accumulations of material and debris are removed from containment, Contractor shall employ a third-party to conduct a thorough visual inspection of the Work Area. If during this inspection any visible debris and/or microbial contamination are observed, the Contractor shall re-clean the Work Area without additional cost to the Owner.

3.05 CLEARANCE

A. Clearance Criteria – Initial clearance will be based on visual assessment (all visible mold removed, all visible dust removed) by the Contractor’s third-party consultant. Inspection shall consist of wiping the surface with a clean cloth of color suitable to reveal expected type of dust. For most surfaces, a white cloth is suitable. For some materials, a dark cloth may be more appropriate.

B. Failed inspection areas will be re-cleaned and the AFUs kept in operation another 12 hours, followed by another visual assessment. Subsequent failures will follow the same routine until a pass condition is secured.

C. After successful visual inspection, employ a third-party to perform initial Clearance sampling. Clearance sampling may include air and surface sample collection with analysis for mold spores. Clearance should be based on an evaluation of laboratory results for samples from within the Work Area, comparing total spore concentrations and biodiversity to an indoor control sample outside the Work Area, and an outdoor sample.

D. Failed testing areas may be re-cleaned and the AFUs kept in operation another 12 hours, followed by another sampling event. Subsequent failures will follow the same routine until a pass condition is secured.

3.06 CLEAN-UP AND DISPOSAL

A. Disposal of Material - Dispose of contaminated bagged waste materials removed during this remediation as general construction debris. Follow all applicable local, State, and Federal requirements for the disposal of this material.

B. Material Packaging - Place waste, as waste is removed, into a disposal container promptly. Disposal containers shall consist of at a minimum, two layers of clear 6 mil polyethylene bags. Tape bags in a gooseneck fashion to form an airtight seal and label appropriately. Bag waste from vacuums equipped with HEPA filters in 6 mil polyethylene bags.

C. Building Exit - HEPA vacuum and damp wipe bags of contaminated waste material prior to removal from the buildings.

END OF SECTION 02 85 00

SECTION 03 0100
MAINTENANCE OF CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Cleaning of existing concrete surfaces.

B. Resurfacing of concrete surfaces having spalled areas and other damage.

C. Repair of deteriorated concrete.

D. Scope of Work: As indicated on the drawings.

1.02 PRICE AND PAYMENT PROCEDURES

A. See Section 01 2200 - Unit Prices, for additional unit price requirements.

B. Repair Surface: By the square foot (meter). Includes surface preparation, repair, finishing.

1.03 REFERENCE STANDARDS

A. ASTM C109/C109M - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or (50-mm) Cube Specimens); 2016a.

B. ASTM C881/C881M - Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete; 2015.

C. ASTM C928/C928M - Standard Specification for Packaged, Dry, Rapid-Hardening Cementitious Material for Concrete Repairs; 2013.

D. ASTM C1059/C1059M - Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete; 2013.

E. ICRI 310.2R - Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair; 2013.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Indicate product standards, physical and chemical characteristics, technical specifications, limitations, maintenance instructions, and general recommendations regarding each material.

C. Cleaner's Qualification Statement.

D. Installer's Qualification Statement.

1.05 QUALITY ASSURANCE

A. Cleaner Qualifications: Company specializing in, and with minimum of 3 years of experience in, the type of cleaning specified.

B. Installer Qualifications: Company specializing in performing work of the type specified and with minimum of 3 years of documented experience.

1.06 MOCK-UP(S)

A. Test each type of maintenance procedure required on each type of existing construction, to determine the most appropriate procedures to use and as a record of expected results.

B. Locate mock-up(s) in a location that will be determined in a preconstruction meeting.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Comply with manufacturers' instructions for storage, shelf life limitations, and handling of products.

PART 2 PRODUCTS

2.01 CLEANING MATERIALS

A. Detergent: Non-ionic detergent.

2.02 CEMENTITIOUS PATCHING AND REPAIR MATERIALS

A. Manufacturers:

1. Substitutions: See Section 01 6000 - Product Requirements.

B. Cementitious Repair Mortar, Trowel Grade: One- or two-component, factory-mixed, polymer-modified cementitious mortar.

1. Mixed with water or latex type bonding agent in proportions as recommended by manufacturer.

2. Dry Material: Complies with ASTM C928/C928M.

3. Integral corrosion inhibitor.

4. Products:

a. Adhesives Technology Corporation; HARD-ROK JET PATCH: www.atcepoxy.com/#sle.

b. Kaufman Products Inc; Patchwell V/O: www.kaufmanproducts.net/#sle.

c. The QUIKRETE Companies; QUIKRETE® FastSet Repair Mortar: www.quikrete.com/#sle.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are ready to receive work.

B. Beginning of installation means acceptance of substrate.

3.02 PREPARATION A. Prepare concrete surfaces to be repaired according to ICRI 310.2R, _____.

3.03 CLEANING EXISTING CONCRETE

A. Provide enclosures, barricades, and other temporary construction as required to protect adjacent work from damage.

B. Clean concrete surfaces of dirt or other contamination using the gentlest method that is effective.

1. Try the gentlest method first, then, if not clean enough, use a less gentle method taking care to watch for impending damage.

2. Clean out cracks and voids using same methods.

C. The following are acceptable cleaning methods, in order from gentlest to less gentle:

1. Water washing using low-pressure, maximum of 100 psi, and, if necessary, brushes with natural or synthetic bristles.

2. Increasing the water washing pressure to maximum of 300 psi.

3. Adding detergent to washing water; with final water rinse to remove residual detergent.

4. Steam-generated low-pressure hot-water washing.

D. Do not use any of the following cleaning methods, unless otherwise indicated:

1. Brushes with wire bristles, grinding with abrasives, solvents, hydrochloric or muriatic acid, sodium hydroxide, caustic soda, or lye.

2. Soap or detergent that is not non-ionic.

3. Alkaline cleaning agents.

4. Acidic cleaning agents.

5. Abrasive blasting.

3.04 CONCRETE SURFACE REPAIR USING CEMENTITIOUS MATERIALS

A. Clean concrete surfaces, cracks, and joints of dirt, laitance, corrosion, and other contamination using method(s) specified above and allow to dry.

B. Apply coating of bonding agent to entire concrete surface to be repaired.

C. Fill voids with cementitious mortar flush with surface.

D. Form edges of window sills and slab edges as required to provide a uniform profile.

E. Trowel finish to match adjacent concrete surfaces.

END OF SECTION

UNDER-SLAB VAPOR BARRIER

PART 1 GENERAL

1.01 REFERENCE STANDARDS

A. ASTM E1643 - Standard Practice for Selection, Design, Installation and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs; 2011 (Reapproved 2017).

B. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs; 2017.

PART 2 PRODUCTS

2.01 MATERIALS

A. Underslab Vapor Barrier:

1. Water Vapor Permeance: Not more than 0.010 perms (0.6 ng/(s m2 Pa)), maximum.

2. Thickness: 10 mils (0.25 mm).

3. Basis of Design:

a. Stego Industries LLC; Stego Wrap Vapor Barrier (10-mil): www.stegoindustries.com.

b. Fortifiber Building Systems Group; Moistop Ultra 10 mil: www.fortifiber.com

c. W.R. Meadows; Perminator 10 mil: www.wrmeadows.com

B. Accessory Products: Vapor barrier manufacturer's recommended tape, adhesive, mastic, etc., for sealing seams and penetrations in vapor barrier.

PART 3 EXECUTION

3.01 INSTALLATION A. Install vapor barrier in accordance with manufacturer's instructions and ASTM E1643.

B. Install vapor barrier under interior slabs on grade; lap sheet over footings and seal to foundation walls.

C. Lap joints minimum 6 inches (150 mm) and turn up at perimeter and penetrations minimum 6 inches (150 mm).

D. Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions.

E. No penetration of vapor barrier is allowed except for reinforcing steel and permanent utilities.

F. Repair damaged vapor retarder before covering with other materials.

END OF SECTION

SECTION 04 0100
MAINTENANCE OF MASONRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Water cleaning of Brick surfaces.

B. Replacement of Brick units.

C. Repointing mortar joints.

D. Repair of damaged masonry.

1.02 RELATED REQUIREMENTS

A. Section 04 2000 - Unit Masonry.

B. Section 07 9200 - Joint Sealants.

1.03 PRICE AND PAYMENT PROCEDURES

A. See Section 01 2200 - Unit Prices, for additional unit price requirements.

B. Brick Replacement: By the square foot (meter).

C. Repointing: By the square foot (meter).

1.04 REFERENCE STANDARDS A. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures; 2016.

1.05 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene one week prior to commencing work of this section.

1. Require attendance of parties directly affecting work of this section.

2. Review conditions of installation, installation procedures, and coordination with related work.

1.06 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on cleaning compounds and cleaning solutions.

C. Samples: Submit four samples of face brick units to illustrate matching color, texture and extremes of color range.

D. Manufacturer's Instructions: For cleaning materials, indicate special procedures, conditions requiring special attention.

1.07 QUALITY ASSURANCE A. Comply with provisions of TMS 402/602, except where exceeded by requirements of the contract documents.

B. Restorer: Company specializing in masonry restoration with minimum three years of documented experience.

1.08 MOCK-UP

A. *Clean, repoint and seal an existing masonry wall area of approximately 2 feet x 2 feet; and include in mock-up area instances of deteriorated mortar joints, lintel at opening, and HVAC penetration.

B. Location to be determined in preconstruction meeting.

C. Mock-up may remain as part of the Work.

1.09 DELIVERY, STORAGE, AND HANDLING

A. Deliver masonry neatly stacked and tied on pallets. Store clear of ground with adequate waterproof covering.

1.10 FIELD CONDITIONS A. Cold and Hot Weather Requirements: Comply with requirements of TMS 402/602 or applicable building code, whichever is more stringent.

PART 2 PRODUCTS

2.01 CLEANING MATERIALS

A. Cleaning Agent: Non-ionic detergent type.

2.02 MORTAR MATERIALS

A. Conform to ASTM C 270, Mortar for Unit Masonry

B. Mortar strength shall match that of existing mortar.

2.03 MASONRY MATERIALS
A. Brick: Section 04 2000.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces to be cleaned are ready for work of this section.

3.02 PREPARATION

A. Protect surrounding elements *and building components from damage due to restoration procedures.

B. Carefully remove and store removable items located in areas to be restored, including fixtures, fittings, and accessories; reinstall upon completion.

C. Separate areas to be protected from restoration areas using means adequate to prevent damage.

D. Mask immediately adjacent surfaces with material that will withstand cleaning and restoration procedures.

E. When using cleaning methods that involve water or other liquids, install drainage devices to prevent runoff over adjacent surfaces unless those surfaces are impervious to damage from runoff.

F. Do not allow cleaning runoff to drain into sanitary or storm sewers. Collect cleaning runoff and dispose in accordance with City of Knoxville requirements. Obtain proper permission and permit as needed to comply with local regulations.

3.03 REBUILDING

A. Cut out damaged and deteriorated masonry with care in a manner to prevent damage to any adjacent remaining materials.

B. Support structure as necessary in advance of cutting out units.

C. Cut away loose or unsound adjoining masonry to provide firm and solid bearing for new work.

D. Build in reclaimed units following procedures for new work specified in other section(s).

E. Mortar Mix: Colored and proportioned to match existing work.

F. Ensure that anchors, ties, reinforcing, and flashings are correctly located and built in.

G. Install built in masonry work to match and align with existing, with joints and coursing true and level, faces plumb and in line. Build in all openings, accessories and fittings.

3.04 REPOINTING

A. Perform repointing after cleaning masonry surfaces of existing loose sealant.

B. Cut out loose or disintegrated mortar in joints to minimum 3/8" inch (9.5 mm) depth or until sound mortar is reached.

C. Use power tools only after test cuts determine no damage to masonry units will result.

D. Do not damage masonry units.

E. When cutting is complete, remove dust and loose material by hand brushing and low-pressure water.

F. Seal mortar joints and cracks with low modulus silicone sealant. See Section 07 9200 Joint Sealants.

3.05 CLEANING EXISTING MASONRY- EXTERIOR

A. Cleaning Detergent: Brush clean masonry surfaces with non-ionic detergent type cleaning agent in accordance with the manufacturer's instructions. Saturate masonry with clean water and flush loose mortar and dirt.

B. Low pressure washing:

1. Begin washing with a solution of clean water and non-ionic detergent with synthetic bristle brushes at low-pressure (<100 psi)

2. In areas requiring more cleaning water pressure maybe increased to a maximum of 300 psi.

3. Rinse all masonry surfaces with clean water beginning at the top.

END OF SECTION

SECTION 04 2000
UNIT MASONRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Clay facing brick.

B. Mortar.

1.02 RELATED REQUIREMENTS

A. Section 04 0511 - Mortar and Masonry Grout.

B. Section 07 9200 - Joint Sealants: Sealing joints.

1.03 PRICE AND PAYMENT PROCEDURES

A. See Section 01 2100 - Allowances, for cash allowances affecting this section.

B. This allowance includes purchase, delivery, and installation of brick.

1.04 REFERENCE STANDARDS

A. ACI 530.1/ASCE 6/TMS 602 - Specification For Masonry Structures; American Concrete Institute International; 2005.

B. ASTM C62 - Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale); 2013.

C. ASTM C67/C67M - Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile; 2018.

D. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar; 2011.

E. ASTM C150/C150M - Standard Specification for Portland Cement; 2015.

F. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes; 2006 (Reapproved 2011).

G. ASTM C216 - Standard Specification for Facing Brick (Solid Masonry Units Made From Clay or Shale); 2014.
H. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2014a.
I. ASTM C404 - Standard Specification for Aggregates for Masonry Grout; 2011.

J. ASTM C780 - Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry; 2012.

K. ASTM C1714/C1714M - Standard Specification for Preblended Dry Mortar Mix for Unit Masonry; 2016.

L. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures; 2016.

1.05 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by all relevant installers.

1.06 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data for masonry units and mortar.

C. Samples: Submit 3 samples of facing brick units to illustrate color, texture, and extremes of color range.

1.07 QUALITY ASSURANCE A. Comply with provisions of TMS 402/602, except where exceeded by requirements of the contract documents.

B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Deliver, handle, and store masonry units by means that will prevent mechanical damage and contamination by other materials.

PART 2 PRODUCTS

2.01 BRICK UNITS

A. Manufacturers:

1. Belden Brick: www.beldenbrick.com.

2. Endicott Clay Products Co: www.endicott.com.

3. General Shale Brick: www.generalshale.com.

4. Meridian Brick LLC: www.meridianbrick.com/#sle.

5. Acme Block & Brick: www.acmeblockandbrick.com.

6. Substitutions: See section 01 6000 - Product Requirements.

B. Facing Brick: ASTM C216, Type FBS Smooth, Grade SW.

1. Color and texture: Shall match existing brick.

2. Actual size: As indicated on drawings.

3. Special shapes: Molded units as required by conditions indicated, unless standard units can be sawn to produce equivalent effect.

2.02 MORTAR MATERIALS

A. Water: Clean and potable.

B. Accelerating Admixture: Non-chloride type for use in cold weather.

C. Packaged Dry Material for Mortar for Unit Masonry: Premixed masonry cement and mason's sand; complying with ASTM C1714/C1714M and capable of producing mortar of the specified strength in accordance with ASTM C270 with the addition of water only.

1. Type: Type N.

2. Color: Shall match existing mortar.

3. Manufacturers:

a. Amerimix, an Oldcastle brand; AMX 500: www.amerimix.com.

b. The QUIKRETE Companies; QUIKRETE® Mason Mix: www.quikrete.com.

c. SpecMix; www.specmix.com.

d. Holcim; Mortamix.

e. Substitutions: See Section 01 6000 - Product Requirements.

2.03 LINTELS
PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive masonry.

B. Verify that related items provided under other sections are properly sized and located.

C. Verify that built-in items are in proper location, and ready for roughing into masonry work.

3.02 COURSING

A. Establish lines, levels, and coursing indicated. Protect from displacement.

B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.

C. Brick Units:

1. Bond: Running.

2. Coursing: Three units and three mortar joints to equal 8 inches (200 mm).

3. Mortar Joints: Concave.

3.03 PLACING AND BONDING

A. Lay solid masonry units in full bed of mortar, with full head joints, uniformly jointed with other work.

B. Buttering corners of joints or excessive furrowing of mortar joints is not permitted.

C. Remove excess mortar and mortar smears as work progresses.

D. Interlock intersections and external corners.

E. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.

F. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.

3.04 TOLERANCES A. Install masonry within the site tolerances found in TMS 402/602.

B. Maximum Variation from Alignment of Columns: 1/4 inch (6 mm).

C. Maximum Variation of Mortar Joint Thickness: Head joint, minus 1/4 inch, plus 3/8 inch (minus 6.4 mm, plus 9.5 mm).

D. Maximum Variation from Cross Sectional Thickness of Walls: 1/8" inch (3.175 mm).

3.05 CUTTING AND FITTING

A. Cut and fit for pipes, conduit, and sleeves. Coordinate with other sections of work to provide correct size, shape, and location.

B. Obtain approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

3.06 FIELD QUALITY CONTROL A. Clay Masonry Unit Tests: Test each variety of clay masonry in accordance with ASTM C67/C67M requirements, sampling 5 randomly chosen units for each 50,000 installed.

B. Concrete Masonry Unit Tests: Test each variety of concrete unit masonry in accordance with ASTM C140/C140M for conformance to requirements of this specification. C. Mortar Tests: Test each type of mortar in accordance with ASTM C780, testing with same frequency as masonry samples.

3.07 CLEANING

A. Remove excess mortar and mortar droppings.

B. Replace defective mortar. Match adjacent work.

C. Clean soiled surfaces with cleaning solution.

D. Use non-metallic tools in cleaning operations.

3.08 PROTECTION

A. Without damaging completed work, provide protective boards at exposed external corners that are subject to damage by construction activities.

END OF SECTION

SECTION 06 1000
ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Rough opening framing for windows, and roof openings.

B. Preservative treated wood materials.

C. Miscellaneous framing and sheathing.

D. Concealed wood blocking, nailers, and supports.

E. Miscellaneous wood nailers, furring, and grounds.

1.02 RELATED REQUIREMENTS

A. Section 07 2500 - Weather Barriers: Air barrier over sheathing.

B. Section 07 6200 - Sheet Metal Flashing and Trim: Sill flashings.

1.03 REFERENCE STANDARDS A. AWPA U1 - Use Category System: User Specification for Treated Wood; 2017. B. PS 20 - American Softwood Lumber Standard; 2015. C. SPIB (GR) - Grading Rules; 2014.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide technical data on wood preservative materials.

C. Manufacturer's Certificate: Certify that wood products supplied for rough carpentry meet or exceed specified requirements.

D. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.05 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

1.06 WARRANTY
A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

B. Correct defective Work within a five-year period after Date of Substantial Completion.

C. Provide five-year manufacturer warranty.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.

1. Species: Southern Pine, unless otherwise indicated.

2. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.

3. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

4. Lumber of other species or grades is acceptable provided structural and appearance characteristics are equivalent to or better than products specified.

B. Lumber fabricated from old growth timber is not permitted.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS A. Grading Agency: Southern Pine Inspection Bureau, Inc; SPIB (GR).

B. Sizes: Nominal sizes as indicated on drawings, S4S.

C. Moisture Content: S-dry or MC19.

D. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:

1. Lumber: S4S, No. 2 or Standard Grade.

2. Boards: Standard or No. 3.

2.03 ACCESSORIES

A. Fasteners and Anchors:

1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.

B. Sill Gasket between masonry opening and rough framing: 1/4 inch (6 mm) thick, 5 1/2" inch (139.7 mm) wide, closed cell plastic foam from continuous rolls.

C. Sill Flashing: As specified in Section 07 6200.

2.04 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.

1. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

B. Preservative Treatment:

1. Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative.

a. Kiln dry lumber after treatment to maximum moisture content of 19 percent.

b. Treat lumber exposed to weather.

c. Treat lumber in contact with flashing or waterproofing.

d. Treat lumber in contact with masonry or concrete.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.02 TOLERANCES

A. Framing Members: 1/4 inch (6 mm) from true position, maximum.

3.03 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for additional requirements.

3.04 CLEANING

A. Waste Disposal: Comply with the requirements of Section 01 7419 - Construction Waste Management and Disposal.

1. Comply with applicable regulations.

2. Do not burn scrap on project site.
3. Do not burn scraps that have been pressure treated.

4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or "waste-to-energy" facilities.

B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.

C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

SECTION 06 2000
FINISH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Finish carpentry items.

B. Wood casings and moldings.

1.02 RELATED REQUIREMENTS

A. Section 06 1000 - Rough Carpentry: Support framing, grounds, and concealed blocking.

B. Section 08 5313 - Vinyl Windows

C. Section 09 9113 - Exterior Painting: Painting and finishing of finish carpentry items.

D. Section 09 9123 - Interior Painting: Painting and finishing of finish carpentry items.

1.03 REFERENCE STANDARDS A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2018. B. AWI (QCP) - Quality Certification Program; current edition at ww.awiqcp.org.

C. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014, with Errata (2016).

D. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards, U.S. Version 3.1; 2016, with Errata (2017).

E. PS 20 - American Softwood Lumber Standard; 2015.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the work with plumbing rough-in, electrical rough-in, and installation of associated and adjacent components.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data:

1. Provide instructions for attachment hardware and finish hardware.

1.06 QUALITY ASSURANCE

A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.

1. Accredited participant in the specified certification program prior to the commencement of fabrication and throughout the duration of the project.

B. Quality Certification:

1. Comply with AWI (QCP) woodwork association quality certification service/program in accordance with requirements for work specified in this section: www.awiqcp.org/#sle.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Protect work from moisture damage.

PART 2 PRODUCTS

2.01 FINISH CARPENTRY ITEMS

A. Quality Standard: Premium Grade, in accordance with AWI/AWMAC/WI (AWS), unless noted otherwise.

B. Exterior Woodwork Items:

1. Window Casings and Moldings: Cellular PVC Trim Boards; prepare for paint finish.

C. Interior Woodwork Items:

1. Window Casings, Stools, and Miscellaneous Trim, in locations other than Bathrooms: Paint grade clear white pine; prepare for paint finish.

2. Window Casings, Stools, and Miscellaneous Trim in Bathrooms: Cellular PVC Trim Boards; prepare for paint finish.

2.02 WOOD-BASED COMPONENTS

A. Wood fabricated from old growth timber is not permitted.

2.03 LUMBER MATERIALS

A. Softwood Lumber: Pine species, plain sawn, maximum moisture content of 6 percent; with flat grain, paint grade.

2.04 ACCESSORIES

A. Cellular PVC Trim: Extruded, expanded PVC; UV-resistant, heat-stabilized, and rigid material.

1. Density: 31 pounds per cubic foot (500 kg/cu m), minimum.

2. Flame Spread: ASTM E84, 75, maximum.

3. Manufacturers:

a. AZEK Building Products, Inc; Traditional Trim: www.azek.com/#sle.

b. Fypon LLC: www.fypon.com.

c. Substitutions: See Section 01 6000 - Product Requirements.

2.05 FABRICATION

A. Shop assemble work for delivery to site, permitting passage through building openings.

B. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

END OF SECTION

SECTION 07 1550
ELASTOMERIC COATING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Section includes fluid applied, water-based, breathable, silicone one-component elastomer waterproofing for above-grade application to clay brick masonry exterior surfaces.

1.02 RELATED REQUIREMENTS

A. Section 04.01.00 - Maintenance of Masonry.

B. Section 04.20.00 - Unit Masonry

C. Section 07.90.05 - Joint Sealers.

1.03 REFERENCE STANDARDS

A. ASTM D412 - Standard Test Method for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers - Tension.

B. ASTM D1653 - Standard Test Method for Water Vapor Transmission of Organic Coatings.

C. D1737 - Method of Test for Elongation of Attached Organic Coatings with Cylindrical Mandrel Apparatus.

D. ASTM D2240 - Rubber Property Durometer Hardness.

E. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.

F. ASTM D3274 - Standard Test Method for Evaluating Degree of Surface Disfigurement of Paint Films by Microbial (Fungal or Algal) Growth of Soil and Dirt.

G. ASTM D3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings; 2005.

H. Federal Specification: TT-C-555B

1.04 SUBMITTALS

A. See Section 01.30.00 - Administrative Requirements, for submittal procedures.
B. Product Data: Provide product description for silicone waterproofing, primer, and accessories. Include material safety data sheets (MSDSs) and certifications showing compliance with specified standards.

C. Manufacturer's Installation Instructions: Indicate special procedures and conditions requiring special attention; cautionary procedures required during application.

D. Manufacturer’s color chart for selections by Architect.

E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

F. Copy of warranty specified in Paragraph 1.05 for review by Architect.

G. Manufacturer's Field Reports: Report whether manufacturer's "best practices" are being followed; if not, state corrective recommendations. Email report to Architect the same day as inspection occurs; mail report on manufacturer's letterhead to Architect within 2 days after inspection.

H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.

1. See Section 01.60.00 - Product Requirements, for additional provisions.

2. Extra Elastomeric Material: *one 5-gallon pail of each color installed.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

B. Installer Qualifications: Company specializing in performing the work of this section with minimum three years experience.

C. Owner reserves the right to provide continuous independent inspection of surface preparation and application of water repellent.

D. Manufacturer’s 10-year material warranty to cover water penetration for properly applied water repellent

1.06 MOCK-UP

A. Prepare a representative surface *10 feet wide by 1 story in height using specified materials and preparation and application methods on surfaces identical to those to be coated; approved mock-up constitutes standard for workmanship.

B. For proposed substitutions, prepare side-by-side mock-ups of specified and substitute products.

C. Locate where directed.

D. Mockup may remain as part of the Work.

1.07 FIELD CONDITIONS

A. Protect liquid materials from freezing.

B. Do not apply water repellent when ambient temperature is lower than 50 degrees F or higher than 100 degrees F.

C. Do not apply water repellents when wind velocity is higher than 20 mph.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. ACCEPTABLE MANUFACTURERS

1. Dow Corning Corporation; Product AllGuard Silicone Elastomeric Coating; www.dowcorning.com/construction

2. Momentive Performance Materials: Product SilShield SEC 2400 silicone Architectural Coating: GESilicones.com

2.02 MATERIALS

A. SILICONE ELASTOMERIC COATING

1. Type: One-component, liquid, water-based, breathable, colored, silicone one-component elastomer waterproofing for above-grade to exterior concrete, clay and concrete masonry, cement and synthetic stucco, and exterior insulation and finish systems (EIFS) exterior walls and surfaces.

2. Composition: Pigmented, water-based, silicone elastomer.

3. Shelf life: 12 months.

4. Color: Custom color as designated by Architect.

5. Solids content: 55 to 60 percent by weight, tested in Accordance with ASTM D2369.

6. Viscosity: 60 Pa-s, tested in accordance with D2196.

7. High-temperature stability with no change in viscosity: 28 days minimum, tested in accordance D1849.

8. Volatile organic compound (VOC) content: 84 grams/liter maximum.

9. Cured properties after:

a. Hardness: 38-durometer hardness, Shore A, tested in accordance with ASTM D2240.

b. Tensile strength: 145 psi, tested in accordance with ASTM D412.

c. Elongation: 600 percent, tested in accordance with ASTM D412.

d. Permeance: 43.2 perms, tested in accordance with ASTM D1653.

e. Room temperature flexibility: Passes 1/8-inch mandrel test, in accordance with ASTM D1737.

f. Low temperature flexibility: Passes ¼-inch mandrel test, in accordance with ASTM D1737.

g. Fungus resistance: Passes testing, in accordance with ASTM D3274.

h. Mold resistance: Passes testing, in accordance with ASTM D3273.

i. Wind-Driven Rain, Federal Specification TT-C-555B, 98 mph: Passes.

B. PRIMER FOR WATER REPELLENT

1. Substrate primer: Water-based silicone primer designed to promote adhesion of silicone elastomeric coating.

a. Solids by weight: 20 percent.

b. Color: Milky white liquid appearance, which is transparent when cured but darkens substrate, and if not coated with water repellent, will develop yellow tint and haze.

c. Volatile organic compound (VOC) content: 30 grams per liter.

d. Shelf life: 18 months.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.
B. Verify joint sealants are installed and cured.

C. Verify surfaces to be coated are dry, clean, and free of efflorescence, oil, or other matter detrimental to application of water repellent.

3.02 PREPARATION

A. Protection of Adjacent Work:

1. Protect adjacent landscaping, property, and vehicles from drips and overspray.

2. Protect adjacent surfaces not intended to receive water repellent.

B. Prepare surfaces to be coated as recommended by water repellent manufacturer for best results.

C. Repair deteriorated or damaged substrates, repair masonry joints, and fill cracks, voids, honeycomb, and other defects using materials as recommended by manufacturer. Allow patching materials to cure.

D. Handle, store, and apply materials in compliance with applicable Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), volatile organic compound (VOC), and other regulations and manufacturer's material safety data sheets (MSDSs).

E. Do not apply silicone elastomeric coating to:

1. Below-grade applications.

2. Metal, wood, plastic, asphaltic materials, and tar-contaminated masonry.

F. Do not start work until masonry mortar substrate is cured a minimum of 60 days.

G. Remove loose particles and foreign matter.

H. Remove oil and foreign substances with a chemical solvent that will not affect water repellent.

I. Scrub and rinse surfaces with water and let dry.

J. Field adhesion test: Prior application of repellent, test each application condition to determine if primer is required to satisfactorily adhere repellent to substrate.

K. Primer: Apply primer to substrates determined by field adhesion test.

1. Use nap roller, nylon bristle brush, or airless sprayer.

2. Application rate: 300 square feet per gallon.

L. Allow surfaces to dry completely to degree recommended by water repellent manufacturer before starting coating work.

3.03 APPLICATION

A. Apply coating in accordance with manufacturer's instructions, using procedures and application methods recommended as producing the best results.

B. Apply at rate recommended by manufacturer, continuously over entire surface.

C. Use nap roller, nylon bristle brush, or airless sprayer.

D. Apply from top to bottom. Work down vertical surface and cover rundown in process. Avoid excessive overlapping.

E. Apply three coats, minimum. Provide minimum 15 mils DFT.

F. Inspect application. Verify that results compare with approved mock-up. Ensure substrates are adequately protected from water penetration.

G. Remove coating from unintended surfaces immediately by a method instructed by water repellent manufacturer.

H. Remove temporary coverings and protection. Clean and repair adjacent surfaces damaged by water repellent application.

I. Provide manufacturer's field service representative to inspect preparation and application work for at least 3 hours on first day to ensure that manufacturer's "best practices" for preparation and application are being followed.

END OF SECTION

SECTION 07 3113
ASPHALT SHINGLES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Asphalt shingle roofing.

B. Flexible sheet membranes for underlayment.

1.02 RELATED REQUIREMENTS

A. Section 06 1000 - Rough Carpentry: Roof sheathing.

1.03 REFERENCE STANDARDS A. ASTM D1970/D1970M - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection; 2013.

B. ASTM D3161/D3161M - Standard Test Method for Wind-Resistance of Steep Slope Roofing Products (Fan-Induced Method); 2016.

C. ASTM D3462/D3462M - Standard Specification for Asphalt Shingles Made From Glass Felt and Surfaced with Mineral Granules; 2010a.

D. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2007, with Editorial Revision (2012).

E. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials; 2016.

F. ASTM E108 - Standard Test Methods for Fire Tests of Roof Coverings; 2011.

G. ICC-ES AC188 - Acceptance Criteria for Roof Underlayments; 2012.

H. NRCA (RM) - The NRCA Roofing Manual; 2017.

I. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

J. UL (DIR) - Online Certifications Directory; current listings at database.ul.com.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data indicating material characteristics, performance criteria, and limitations.

C. Samples: Submit two samples of each shingle color indicating color range and finish texture/pattern; for color selection.

D. Manufacturer's Installation Instructions: Indicate installation criteria and procedures.

E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

F. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.

1. Extra Shingles: 100 sq ft (____ sq m) of each type and color.

1.05 FIELD CONDITIONS

A. Do not install shingles or eave protection membrane when surface temperatures are below 45 degrees F (7 degrees C).

1.06 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

B. Correct defective Work within a five-year period after Date of Substantial Completion.

C. Provide lifetime manufacturer's warranty for coverage against black streaks caused by algae.

D. Provide five-year manufacturer's warranty for wind damage.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Asphalt Shingles:

1. GAF: www.gaf.com.

2. Owens Corning Corp: www.owenscorning.com.

3. Certainteed; www.certainteed.com

4. Substitutions: See Section 01 6000 - Product Requirements.

B. Algae Resistant Asphalt Shingles:

2.02 ASPHALT SHINGLES A. Asphalt Shingles: Asphalt-coated glass felt, mineral granule surfaced, conforming to ASTM D3462.

1. Fire Resistance: Class A, conforming to ASTM E108.

2. Wind Resistance: Class A, when tested in accordance with ASTM D3161.

3. Warranted Wind Speed: Not greater than 60 mph (97 km/h).

4. Algae Resistant.

5. Warranty: 30 year

6. Self-sealing type.

7. Style: Square.

8. Color: As selected by Architect from Mfg's full range.

2.03 SHEET MATERIALS

A. Eave Protection Membrane: Self-adhering polymer-modified asphalt sheet conforming to ASTM D1970/D1970M; 40 mil (1 mm) total thickness; with strippable treated release paper and polyethylene sheet top surface. B. Flexible Flashing: Self-adhering polymer-modified asphalt sheet conforming to ASTM D1970/D1970M; 40 mil (1 mm) total thickness; with strippable treated release paper and polyethylene sheet top surface.

2.04 ACCESSORIES A. Plastic Cement: ASTM D4586/D4586M, asphalt roof cement.

B. Ridge Vents: Corrugated plastic, extruded with vent openings that do not permit direct water or weather entry; .

2.05 METAL FLASHINGS

A. Metal Flashings: Provide sheet metal eave edge, gable edge, ridge, ridge vents, open valley flashing, chimney flashing, dormer flashing, and other flashing indicated.

1. Form sections square and accurate to profile, in maximum possible lengths, free from distortion or defects detrimental to appearance or performance.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions prior to beginning work.

B. Verify that roof deck is of sufficient thickness to accept fasteners.

C. Verify that roof penetrations and plumbing stacks are in place and flashed to deck surface.

D. Verify roof openings are correctly framed.

E. Verify deck surfaces are dry, free of ridges, warps, or voids.

3.02 PREPARATION

A. Seal roof deck joints wider than 1/16 inch (1.5 mm) as recommended by shingle manufacturer.

B. Broom clean deck surfaces before installing underlayment or eave protection.

3.03 INSTALLATION - UNDERLAYMENT

A. Underlayment: Install one layer of underlayment at roof deck at intake and exhaust vents.

B. Weather lap and seal watertight with plastic cement any items projecting through or mounted on roof.

3.04 INSTALLATION - SHINGLES

A. Install shingles in accordance with manufacturer's instructions manufacturer's instructions and NRCA (RM) applicable requirements.

1. Fasten individual shingles using 2 nails per shingle, or as required by code, whichever is greater.

2. Fasten strip shingles using 4 nails per strip, or as required by code, whichever is greater.

B. Place shingles in straight coursing pattern with 5-inch (125 mm) weather exposure to produce double thickness over full roof area, and provide double course of shingles at eaves.

C. Project first course of shingles 3/4 inch (19 mm) beyond fascia boards.

D. Extend shingles 1/2 inch (13 mm) beyond face of gable edge fascia boards.

E. Coordinate installation of roof mounted components or work projecting through roof with weather tight placement of counterflashings.

F. Complete installation to provide weather tight service.

3.05 PROTECTION

A. Do not permit traffic over finished roof surface.

END OF SECTION

SECTION 07 6200
SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fabricated sheet metal items, including flashings and counterflashings.

B. Sealants for joints within sheet metal fabrications.

1.02 RELATED REQUIREMENTS

A. Section 06 1000 - Rough Carpentry: Wood nailers for sheet metal work.

B. Section 07 9200 - Joint Sealants: Sealing non-lap joints between sheet metal fabrications and adjacent construction.

1.03 REFERENCE STANDARDS

A. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; 2014 (2015 Errata).

B. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2017a.

C. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2017a.

D. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2017.

E. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2015.

F. ASTM B32 - Standard Specification for Solder Metal; 2008 (Reapproved 2014).

G. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2014.

H. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric); 2014

I. CDA A4050 - Copper in Architecture - Handbook; current edition.

J. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.
1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene one week before starting work of this section.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

1.06 QUALITY ASSURANCE

A. Perform work in accordance with SMACNA (ASMM) and CDA A4050 requirements and standard details, except as otherwise indicated.

B. Maintain one copy of each document on site.

C. Fabricator and Installer Qualifications: Company specializing in sheet metal work with 5 years of documented experience.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.

B. Prevent contact with materials that could cause discoloration or staining.

PART 2 PRODUCTS

2.01 SHEET MATERIALS

A. Aluminum: ASTM B209 (ASTM B209M); 20 gage, (0.032 inch) (0.81 mm) thick; anodized finish of color as selected.

1. Clear Anodized Finish: AAMA 611 AA-M12C22A41 Class I clear anodic coating not less than 0.7 mils (0.018 mm) thick.

2. Color Anodized Finish: AAMA 611 AA-M12C22A42/44 Class I integrally or electrolytically colored anodic coating not less than 0.7 mils (0.018 mm) thick.

2.02 ACCESSORIES

A. Sealant: As specified in Section 07 9005.

2.03 FABRICATION

A. Form sections true to shape, accurate in size, square, and free from distortion or defects.

B. Fabricate cleats of same material as sheet, minimum 6 inches (____ mm) wide, interlocking with sheet.

C. Form pieces in longest possible lengths.

D. Hem exposed edges on underside 1/2 inch (13 mm); miter and seam corners.

E. Form material with flat lock seams, except where otherwise indicated; at moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.

F. Fabricate corners from one piece with minimum 18 inch (450 mm) long legs; seam for rigidity, seal with sealant.

G. Fabricate vertical faces with bottom edge formed outward 1/4 inch (6 mm) and hemmed to form drip.

H. Fabricate vertical faces with bottom edge formed outward 1/4 inch (6 mm) and hemmed to form drip.

I. Fabricate flashings to allow toe to extend 2 inches (50 mm) over roofing gravel. Return and brake edges.

PART 3 EXECUTION

3.01 INSTALLATION

A. Secure flashings in place using concealed fasteners, and use exposed fasteners only where permitted.

B. Apply plastic cement compound between metal flashings and felt flashings.

C. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.

D. Seal metal joints watertight.

3.02 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for field inspection requirements.

B. Inspection will involve surveillance of work during installation to ascertain compliance with specified requirements.

END OF SECTION

SECTION 07 8400
FIRESTOPPING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Firestopping systems.

B. Firestopping of all joints and penetrations in fire resistance rated and smoke resistant assemblies, whether indicated on drawings or not, and other openings indicated.

1.02 RELATED REQUIREMENTS

A. Section 01 7000 - Execution and Closeout Requirements: Cutting and patching.

B. Section 09 2116 - Gypsum Board Assemblies: Gypsum wallboard fireproofing.

1.03 REFERENCE STANDARDS

A. ASTM E814 - Standard Test Method for Fire Tests of Through-Penetration Fire Stops; 2013a.

B. ASTM G21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi; 2015.

C. ITS (DIR) - Directory of Listed Products; current edition.

D. FM (AG) - FM Approval Guide; current edition.

E. SCAQMD 1168 - South Coast Air Quality Management District Rule No.1168; current edition.

F. UL (FRD) - Fire Resistance Directory; Current Edition.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on typical uses, product characteristics, performance ratings, limitations, and test data.

C. Sustainable Design Submittal: Submit VOC content documentation for all non-preformed materials.

D. Manufacturer's Installation Instructions: Indicate preparation and installation instructions.

E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

F. Certificate from authority having jurisdiction indicating approval of materials used.

G. Installer Qualification: Submit qualification statements for installing mechanics.

H. Submit manufacturer's Warranty. If Manufacturer's states that the Owner or user shall determine the suitability of the product for its intended use, or Warranty states that that the Owner or user shall test application for specific use, then the Contractor shall have independently monitored tests performed on the construction configurations identical to the proposed construction on this project, and Contractors shall submit copies of Test Reports covering same, for review by the Architect.

1.05 QUALITY ASSURANCE

A. Fire Testing: Provide firestopping assemblies of designs that provide the scheduled fire ratings when tested in accordance with methods indicated.

1. Listing in UL (FRD), FM (AG), or ITS (DIR) will be considered as constituting an acceptable test report.

2. Valid evaluation report published by ICC Evaluation Service, Inc. (ICC-ES) at www.icc-es.org will be considered as constituting an acceptable test report.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

C. Installer Qualifications: Company specializing in performing the work of this section and:

1. Verification of minimum three years documented experience installing work of this type.

1.06 FIELD CONDITIONS

A. Conform to firestopping manufacturer's recommendations for temperature and conditions during and after installation; maintain minimum temperature before, during, and for three days after installation of materials.

B. Provide ventilation in areas where solvent-cured materials are being installed.

1.07 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver material in the manufacturer's original, unopened containers or packages with manufacturers’ name, product identification, lot numbers, UL-labels, and mixing and installation instructions, as applicable.

B. Store materials in the original, unopened containers or packages, and under conditions recommended by manufacturers.

C. All firestop materials shall be installed prior to material expiration date.

1.08 WARRANTY

A. Firestop installer shall warrant that firestopping systems used meet firestopping requirements as herein specified up to and including sustainable life of the building. Limitations contained in the manufacturer's warranty do not release the installing contractor from providing the warranties required by the contract documents.

B. Firestop manufacturer must provide a written warranty statement that firestop material will perform as tested in properly installed firestop systems for the sustainable life of the building, a no time limit warranty.

1.09 SEQUENCING

A. Coordinate this work as required with work of other trades.

B. Include firestopping into the general/project schedule.

C. Firestopping shall precede gypsum board finishing.

D. The project construction schedule must contain firestopping installation timelines coordinated with trades.

1.10 PROTECTION

A. Where firestopping is installed at locations which will remain exposed in the completed work, provide protection as necessary to prevent damage to adjacent surfaces and finishes, and protect as necessary against damage from other construction activities.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Firestopping Manufacturers:

1. 3M Fire Protection Products: www.3m.com/firestop.

2. Hilti, Inc: www.us.hilti.com/#sle.

3. Specified Technologies Inc: www.stifirestop.com/#sle.

2.02 MATERIALS

A. Firestopping Materials: Caulk or putty.

B. Volatile Organic Compound (VOC) Content: Provide products having VOC content lower than that required by SCAQMD 1168.

C. Mold and Mildew Resistance: Provide firestopping materials with mold and mildew resistance rating of zero(0) in accordance with ASTM G21.

D. Primers, Sleeves, Forms, Insulation, Packing, Stuffing, and Accessories: Provide type of materials as required for tested firestopping assembly.

E. Fire Ratings: Refer to drawings for required systems and ratings.

2.03 FIRESTOPPING ASSEMBLY REQUIREMENTS A. Perimeter Fire Containment Firestopping: Use system that has been tested according to ASTM E2307 to have fire resistance F Rating equal to required fire rating of floor assembly. B. Through Penetration Firestopping: Use system that has been tested according to ASTM E814 to have fire resistance F Rating equal to required fire rating of penetrated assembly.

2.04 FIRESTOPPING PENETRATIONS THROUGH CONCRETE AND CONCRETE MASONRY CONSTRUCTION

2.05 GENERAL

A. Firestopping shall meet the specified requirements.

B. Firestop material must be manufactured in the United States of America.

2.06 FIRESTOPPING SYSTEMS

A. Firestopping: Any material meeting requirements.

1. Fire Ratings: See drawings for required systems and ratings.

B. Firestopping Between Top of Partition Wall and Roof Slab: Fiber firestopping with smoke seal coating; UL Design as indicated on drawings, provide at locations indicated on drawings.

2.07 MATERIALS

A. Firestopping Sealants: Provide only products having lower volatile organic compound (VOC) content than required by South Coast Air Quality Management District Rule No.1168.

B. Endothermic, Latex Compound Sealant: Single-component, endothermic, latex formulation.

1. Manufacturers:

a. 3M Products: Fire Dam 150, Fire Dam 150+

b. HILTI, Inc: CP 606 Flexible Firestop Sealant

c. Substitutions: See Section 01.60.00 - Product Requirements.

C. Intumescent, Latex Sealant: Single-component, intumescent, latex formulation.

1. Manufacturers:

a. 3M Products: CP25 WB+

b. HILTI, Inc: FS ONE Intumescent Firestop Sealant

c. Substitutions: See Section 01.60.00 - Product Requirements.

D. Elastomeric Silicone Firestopping: Single component silicone elastomeric compound and compatible silicone sealant; conforming to the following:

1. Manufacturers:

a. STI; SpecSeal, Series ES Elastomeric Sealant: www.stifirestop.com

b. Substitutions: See Section 01 6000 - Product Requirements.

E. Fire Foam: A one step applied expanding foam approved for sealing a wide variety of penetrants.

1. Manufacturers:

a. HILTI, Inc; Product CP 620:www.us.hilti.com

b. Substitutions: See Section 01.60.00 - Product Requirements.

F. Fire Block: A ready to use, intumescent flexible block based on a two component polyurethane foam.

1. Manufacturers:

a. HILTI, Inc; Product FS 657 Fire Block: www.us.hilti.com

b. Substitutions: See Section 01.60.00 - Product Requirements.

G. Elastomeric Spray: One part, flexible, sprayable, water-based coating.

1. Manufacturers:

a. 3M Products; Product Fire Dam Spray: www;3m.com/firestop

b. HILTI, Inc.; Product CP 672 Firestop Joint Spray: www.us.hilti.com

c. Substitutions: See Section 01.60.00 - Product Requirements.

H. Intumescent Composite Sheet: One part composite system of organic/inorganic, fire-resistive elastomeric sheet, 28 gauge steel, steel wire mesh and aluminum foil.

1. Manufacturers:

a. 3M Products: CS 195+

b. Substitutions: See Section 01.60.00 - Product Requirements.

I. Mortar: Prepackaged dry mix composed of a blend of inorganic binders, fillers, and lightweight aggregate formulated for mixing with water at Project site to form a non-shrinking, homogenous mortar.

1. Manufacturers:

a. 3M Products: Fire Barrier Mortar

b. HILTI, Inc: FS 635 Firestop Compound

c. Substitutions: See Section 01.60.00 - Product Requirements.

J. Intumescent Wrap Strips: Single component.

1. Manufacturers:

a. 3M Products: FS-195+, Ultra GS 40

b. CP 645 Wrap Strips

c. RectorSeal Corporation . www.rectorseal.com

d. Grace Construction Products: www.na.graceconstruction.com.

K. Firestop Devices - Cast-In Type: Sleeve and sealing material, intended to be cast in concrete floor forms or in concrete on metal deck, not requiring any additional materials to achieve penetration seal.

1. Manufacturers:

a. Hilti, Inc; Product CP 680 Cast In Place Firestop Device: www.us.hilti.com.

b. RectorSeal; Product Metacaulk Cast-In-Place Devices: www.rectorseal.com.

c. Substitutions: See Section 01 6000 - Product Requirements.

L. Intumescent Putty: Compound that expands on exposure to surface heat gain; conforming to the following:

1. Manufacturers:

a. RectorSeal; Product Metacaulk Putty & Putty Pads: www.rectorseal.com.

b. 3M Fire Protection Products; Product Moldable Putty Stix: www.3m.com/firestop.

c. Hilti, Inc; Product CP 645 Putty Stick; CP 617 Putty Pads: www.us.hilti.com.

d. Substitutions: See Section 01 6000 - Product Requirements.

M. ACCESSORIES

1. Provide components for each firestopping system that are needed to install fill materials and to comply with "System Performance Requirements" article in Part 1. Use only components specified by the firestopping manufacturer and approved by the qualified testing and inspecting agency for the designated fire-resistance-rated systems. Accessories include but are not limited to the following items:

a. Permanent forming/damming/backing materials including the following:

1) Semi-refractory fiber (mineral wool) insulation.

2) Ceramic fiber.

3) Fire-rated formboard.

4) Backer Rod.

b. Steel Collars

c. Steel Sleeves

d. Temporary forming materials

N. Primers, Sleeves, Forms, Insulation, Packing, Stuffing, and Accessories: Type required for tested assembly design.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify openings are ready to receive the work of this section.

3.02 PREPARATION

A. Clean substrate surfaces of dirt, dust, grease, oil, loose material, or other materials that could adversely affect bond of firestopping material.

B. Remove incompatible materials that could adversely affect bond.

C. Install backing materials to prevent liquid material from leakage.

3.03 INSTALLATION

A. Install materials in manner described in fire test report and in accordance with manufacturer's instructions, completely closing openings.

B. Do not cover installed firestopping until inspected by authorities having jurisdiction.

C. Install labeling required by code.

3.04 CLEANING

A. Clean adjacent surfaces of firestopping materials.

3.05 PROTECTION

A. Protect adjacent surfaces from damage by material installation.

END OF SECTION

SECTION 07 9200
JOINT SEALANTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Nonsag gunnable joint sealants.

B. Joint backings and accessories.

1.02 RELATED REQUIREMENTS

A. Section 07 8400 - Firestopping: Firestopping sealants.

B. Section 08 8000 - Glazing: Glazing sealants and accessories.

C. Section 09 2116 - Gypsum Board Assemblies: Fire and acoustic sealant at walls.

1.03 REFERENCE STANDARDS

A. ASTM C661 - Standard Test Method for Indentation Hardness of Elastomeric-Type Sealants by Means of a Durometer; 2006 (Reapproved 2011).

B. ASTM C794 - Standard Test Method for Adhesion-In-Peel of Elastomeric Joint Sealants; 2015.

C. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2013.

D. ASTM C1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants; 2008 (Reapproved 2012).

E. ASTM D412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers--Tension; 2006a (Reapproved 2013).

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data for Sealants: Submit manufacturer's technical data sheets for each product to be used, that includes the following.

1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.

2. List of backing materials approved for use with the specific product.

3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.

4. Substrates the product should not be used on.

5. Substrates for which use of primer is required.

6. Substrates for which laboratory adhesion and/or compatibility testing is required.

7. Installation instructions, including precautions, limitations, and recommended backing materials and tools.

8. Sample product warranty.

C. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.

D. Installation Plan: Submit at least four weeks prior to start of installation.

E. Installation Log: Submit filled out log for each length or instance of sealant installed.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing the work of this section and with at least three years of documented experience.

B. Installation Plan: Include schedule of sealed joints, including the following.

1. Installation Log Form: Include the following data fields, with known information filled out.

a. Date of installation.

b. Name of installer.

c. Actual joint width; provide space to indicate maximum and minimum width.

d. Actual joint depth to face of backing material at centerline of joint.

e. Air temperature.

1.06 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
B. Correct defective work within a five year period after Date of Substantial Completion.

C. Warranty: Include coverage for installed sealants and accessories that fail to achieve watertight seal , exhibit loss of adhesion or cohesion, or do not cure.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Non-Sag Sealants: Permits application in joints on vertical surfaces without sagging or slumping.

1. Dow Chemical Company; DOWSIL 790 Silicone Building Sealant: consumer.dow.com/en-us/industry/ind-building-construction.html/#sle.

2. Pecora Corporation: www.pecora.com.

3. Substitutions: See Section 01 6000 - Product Requirements.

2.02 JOINT SEALANT APPLICATIONS

A. Scope:

1. Exterior Joints: Seal open joints, whether or not the joint is indicated on drawings, unless specifically indicated not to be sealed. Exterior joints to be sealed include, but are not limited to, the following items.

a. Masonry head and bed joints at exterior wall.

b. Joints between window trim and masonry opening.

c. Joints at masonry penetrations.

2. Do not seal the following types of joints.

a. Intentional weepholes in masonry, and at joint between window and sill flashing.

b. Joints where sealant is specified to be provided by manufacturer of product to be sealed.

c. Joints where installation of sealant is specified in another section.

2.03 NONSAG JOINT SEALANTS A. Non-Staining Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.

1. Movement Capability: +/-50%, minimum.

2. Non-Staining To Porous Masonry: Non-staining to light-colored Brick when tested in accordance with ASTM C1248.

3. Dirt Pick-Up: Reduced dirt pick-up compared to other silicone sealants. 4. Hardness Range: 15 to 35, Shore A, when tested in accordance with ASTM C661.

5. Color: To be selected by Architect from manufacturer's standard range.

6. Cure Type: Single-component, neutral moisture curing.

7. Manufacturers:

a. Dow Chemical Company; 790 Silicone Building Sealant: consumer.dow.com/en-us/industry/ind-building-construction.html/#sle.

b. Pecora Corporation; 890NTS: www.pecora.com.

c. Tremco Commercial Sealants & Waterproofing; Spectrem 3: www.tremcosealants.com/#sle.

d. Substitutions: See Section 01 6000 - Product Requirements.

2.04 ACCESSORIES

A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.

1. Closed Cell and Bi-Cellular: 25 to 33 percent larger in diameter than joint width.

2. Manufacturers:

a. Nomaco, Inc; HBR: www.nomaco.com/#sle.

b. Substitutions: See Section 01 6000 - Product Requirements.

B. Masking Tape: Self-adhesive, nonabsorbent, non-staining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.

C. Joint Cleaner: Non-corrosive and non-staining type, type recommended by sealant manufacturer; compatible with joint forming materials.

D. Primers: Type recommended by sealant manufacturer to suit application; non-staining.

PART 3 EXECUTION
3.01 EXAMINATION

A. Verify that joints are ready to receive work.

B. Verify that backing materials are compatible with sealants.

C. Verify that backer rods are of the correct size.

3.02 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions. C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.03 INSTALLATION

A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions. B. Perform installation in accordance with ASTM C1193.

C. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.

D. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range or will be outside that range during the entire curing period, unless manufacturer's approval is obtained, and instructions are followed.

E. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

END OF SECTION

SECTION 08 5313
VINYL WINDOWS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Vinyl-framed, factory-glazed windows.

B. Operating hardware.

C. Insect screens.

1.02 RELATED REQUIREMENTS

A. Section 07 9200 - Joint Sealants: Sealing joints between frames and adjacent construction.

B. Section 08 8000 - Glazing.

1.03 REFERENCE STANDARDS

A. AAMA/WDMA/CSA 101/I.S.2/A440 - North American Fenestration Standard/Specification for windows, doors, and skylights; 2017.

B. AAMA 701/702 - Combined Voluntary Specifications for Pile Weatherstrip and Replaceable Fenestration Weatherseals; 2011.

C. AAMA 1503 - Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections; 2009.

D. ASTM E1996 - Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes; 2017.

E. ASTM E2112 - Standard Practice for Installation of Exterior Windows, Doors and Skylights; 2007 (Reapproved 2016).

F. ASTM F588 - Standard Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact; 2017.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene one week before starting work of this section.

1.05 SUBMITTALS
A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide component dimensions, anchors, fasteners, glass, and internal drainage.

C. Shop Drawings: Indicate opening dimensions, framed opening tolerances, affected related work, and installation requirements.

D. Manufacturer's Certificate: Certify that products of this section meet or exceed specified requirements.

E. Grade Substantiation: Prior to submitting shop drawings or starting fabrication, submit one of the following showing compliance with specified grade:

1. Evidence of AAMA Certification.

2. Evidence of WDMA Certification.

3. Evidence of CSA Certification.

4. Test report(s) by independent testing agency itemizing compliance and acceptable to authorities having jurisdiction.

F. Test Reports: Prior to submitting shop drawings or starting fabrication, submit test report(s) by independent testing agency showing compliance with performance requirements in excess of those prescribed by specified grade.

G. Field Quality Control Submittals: Report of field testing for water penetration and air leakage.

H. Manufacturer's Qualification Statement.

I. Installer's Qualification Statement.

J. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.

B. Installer Qualifications: Company specializing in performing of type specified and with at least three years documented experience.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Protect finished surfaces with wrapping. Do not use adhesive papers or sprayed coatings that bond when exposed to sunlight or weather.

B. Jig, brace, and box the window frame assemblies for transport to minimize flexing of members or joints.

1.08 FIELD CONDITIONS

A. Do not install sealants when ambient temperature is less than 40 degrees F (5 degrees C).

B. Maintain this minimum temperature during and after installation of sealants.

1.09 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

B. Correct defective Work within a fifteen year period after Date of Substantial Completion.

C. Provide fifteen year manufacturer warranty for insulated glass units from seal failure, interpane dusting or misting, and replacement of same. Include coverage for degradation of color finish.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Vinyl Windows:

1. Silver Line by Andersen: www.silverlinewindows.com/sle.

    a. New Construction:

        1) Single Hung: Silver Line V1 Series.

2. Alside, Inc: www.alside.com.

3. Pella Corporation; 350 Series: www.pellacommercial.com/sle.

4. Substitutions: See Section 01 6000 - Product Requirements.

2.02 DESCRIPTION

A. Vinyl Windows: Factory fabricated frame and sash members of extruded, hollow, ultra-violet-resistant, polyvinyl chloride (PVC) with integral color; with factory-installed glazing, hardware, related flashings, anchorage and attachment devices.

1. Configuration: As indicated on drawings.

    a. Product Type: AP - Awning projected window, C - Casement window, DW - Dual windows, FW - Fixed window, H - Hung window, vertically sliding, HS - Horizontal sliding window, and _____ in accordance with AAMA/WDMA/CSA 101/I.S.2/A440.

2. Color: Color as selected.

3. Size to fit openings with minimum clearance around perimeter of assembly providing necessary space for perimeter seals.

4. Operable Units: Double weatherstripped.

5. Framing Members: Fusion welded corners and joints, with internal reinforcement where required for structural rigidity; concealed fasteners.

6. System Internal Drainage: Drain to exterior side by means of weep drainage network any water entering joints, condensation within glazing channel, or other migrating moisture within system.

7. Glazing Stops, Trim, Flashings, and Accessory Pieces: Formed of rigid PVC, fitting tightly into frame assembly.

8. Mounting Flange: Integral to frame assembly, providing weather stop at entire perimeter of frame.

9. Insect Screens: Tight fitting for operating sash location.

2.03 PERFORMANCE REQUIREMENTS A. Grade: AAMA/WDMA/CSA 101/I.S.2/A440 requirements for specific window type:

1. Performance Class (PC): R.

B. Design Pressure: In accordance with applicable codes.

C. Wind-Borne-Debris Resistance: Identical full-size glazed assembly without auxiliary protection, tested by independent agency and passed in accordance with ASTM E1996 for Wind Zone 4 - Additional Protection for Large and Small Missile impact and pressure cycling at design wind pressure.

D. Condensation Resistance Factor: CRF of 50, minimum, the lower value of the glass and frame window components and determined in accordance with AAMA 1503.

E. Overall Thermal Transmittance (U-value): 0.35, maximum, including glazing, measured on window sizes required for this project. F. Forced Entry Resistance (FER): Tested to comply with ASTM F588 requirements having at least Grade 10 performance for each required window assembly.
2.04 COMPONENTS

A. Glazing: Insulated double pane, tempered glass, clear, low-E coated, argon filled, with glass thicknesses as recommended by manufacturer for specified wind conditions.

B. Frame Depth: Manufacturer's standard.

C. Insect Screens: Aluminum, extruded or roll-formed frame with mitered and reinforced corners; apply screen mesh taut to frame; secure to window with hardware to allow easy removal.

1. Hardware: Manufacturer's standard; quantity as required per screen.

2. Screen Mesh: Vinyl-coated fiberglass, window manufacturer's standard mesh.

3. Frame Finish: Manufacturer's standard, color to match window frame and sash color.

D. Operable Sash Weatherstripping: Wool pile; permanently resilient, profiled to maintain weather seal in accordance with AAMA 701/702.

E. Fasteners: Stainless steel.

F. Accessories: Provide related flashings, anchorage and attachment devices as necessary for full assembly.

G. Glazing Sealant: As specified in Section 08 8000, sealant Type ___.

H. Exterior Window Sills: Refer to drawings.

I. Sealants for Setting Window Sill Pan Flashing: Provide butyl tape or silicone sealant; in compliance with ASTM E2112 installation practices.

1. Refer to Section 07 9200 for additional requirements.

2.05 HARDWARE

A. Vertical Sliding Sash: Metal and nylon spiral friction slide cylinder, provide two for each sash and jamb.

B. Sash lock: Lever handle and keeper with cam lock, provide at least one for each operating sash.

C. Window Opening Control Devices (WOCD): Provide operable window sash hardware that limits openings to only allow passage of 4 inch (102 mm) diameter rigid sphere or less, and are easily releasable to fully open without use of keys, tools, or special knowledge.

D. Finish of Exposed Hardware: Baked enamel, match interior sash and frame color.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify wall openings and adjoining air and vapor seal materials are ready to receive this work.

3.02 INSTALLATION

A. Install window unit assemblies in accordance with manufacturer’s instructions and applicable building codes. B. Install windows in accordance with ASTM E2112.

C. Attach window frame and shims to perimeter opening to accommodate construction tolerances and other irregularities as necessary.

D. Align window plumb and level, free of warp or twist, and maintain dimensional tolerances and alignment with adjacent work.

E. Set sill members and sill flashing in continuous bead of sealant.

F. Provide thermal isolation where components penetrate or disrupt building insulation. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

G. Install operating hardware.

H. Install glass and infill panels in accordance with Section 08 8000, to glazing method required to achieve performance criteria.

3.03 TOLERANCES

A. Maximum Variation from Level or Plumb: 0.06 inches every 3 ft (1.5 mm/m) non-cumulative or 0.5 inches per 100 ft (12 mm/30 m), whichever is less.

3.04 FIELD QUALITY CONTROL

A. Provide services of vinyl window manufacturer's field representative to observe for proper installation of system and submit report.

B. See Section 01 4000 - Quality Requirements, for independent field testing and inspection requirements, and requirements for monitoring quality of specified product installations.

3.05 ADJUSTING

A. Adjust hardware for smooth operation and secure weathertight closure.

3.06 CLEANING

A. Refer to Section 01 7419 - Construction Waste Management and Disposal, for additional requirements.

B. Remove protective material from pre-finished surfaces.

C. Wash surfaces by method recommended and acceptable to window manufacturer; rinse and wipe surfaces clean.

D. Remove excess glazing sealant by moderate use of mineral spirits or other solvent acceptable to sealant manufacturer and appropriate for application indicated.

END OF SECTION

SECTION 09 2116
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Performance criteria for gypsum board assemblies.

B. Metal stud wall framing.

C. Gypsum wallboard.

D. Joint treatment and accessories.

E. Water-resistive barrier over exterior wall sheathing.

1.02 RELATED REQUIREMENTS

A. Section 07 8400 - Firestopping:

B. Section 07 9200 - Joint Sealants: Sealing acoustical gaps in construction other than gypsum board or plaster work.

1.03 REFERENCE STANDARDS

A. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2015.

B. ASTM C514 - Standard Specification for Nails for the Application of Gypsum Board; 2004 (Reapproved 2014).

C. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2014, with Editorial Revision (2015).

D. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2017.

E. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2017.

F. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2017a.

G. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2015.

H. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2016.

I. ASTM C1047 - Standard Specification for Accessories For Gypsum Wallboard and Gypsum Veneer Base; 2014a.

J. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2017.

K. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2016.

L. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2018.

M. GA-216 - Application and Finishing of Gypsum Panel Products; 2016.

N. ICC (IBC) - International Building Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

O. UL (FRD) - Fire Resistance Directory; Current Edition.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on metal framing, gypsum board, accessories, and joint finishing system.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing gypsum board installation and finishing, with minimum 3 years of experience.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES A. Provide completed assemblies complying with ASTM C840 and GA-216.

1. See PART 3 for finishing requirements.

B. Fire Rated Assemblies: Provide completed assemblies complying with applicable code.

1. Fire Rated Partitions: UL listed assembly No. V497; 1 hour rating.

2. ICC IBC Item Numbers: Comply with applicable requirements of ICC IBC for the particular assembly.

3. UL Assembly Numbers: Provide construction equivalent to that listed for the particular assembly in the current UL (FRD).

2.02 METAL FRAMING MATERIALS

A. Manufacturers - Metal Framing, Connectors, and Accessories:

1. Jaimes Industries: www.jaimesind.com/#sle.

2. Dietrich Metal Framing: www.dietrichindustries.com.

3. Marino: www.marinoware.com.

4. Substitutions: See Section 01 6000 - Product Requirements.

B. Non-Loadbearing Framing System Components: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/120 at 5 psf (L/120 at 240 Pa).

1. Studs: "C" shaped with flat or formed webs with knurled faces.

2. Runners: U shaped, sized to match studs.

C. Partition Head To Structure Connections: Provide track fastened to structure with legs of sufficient length to accommodate deflection, for friction fit of studs cut short per manufacturer's instructions.

2.03 BOARD MATERIALS

A. Manufacturers - Gypsum-Based Board:

1. American Gypsum Company: www.americangypsum.com.

2. CertainTeed Corporation: www.certainteed.com.

3. Georgia-Pacific Gypsum: www.gpgypsum.com.

4. National Gypsum Company: www.nationalgypsum.com/#sle.

5. USG Corporation: **www.usg.com**.

B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.

1. Application: Use for vertical surfaces and soffits, unless otherwise indicated.

2. Unfaced fiber-reinforced gypsum panels as defined in ASTM C1278/C1278M, suitable for paint finish, of the same core type and thickness may be substituted for paper-faced board.

3. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.

a. Mold resistant board is required at all locations.

4. At Assemblies Indicated with Fire-Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.

5. Thickness:

a. Vertical Wall Surfaces: 5/8 inch (16 mm).

b. Soffits: 1/2" inch (12.7 mm).

c. Multi-Layer Assemblies: Thicknesses as indicated on drawings.

6. Moisture/Mold Resistant Paper Faced Products:

a. American Gypsum Company; M-Bloc Type X.

b. Georgia-Pacific Gypsum; ToughRock Mold-Guard.

c. National Gypsum Company; Gold Bond XP Gypsum Board.

d. USG Corporation; Mold Tough Firecode X.

e. CertainTeed Corporation; M2TECH.

2.04 ACCESSORIES A. Acoustic Insulation: ASTM C665; preformed glass fiber, friction fit type, unfaced. Thickness to match framing thickness. B. Finishing Accessories: ASTM C1047, galvanized steel or rolled zinc, unless noted otherwise.

1. Types: As detailed or required for finished appearance.

C. Joint Materials: ASTM C475/C475M.

1. Tape: 2 inch (50 mm) wide, coated glass fiber tape for joints and corners, except as otherwise indicated.

2. Chemical hardening type compound.

D. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inch (0.84 mm) in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion resistant.

E. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch (0.84 to 2.84 mm) in Thickness: ASTM C954; steel drill screws, corrosion resistant.

F. Nails for Attachment to Wood Members: ASTM C514.

G. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.

H. Exterior Soffit Vents: One piece, perforated, ASTM B221 6063 T5 alloy aluminum, with edge suitable for direct application to gypsum board and manufactured especially for soffit application. Provide continuous vent.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that project conditions are appropriate for work of this section to commence.

3.02 FRAMING INSTALLATION A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.

B. Studs: Space studs at 16 inches on center (at 406 mm on center).

1. Extend partition framing to structure in all locations.

2. Partitions Terminating at Structure: Attach extended leg top runner to structure, maintain clearance between top of studs and structure, and brace studs with continuous bridging.

C. Blocking: Install mechanically fastened steel channel blocking for support of:

1. Wall mounted cabinets.

2. Plumbing fixtures.

3. Toilet accessories.

3.03 ACOUSTIC ACCESSORIES INSTALLATION

A. Acoustic/ Firestop Sealant: Install in accordance with manufacturer's instructions.

1. Place continuous bead at perimeter of each layer of gypsum board.

2. Seal around all penetrations by conduit, pipe, ducts, and rough-in boxes.

3.04 BOARD INSTALLATION

A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Single-Layer Non-Rated: Install gypsum board perpendicular to framing, with ends and edges occurring over firm bearing.

C. Fire-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.

3.05 INSTALLATION OF TRIM AND ACCESSORIES

A. Corner Beads: Install at external corners, using longest practical lengths.

3.06 JOINT TREATMENT A. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:

1. Level 1: Fire rated wall areas above finished ceilings, whether or not accessible in the completed construction.

B. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.

1. Feather coats of joint compound so that camber is maximum 1/32 inch (0.8 mm).

3.07 TOLERANCES

A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet (3 mm in 3 m) in any direction.

END OF SECTION

SECTION 09 6500
RESILIENT FLOORING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Resilient tile flooring.

B. Resilient base.

C. Installation accessories.

1.02 RELATED REQUIREMENTS

A. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions.

1.03 REFERENCE STANDARDS A. ASTM E648 - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source; 2014c. B. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2011. C. ASTM F1066 - Standard Specification for Vinyl Composition Floor Tile; 2004 (Reapproved 2014). D. ASTM F1861 - Standard Specification for Resilient Wall Base; 2008 (Reapproved 2012). E. RFCI (RWP) - Recommended Work Practices for Removal of Resilient Floor Coverings; Resilient Floor Covering Institute; October 2011.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.

C. Verification Samples: Submit three samples, 12 by 12 inch in size illustrating color and pattern for each resilient flooring product specified. D. Concrete Testing Standard: Submit a copy of ASTM F710.

E. Certification: Prior to installation of flooring, submit written certification by flooring manufacturer and adhesive manufacturer that condition of sub-floor is acceptable.

F. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.

1. Extra Flooring Material: 100 square feet of each type and color.

2. Extra Wall Base: 50 linear feet of each type and color.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in installing specified flooring with minimum three years documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Upon receipt, immediately remove any shrink-wrap and check materials for damage and the correct style, color, quantity and run numbers.

B. Store all materials off of the floor in an acclimatized, weather-tight space.

C. Maintain temperature in storage area between 55 degrees F (13 degrees C) and 90 degrees F (72 degrees C).

D. Do not double stack pallets.

1.07 FIELD CONDITIONS

A. Store materials for not less than 48 hours prior to installation in area of installation at a temperature of 70 degrees F (21 degrees C) to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F (13 degrees C).

PART 2 PRODUCTS

2.01 TILE FLOORING

A. Vinyl Composition Tile: Homogeneous, with color extending throughout thickness.

1. Manufacturers:

    a. Armstrong World Industries, Inc: www.armstrong.com.

    b. Johnsonite, a Tarkett Company: www.johnsonite.com.

    c. Mannington Mills, Inc: www.mannington.com.

    d. Substitutions: See Section 01 6000 - Product Requirements.

2. Minimum Requirements: Comply with ASTM F1066, of Class corresponding to type specified.

3. Size: 12 by 12 inch (305 by 305 mm).

4. VOC Content Limits: As specified in Section 01 6116.

5. Thickness: 0.125 inch (3.2 mm).

6. Pattern: Shall match existing.

7. Color: To be selected by Architect from manufacturer's standard range.

2.02 RESILIENT BASE A. Resilient Base: ASTM F1861, Type TV, vinyl, thermoplastic; top set Style B, Cove.

1. Manufacturers:

a. Johnsonite, a Tarkett Company: www.johnsonite.com.

b. Roppe Corp: www.roppe.com.

c. Substitutions: See Section 01 6000 - Product Requirements.

2. Height: 4 inch (100 mm).

3. Thickness: 0.125 inch (3.2 mm).

4. Finish: Satin.

5. Length: Roll.

6. Color: To be selected by Architect from manufacturer's full range.

2.03 ACCESSORIES

A. Primers, Adhesives, and Seam Sealer: Waterproof; types recommended by flooring manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to substrate.

B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive resilient base.

C. Cementitious Sub-floor Surfaces: Verify that substrates are dry enough and ready for resilient flooring installation by testing for moisture and pH.

1. Test in accordance with ASTM F710.

2. Obtain instructions if test results are not within limits recommended by resilient flooring manufacturer and adhesive materials manufacturer.

D. Verify that concrete sub-floor and self-leveling underlayment surfaces are dry enough and ready for resilient flooring installation by testing for moisture emission rate and alkalinity in accordance with ASTM F710; obtain instructions if test results are not within limits recommended by resilient flooring manufacturer and adhesive materials manufacturer.

3.02 PREPARATION

A. Prepare floor substrates as recommended by flooring and adhesive manufacturers.

B. Remove sub-floor ridges and bumps. Fill minor low spots, cracks, joints, holes, and other defects with sub-floor filler to achieve smooth, flat, hard surface.

C. Prohibit traffic until filler is fully cured.

D. Clean substrate.

E. Apply primer as required to prevent "bleed-through" or interference with adhesion by substances that cannot be removed.

3.03 INSTALLATION - GENERAL

A. Install in accordance with manufacturer's written instructions.

B. Spread only enough adhesive to permit installation of materials before initial set.

C. Fit joints and butt seams tightly.

D. Set flooring in place, press with heavy roller to attain full adhesion.

E. Where type of floor finish, pattern, or color are different on opposite sides of door, terminate flooring under centerline of door.

F. Install edge strips at unprotected or exposed edges, where flooring terminates, and where indicated.

G. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

3.04 INSTALLATION - TILE FLOORING

A. Mix tile from container to ensure shade variations are consistent when tile is placed, unless otherwise indicated in manufacturer's installation instructions.

3.05 INSTALLATION - RESILIENT BASE

A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches (45 mm) between joints.

B. Install base on solid backing. Bond tightly to wall and floor surfaces.

C. Scribe and fit to door frames and other interruptions.

3.06 CLEANING

A. Remove excess adhesive from floor, base, and wall surfaces without damage.

B. Clean in accordance with manufacturer's written instructions.

3.07 PROTECTION

A. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION

SECTION 09 9113
EXTERIOR PAINTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints.

C. Scope: Finish exterior surfaces exposed to view, and unless otherwise indicated.

1. Exposed surfaces of steel lintels.

2. Columns and railing systems.

3. Window trim and cast sills.

4. Crawl space vent grilles and access doors.

5. Gable end Vents.

6. PVC downspouts and anchors.

D. Do Not Paint or Finish the Following Items:

1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.

2. Items indicated to receive other finishes.

3. Items indicated to remain unfinished.

4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.

5. Floors, unless specifically indicated.

6. Brick.

7. Glass.

8. Concealed pipes, ducts, and conduits.

9. Existing soffit and fascia.

10. Existing aluminum gutters.

1.02 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

B. MPI (APL) - Master Painters Institute Approved Products List; Master Painters and Decorators Association; Current Edition.

C. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; Current Edition.

D. SSPC-SP 1 - Solvent Cleaning; 2015, with Editorial Revision (2016).

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide complete list of products to be used, with the following information for each:

1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").

2. MPI product number (e.g. MPI #47).

3. Cross-reference to specified paint system(s) product is to be used in; include description of each system.

4. Manufacturer's installation instructions.

5. If proposal of substitutions is allowed under submittal procedures, explanation of substitutions proposed.

C. Manufacturer's Instructions: Indicate special surface preparation procedures.

D. Maintenance Data: Submit data including finish schedule showing where each product/color/finish was used, product technical data sheets, material safety data sheets (MSDS), care and cleaning instructions, touch-up procedures, repair of painted and finished surfaces, and color samples of each color and finish used.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

1.06 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Provide lighting level of 80 ft candles (860 lx) measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide paints and finishes from the same manufacturer to the greatest extent possible.

1. In the event that a single manufacturer cannot provide specified products, minor exceptions will be permitted provided approval by Architect is obtained using the specified procedures for substitutions.

2. Substitution of MPI-approved products by a different manufacturer is preferred over substitution of unapproved products by the same manufacturer.

B. Paints:

1. Sherwin-Williams Company: www.sherwin-williams.com.

2. Valspar Corporation: www.valsparpaint.com.

3. Benjamin Moore & Co.: www.benjaminmoore.com.

C. Primer Sealers: Same manufacturer as top coats.

2.02 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready mixed, unless required to be a field-catalyzed paint.

1. Where MPI paint numbers are specified, provide products listed in Master Painters Institute Approved Product List, current edition available at www.paintinfo.com, for specified MPI categories, except as otherwise indicated.

2. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.

3. Supply each paint material in quantity required to complete entire project's work from a single production run.

4. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.

B. Volatile Organic Compound (VOC) Content:

1. Provide paints and finishes that comply with the most stringent requirements specified in the following:

a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.

b. Ozone Transport Commission (OTC) Model Rule, Architectural, Industrial, and Maintenance Coatings; www.otcair.org; specifically:

1) Opaque, Flat: 50 g/L, maximum.

2) Opaque, Nonflat: 150 g/L, maximum.

3) Opaque, High Gloss: 250 g/L, maximum. 2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

C. Colors: As indicated in Color Schedule.

1. Selection to be made by Architect after award of contract.

2.03 PAINT SYSTEMS - EXTERIOR

A. Exterior Surfaces to be Painted, Unless Otherwise Indicated: Including cellular PVC trim, PVC downspouts.

1. Two top coats and one coat primer.

2. Top Coat(s): Exterior Latex; MPI #10, 11, 15, 119, or 214.

a. Products:

1) Benjamin Moore, Regal Select Exterior REVIVE for Vinyl Siding.

2) Substitutions: Section 01 6000 - Product Requirements.

3. Top Coat Sheen:

a. Semi-Gloss: MPI gloss level 5; use this sheen at all locations.

B. Porch Columns & Railing System -Ferrous Metals, Acrylic / Alkyd, 2 Coat:

1. Touch-up with rust-inhibitive primer recommended by top coat manufacturer.

2. Low Luster: Two coats of 100% Acrylic fortified with alkyd resin; Benjamin Moore Moorgard.

2.04 ACCESSORY MATERIALS

A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

B. Patching Material: Latex filler.

C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

3.02 PREPARATION (CELLULAR PVC TRIM & PVC DOWNSPOUTS ONLY)

A. Clean surfaces thoroughly and correct defects prior to application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces for finishing.

D. Seal surfaces that might cause bleed through or staining of topcoat.

E. Ferrous Metal:

1. Solvent clean according to SSPC-SP 1.

2. Remove rust, loose paint per Lead Based Paint Specification. Protect from corrosion until coated.

3.03 APPLICATION

A. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".

B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

C. Apply each coat to uniform appearance.

D. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

E. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

END OF SECTION

SECTION 09 9123
INTERIOR PAINTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints.

C. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.

1. Mechanical and Electrical:

a. In finished areas, paint insulated and exposed pipes and wire molding, unless otherwise indicated.

D. Do Not Paint or Finish the Following Items:

1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.

2. Items indicated to receive other finishes.

3. Items indicated to remain unfinished.

4. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.

5. Floors, unless specifically indicated.

6. Glass.

7. Concealed pipes, ducts, and conduits.

1.02 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

B. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Based Materials; 2016.

C. MPI (APL) - Master Painters Institute Approved Products List; Master Painters and Decorators Association; Current Edition.

D. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; Current Edition.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide complete list of products to be used, with the following information for each:

1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").

2. MPI product number (e.g. MPI #47).

3. Cross-reference to specified paint system(s) product is to be used in; include description of each system.

C. Certification: By manufacturer that paints and finishes comply with VOC limits specified.

D. Manufacturer's Instructions: Indicate special surface preparation procedures.

E. Maintenance Data: Submit data including finish schedule showing where each product/color/finish was used, product technical data sheets, material safety data sheets (MSDS), care and cleaning instructions, and color samples of each color and finish used.

1.04 QUALITY ASSURANCE

A. Applicator Qualifications: Company specializing in performing the type of work specified with minimum three years documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

1.06 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Provide lighting level of 80 ft candles (860 lx) measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide paints and finishes from the same manufacturer to the greatest extent possible.

1. In the event that a single manufacturer cannot provide specified products, minor exceptions will be permitted provided approval by Architect is obtained using the specified procedures for substitutions.

2. Substitution of MPI-approved products by a different manufacturer is preferred over substitution of unapproved products by the same manufacturer.

B. Paints:

1. PPG Paints: www.ppgpaints.com/sle.

2. Sherwin-Williams Company: www.sherwin-williams.com.

3. Valspar Corporation: www.valsparpaint.com.

4. Benjamin Moore & Co.: www.benjaminmoore.com.

2.02 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready mixed, unless intended to be a field-catalyzed paint.

1. Where MPI paint numbers are specified, provide products listed in Master Painters Institute Approved Product List, current edition available at www.paintinfo.com, for specified MPI categories, except as otherwise indicated.

2. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color.

3. Supply each paint material in quantity required to complete entire project's work from a single production run.

4. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.

B. Volatile Organic Compound (VOC) Content:

1. Provide paints and finishes that comply with the most stringent requirements specified in the following:

a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.

b. Ozone Transport Commission (OTC) Model Rule, Architectural, Industrial, and Maintenance Coatings; www.otcair.org; specifically:

1) Opaque, Flat: 50 g/L, maximum.

2) Opaque, Nonflat: 150 g/L, maximum.

3) Opaque, High Gloss: 250 g/L, maximum. 2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

C. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Architect from the manufacturer's full line.

D. Colors: To be selected from manufacturer's full range of available colors.

1. Selection to be made by Architect after award of contract.

2. In finished areas, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling they are mounted on/under.

2.03 PAINT SYSTEMS - INTERIOR

A. Paint I-OP - Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board, wood, plaster, and plastic wire mold.

1. Top Coat(s): Institutional Low Odor/VOC Interior Latex; MPI #143, #144.

2. Top Coat Sheen:

a. Flat: MPI gloss level 1; use this sheen for ceilings and other overhead surfaces.

b. Eggshell: MPI gloss level 3; use this sheen at all locations.

3. Primer: As recommended by top coat manufacturer for specific substrate.

B. Paint I-OP-MD-DT - Medium Duty Door/Trim: For surfaces subject to frequent contact by occupants, including metals and wood:

1. Two top coats and one coat primer.

2. Top Coat(s): High Performance Architectural Interior Latex; MPI# 140.

3. Top Coat Sheen:

a. Satin: MPI gloss level 4; use this sheen at interior trim, doors, metal handrails & wall caps.

4. Primer: As recommended by top coat manufacturer for specific substrate.

2.04 ACCESSORY MATERIALS

A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

B. Patching Material: Latex filler.

C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin application of paints and finishes until substrates have been properly prepared.

B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

C. Test shop-applied primer for compatibility with subsequent cover materials.

D. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:

1. Gypsum Wallboard: 12 percent.

2. Plaster and Stucco: 12 percent. 3. Interior Wood: 15 percent, measured in accordance with ASTM D4442.

3.02 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

D. Seal surfaces that might cause bleed through or staining of topcoat.

E. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.

F. Ferrous Metal:

1. Remove only loose paint and other foreign substances using methods recommended in the Lead Based Paint Specification and clean as required to apply coatings.

G. Wood Surfaces to Receive Opaque Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats. Back prime concealed surfaces before installation.

3.03 APPLICATION

A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

B. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".

C. Where adjacent sealant is to be painted, do not apply finish coats until sealant is applied.

D. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

E. Apply each coat to uniform appearance in thicknesses specified by manufacturer.

F. Sand wood and only new material surfaces lightly between coats to achieve required finish.

G. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

H. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for general requirements for field inspection.

B. Owner will provide field inspection.

3.05 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.06 PROTECTION
A. Protect finishes until completion of project.
B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION

SECTION 09 9600
HIGH-PERFORMANCE COATINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. High performance coatings.

B. Surface preparation.

1.02 REFERENCE STANDARDS

A. ASTM D4258 - Standard Practice for Surface Cleaning Concrete for Coating; 2005 (Reapproved 2017).

B. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; Current Edition.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide complete list of all products to be used, with the following information for each:

1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").

2. MPI product number (e.g. MPI #47).

3. Cross-reference to specified coating system(s) product is to be used in; include description of each system.

4. Manufacturer's installation instructions.

5. If proposal of substitutions is allowed under submittal procedures, explanation of all substitutions proposed.

C. Maintenance Data: Include cleaning procedures and repair and patching techniques.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

B. Applicator Qualifications: Company specializing in performing the work of this section with minimum three years documented experience.

1.05 MOCK-UP

A. See Section 01 4000 - Quality Requirements, for general requirements for mock-up.

B. Provide mock-up , 2 feet (0.6 m) long by 2 feet (0.6 m) wide, illustrating coating, for each specified coating.

C. Location to be determined at preconstruction meeting.

D. Mock-up may remain as part of the work.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of coating, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Coating Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

1.07 FIELD CONDITIONS

A. Do not install materials when temperature is below 55 degrees F (13 degrees C) or above 90 degrees F (32 degrees C).

B. Maintain this temperature range, 24 hours before, during, and 72 hours after installation of coating.

C. Restrict traffic from area where coating is being applied or is curing.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. High-Performance Coatings:

1. Dow Chemical Company: consumer.dow.com/en-us/industry/ind-building-construction.html/#sle.

2.02 TOP COAT MATERIALS

A. Elastomeric Coating for brick masonry facade and cast concrete window sills:

1. Number of Coats: Two.

2. Top Coat(s): Exterior Pigmented Elastomeric, Water Based.

a. Sheen: Flat.

b. Products:

1) Dow Chemical Company; ALLGUARD Silicone Elastomeric Coating: consumer.dow.com/en-us/industry/ind-building-construction.html/#sle.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Do not begin application of coatings until substrates have been properly prepared.

C. Verify that substrate surfaces are ready to receive work as instructed by the coating manufacturer. Obtain and follow manufacturer's instructions for examination and testing of substrates.

D. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

3.02 PREPARATION

A. Clean surfaces of loose foreign matter.

B. Remove substances that would bleed through finished coatings.

C. Remove finish hardware, fixture covers, and accessories and store.

D. Masonry:

1. Remove efflorescence and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces or if alkalinity of mortar joints exceed that permitted in manufacturer's written instructions. Allow to dry.

2. Prepare surface as recommended by coating manufacturer.

3. Clean surfaces with pressurized water. Use pressure range of 100 to 300 psi at 6 to 12 inches (150 to 300 mm). Allow to dry.

E. Protect adjacent surfaces and materials not receiving coating from spatter and overspray; mask if necessary to provide adequate protection. Repair damage.

3.03 PRIMING

A. Apply primer to all surfaces, unless specifically not required by coating manufacturer. Apply in accordance with coating manufacturer's instructions.

B. Concrete: Prior to priming, patch with masonry filler to produce smooth surface.

3.04 COATING APPLICATION

A. Apply coatings in accordance with manufacturer's written instructions, to thicknesses specified and recommendations in "MPI Architectural Painting and Specification Manual".

B. Apply in uniform thickness coats, without runs, drips, pinholes, brush marks, or variations in color, texture, or finish. Finish edges, crevices, corners, and other changes in dimension with full coating thickness.

3.05 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for general requirements for field inspection.

B. Owner will provide field inspection.

3.06 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

B. Clean surfaces immediately of overspray, splatter, and excess material.

C. After coating has cured, clean and replace finish hardware, fixtures, and fittings previously removed.

3.07 PROTECTION

A. Protect finished work from damage.

END OF SECTION

Renovations at Western Heights C19010
Solicitation Document A General Information and Cost

General Information about the Supplier	
Sign Your Name to the Right of the Arrow → By signing, you indicate you read and agree to "KCDC's General Instructions to Suppliers" on **www.kcdc.org**.	
Printed Name and Title →	
Company Name →	
Street Address →	
City/State/Zip →	
Contact Person (Please Print Clearly) →	
Telephone Number →	
Cell Number →	
Supplier's E-Mail Address (Please Print Clearly) →	

Addenda

Addenda are at www.kcdc.org**. Click on "Procurement" and then on "Open Solicitations" to find addenda. Please check for addenda prior to submitting a proposal.**

Acknowledge addenda have been issued by checking below as appropriate:

None ☐	Addendum 1 ☐	Addendum 2 ☐	Addendum 3 ☐	Addendum 4 ☐	Addendum 5 ☐

Statistical Information (Check all the apply)

This business is at least 51% owned and operated by a woman	**Yes ☐ No ☐**
This business qualifies as a small business by the State of Tennessee (Gross receipts of $10,000,000 or less and employing less than 100 full time persons)	**Yes ☐ No ☐**
This business qualifies as a Section 3 business by defined herein	**Yes ☐ No ☐**

This business is owned & operated by persons at least 51% of the following ethnic background:

Asian/Pacific ☐	Black ☐	Hasidic Jew ☐	Hispanic ☐	Native Americans ☐	White ☐

Prompt Payment Discount

A prompt payment discount of _____% is offered for payment within ____ days of submission of an accurate and proper invoice.

MasterCard Acceptance

Mastercard is accepted for payment without additional fees. Yes ☐ No ☐

Mastercard is accepted for payment with a fee of _____. Yes ☐ No ☐

Cost Offered		
Total Project Cost in Numerals	**$**	
Total Project Cost in Words:		
Note: If the information entered above does not match, the cost written in numerals will be the official bid.		
Options and Deducts		
Option 1: Consists of Exterior Porch Column & Railing Repairs	$	
Deduct Alternate 1 Consists of Sanitary Plumbing Removal/Replacement Washer Valve Box Replacement, and electrical improvements.	-$	
Building Type A	-$	each
Building Type B	-$	each
Building Type C	-$	each
Building Type D	-$	each
Deduct Alternate 2 Consists of Domestic Water Main Shut Off Valve Removal/Replacement	-$	
Deduct Alternate 3 Consists of Domestic Water Piping Replacement	-$	
Building Type A	-$	each
Building Type B	-$	each
Building Type C	-$	each
Building Type D	-$	each
Deduct Alternate 4 Consists of Removal/Reinstallation of Existing Windows	-$	
Unit Prices		
Item 1 - Removal and Replacement of loose Plaster Finish.	$	Square Feet
Item 2 - Removal and Replacement of loose VCT Flooring.	$	Square Feet
Item 3 – Interior Mold Remediation.	$	Square Feet
Item 4 – Removal and Disposal of Debris from Crawl Space	$	Hour
Item 5 – Masonry Repairs	$	Square Feet
Item 6 – Regrading Ground Surface at Perimeter of Building	$	Hour
Item 7 – Masonry Anchor Replacement at Exterior Railing System	$	Hour
Item 8 – Repair of existing gypsum wallboard at Kitchen wall	$	Square Feet
Item 9 – Cast Concrete Window Sills and Porch Slab Edge	$	Linear Foot

Supplier: _____

Conflict of Interest:

1. No commissioner or officer of KCDC or other person whose duty it is to vote for, let out, overlook or in any manner superintend any of the work for KCDC has a direct interest in the award or the supplier providing goods or services.

2. No employee, officer or agent of the grantee or sub-grantee will participate in selection, or in the award or administration of an award supported by Federal funds if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when the employee, officer or agent, any member of his immediate family, his or her partner, or an organization, which employs, or is about to employ, any of the above, has a financial or other interest in the supplier selected for award.

3. The grantee's or sub-grantee's officers, employees or agents will neither solicit nor accept gratuities, favors or anything of monetary value from suppliers, potential supplier s, or parties to sub-agreements.

4. By submission of this form, the supplier is certifying that no conflicts of interest exist.

Drug Free Workplace Requirements:

5. Private employers with five or more employees desiring to contract for construction services attest that they have a drug free workplace program in effect in accordance with TCA 50-9-112.

Eligibility:

6. The supplier is eligible for employment on public contracts because no convictions or guilty pleas or pleas of nolo contender to violations of the Sherman Anti-Trust Act, mail fraud or state criminal violations with an award from the State of Tennessee or any political subdivision thereof have occurred.

General:

7. Supplier fully understands the preparation and contents of the attached offer and of all pertinent circumstances respecting such offer.

8. Such offer is genuine and is not a sham offer.

Iran Divestment Act:

9. Concerning the Iran Divestment Act (TCA 12-12-101 et seq.), by submission of this bid/quote/quotes, each supplier and each person signing on behalf of any supplier certifies, and in the case of a joint bid/quote/quotes, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each supplier is not on the list created pursuant to § 12-12-106.

Non-Collusion:

10. Neither the said supplier nor any of its officers, partners, owners, agents, representatives, employees or parties interest, including this affiant, has in any way colluded conspired, connived or agreed, directly or indirectly, with any other responder, supplier, or person to submit a collusive or sham offer in connection with the award or agreement for which the attached offer has been submitted or to refrain from making an offer in connection with such award or agreement, or collusion or communication or conference with any other supplier, or, to fix any overhead, profit, or cost element of the offer price or the offer price of any other supplier, or to secure through any collusion, conspiracy, connivance, or unlawful agreement any advantage against KCDC or any person interested in the proposed award or agreement.

11. The price or prices quoted in the attached offer are fair, proper and not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the supplier or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

Accuracy of Electronic Copies:

12. If the supplier provides electronic copies of the bid/proposal/quote to KCDC, the supplier certifies that the information provided on paper and in the electronic format is identical unless specifically noted otherwise.

The undersigned hereby acknowledges receipt of these affidavits and certifies that the submittal in response to this solicitation is in full compliance with the listed requirements.

Signed by	
Printed Name	
Title	
Subscribed and sworn to before me this date	
By (Notary Public)	
My Commission Expires on	
Notary Stamp	

Representations, Certifications, and Other Statements of Bidders

Public and Indian Housing Programs

Table of Contents

1. Certificate of Independent Price Determination

(a) The bidder certifies that--

(1) The prices in this bid have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other bidder or competitor relating to (i) those prices, (ii) the intention to submit a bid, or (iii) the methods or factors used to calculate the prices offered;

(2) The prices in this bid have not been and will not be knowingly disclosed by the bidder, directly or indirectly, to any other bidder or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a competitive proposal solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the bidder to induce any other concern to submit or not to submit a bid for the purpose of restricting competition.

(b) Each signature on the bid is considered to be a certification by the signatory that the signatory--

(1) Is the person in the bidder's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(l) through (a)(3) above; or

(2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(l) through (a)(3) above.

_____ *[insert full name of person(s) in the bidder's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the bidder's organization];*

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

(iii) As an agent, has not personally participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above.

(c) If the bidder deletes or modifies subparagraph (a)2 above, the bidder must furnish with its bid a signed statement setting forth in detail the circumstances of the disclosure.

[ ] [Contracting Officer check if following paragraph is applicable]

(d) Non-collusive affidavit. (applicable to contracts for construction and equipment exceeding $50,000)

(1) Each bidder shall execute, in the form provided by the PHA/IHA, an affidavit to the effect that he/she has not colluded with any other person, firm or corporation in regard to any bid submitted in response to this solicitation. If the successful bidder did not submit the affidavit with his/her bid, he/she must submit it within three (3) working days of bid opening. Failure to submit the affidavit by that date may render the bid nonresponsive. No contract award will be made without a properly executed affidavit.

(2) A fully executed "Non-collusive Affidavit" [ ] is, [ ] is not included with the bid.

2. Contingent Fee Representation and Agreement

(a) Definitions. As used in this provision:

"Bona fide employee" means a person, employed by a bidder and subject to the bidder's supervision and control as to time, place, and manner of performance, who neither exerts, nor proposes to exert improper influence to solicit or obtain contracts nor holds out as being able to obtain any contract(s) through improper influence.

"Improper influence" means any influence that induces or tends to induce a PHA/IHA employee or officer to give consideration or to act regarding a PHA/IHA contract on any basis other than the merits of the matter.

(b) The bidder represents and certifies as part of its bid that, except for full-time bona fide employees working solely for the bidder, the bidder:

(1) [ ] has, [ ] has not employed or retained any person or company to solicit or obtain this contract; and

(2) [ ] has, [ ] has not paid or agreed to pay to any person or compan employed or retained to solicit or obtain this contract any commission, percentage, brokerage, or other fee contingent upon or resulting from the award of this contract.

(c) If the answer to either (a)(1) or (a)(2) above is affirmative, the bidder shall make an immediate and full written disclosure to the PHA/IHA Contracting Officer.

(d) Any misrepresentation by the bidder shall give the PHA/IHA the right to (1) terminate the contract; (2) at its discretion, deduct from contract payments the amount of any commission, percentage, brokerage, or other contingent fee; or (3) take other remedy pursuant to the contract.

3. Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions (applicable to contracts exceeding $100,000)

(a) The definitions and prohibitions contained in Section 1352 of title 31, United States Code, are hereby incorporated by reference in paragraph (b) of this certification.

(b) The bidder, by signing its bid, hereby certifies to the best of his or her knowledge and belief as of December 23, 1989 that:

(1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with the awarding of a contract resulting from this solicitation;

(2) If any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with this solicitation, the bidder shall complete and submit, with its bid, OMB standard form LLL, "Disclosure of Lobbying Activities;" and

(3) He or she will include the language of this certification in all subcontracts at any tier and require that all recipients of subcontract awards in excess of $100,000 shall certify and disclose accordingly.

(c) Submission of this certification and disclosure is a prerequisite for making or entering into this contract imposed by section 1352, title 31, United States Code. Any person who makes an expenditure prohibited under this provision or who fails to file or amend the disclosure form to be filed or amended by this provision, shall be subject to a civil penalty of not less than $10,000, and not more than $100,000, for each such failure.

(d) Indian tribes (except those chartered by States) and Indian organizations as defined in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450B) are exempt from the requirements of this provision.

4. Organizational Conflicts of Interest Certification

The bidder certifies that to the best of its knowledge and belief and except as otherwise disclosed, he or she does not have any organizational conflict of interest which is defined as a situation in which the nature of work to be performed under this proposed contract and the bidder's organizational, financial, contractual, or other interests may, without some restriction on future activities:

(a) Result in an unfair competitive advantage to the bidder; or,

(b) Impair the bidder's objectivity in performing the contract work.

[ ] In the absence of any actual or apparent conflict, I hereby certify that to the best of my knowledge and belief, no actual or apparent conflict of interest exists with regard to my possible performance of this procurement.

5. Bidder's Certification of Eligibility

(a) By the submission of this bid, the bidder certifies that to the best of its knowledge and belief, neither it, nor any person or firm which has an interest in the bidder's firm, nor any of the bidder's subcontractors, is ineligible to:

(1) Be awarded contracts by any agency of the United States Government, HUD, or the State in which this contract is to be performed; or,

(2) Participate in HUD programs pursuant to 24 CFR Part 24.

(b) The certification in paragraph (a) above is a material representation of fact upon which reliance was placed when making award. If it is later determined that the bidder knowingly rendered an erroneous certification, the contract may be terminated for default, and the bidder may be debarred or suspended from participation in HUD programs and other Federal contract programs.

6. Minimum Bid Acceptance Period

(a) "Acceptance period," as used in this provision, means the number of calendar days available to the PHA/IHA for awarding a contract from the date specified in this solicitation for receipt of bids.

(b) This provision supersedes any language pertaining to the acceptance period that may appear elsewhere in this solicitation.

(c) The PHA/IHA requires a minimum acceptance period of 90 calendar days.

(d) In the space provided immediately below, bidders may specify a longer acceptance period than the PHA's/IHA's minimum requirement. The bidder allows the following acceptance period: calendar days.

(e) A bid allowing less than the PHA's/IHA's minimum acceptance period will be rejected.

(f) The bidder agrees to execute all that it has undertaken to do, in compliance with its bid, if that bid is accepted in writing within (1) the acceptance period stated in paragraph (c) above or (2) any longer acceptance period stated in paragraph (d) above.

7. Small, Minority, Women-Owned Business Concern Representation

The bidder represents and certifies as part of its bid/ offer that it --

(a) [ ] is, [ ] is not a small business concern. "Small business concern," as used in this provision, means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding, and qualified as a small business under the criteria and size standards in 13 CFR 121.

(b) [ ] is, [ ] is not a women-owned business enterprise. "Women-owned business enterprise," as used in this provision, means a business that is at least 51 percent owned by a woman or women who are U.S. citizens and who also control and operate the business.

(c) [ ] is, [ ] is not a minority business enterprise. "Minority business enterprise," as used in this provision, means a business which is at least 51 percent owned or controlled by one or more minority group members or, in the case of a publicly owned business, at least 51 percent of its voting stock is owned by one or more minority group members, and whose management and daily operations are controlled by one or more such individuals. For the purpose of this definition, minority group members are:

(Check the block applicable to you)

[ ] Black Americans
[ ] Hispanic Americans
[ ] Native Americans
[ ] Asian Pacific Americans
[ ] Asian Indian Americans
[ ] Hasidic Jewish Americans

9. Certification of Eligibility Under the Davis-Bacon Act (applicable to construction contracts exceeding $2,000)

(a) By the submission of this bid, the bidder certifies that neither it nor any person or firm who has an interest in the bidder's firm is a person or firm ineligible to be awarded contracts by the United States Government by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(b) No part of the contract resulting from this solicitation shall be subcontracted to any person or firm ineligible to be awarded contracts by the United States Government by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(c) The penalty for making false statements is prescribed in the U. S. Criminal Code, 18 U.S.C. 1001.

10. Certification of Nonsegregated Facilities (applicable to contracts exceeding $10,000)

(a) The bidder's attention is called to the clause entitled **Equal Employment Opportunity** of the General Conditions of the Contract for Construction.

(b) "Segregated facilities," as used in this provision, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin because of habit, local custom, or otherwise.

(c) By the submission of this bid, the bidder certifies that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The bidder agrees that a breach of this certification is a violation of the Equal Employment Opportunity clause in the contract.

(d) The bidder further agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) prior to entering into subcontracts which exceed $10,000 and are not exempt from the requirements of the Equal Employment Opportunity clause, it will:

(1) Obtain identical certifications from the proposed subcontractors;

(2) Retain the certifications in its files; and

(3) Forward the following notice to the proposed subcontractors (except if the proposed subcontractors have submitted identical certifications for specific time periods):

Notice to Prospective Subcontractors of Requirement for Certifications of Nonsegregated Facilities

A Certification of Nonsegregated Facilities must be submitted before the award of a subcontract exceeding $10,000 which is not exempt from the provisions of the Equal Employment Opportunity clause of the prime contract. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).

Note: The penalty for making false statements in bids is prescribed in 18 U.S.C. 1001.

11. Clean Air and Water Certification (applicable to contracts exceeding $100,000)

The bidder certifies that:

(a) Any facility to be used in the performance of this contract [ ] is, [ ] is not listed on the Environmental Protection Agency List of Violating Facilities:

(b) The bidder will immediately notify the PHA/IHA Contracting Officer, before award, of the receipt of any communication from the Administrator, or a designee, of the Environmental Protection Agency, indicating that any facility that the bidder proposes to use for the performance of the contract is under consideration to be listed on the EPA List of Violating Facilities; and,

(c) The bidder will include a certification substantially the same as this certification, including this paragraph (c), in every nonexempt subcontract.

12. Bidder's Signature

The bidder hereby certifies that the information contained in these certifications and representations is accurate, complete, and current.

(Signature and Date) _____

(Typed or Printed Name) _____

(Title) _____

(Company Name) _____

(Company Address)

Previous edition is obsolete

form **HUD-5369-A** (11/92)

Renovations at Western Heights C19010
Solicitation Document D Good Faith Compliance Affidavit

The supplier must demonstrate a good faith effort to utilize Minority Owned Businesses (MOB) and Woman Owned Businesses (WOB). To assist in this effort, KCDC posts the web links of organizations, which can provide suppliers with a list of minority and women owned businesses on its web site. These lists can be useful to the supplier in preparing a response to this solicitation.

Place a checkmark in either Section One or Section Two of this form. Provide the information in Section One if you check that box.

Section One ☐ The following companies were asked for pricing for the attached bid. Provided the listed companies meet bid document requirements and their pricing is competitive, it is our intent to use the companies listed. Attached hereto or to be provided to KCDC within five calendar days of solicitation opening is our Form of Commitment/Statement of Effort (**failure to submit Form of Commitment/Statement of Effort timely will be cause to reject the bid**.)

Company Name	Person	Product/Service	MOB	WOB

Section Two ☐ MOB/WOB's were not contacted because sub-suppliers suppliers will not be needed to complete the contract and all work will be completed by the supplier. Other MOB/WOB's not shown above, will be considered during the duration of the contract in the event the supplier decides additional subcontractors or supplier will be used (to complete all or part of the contract).

Signed by	
Print Name and Title	
Subscribed and Sworn to before me on this date	
By	
Notary Public (stamp/signature)	
My Commission Expires on	

Place a checkmark in either Section One or Section Two of this form.

Section One Does not apply - MOB/WOB subcontractors will not be used. ☐ (Stop Here)
Section Two MOB/WOB Subcontractors will be used. ☐ (Complete this page)

I, _____ do certify the supplier has or will enter into a formal agreement with the MOB/WOB enterprise for work listed in this schedule.

Supplier Name	MOB	WOB	Contact Person	Type of Supplies to be Provided	Type of Work to be Performed	Dollar Value of Supplies or Service

COMPLETE THE FOLLOWING BOXES IF BOX ABOVE WAS NOT COMPLETED

The following companies were listed on the Good Faith Compliance Affidavit submitted with my bid.

Company Name	Person	Product/Service	MOB	WOB

Explain why each of the above companies could not be used to provide the needed products or services.

Company Name	Reason

Above information submitted by _____

Printed/Typed Name and Title:_____

Solicitation Document F Envelope Coversheet

State Law requires certain supplier license information be on the front of your envelope. You are responsible for providing the correct information on the front of your envelope but KCDC provides this form as a guide to help you. Failure to supply such required information as invalidates your bid. Attach this completed page to the front of your bid envelope. **Do not put it inside the envelope.**

Bid Due Date/Time	11-06-18 at 11:00 a.m.
Supplier's Name →	
State of Tennessee Supplier's License Holder Name	
State of Tennessee Supplier's License Number	
Pertinent State of Tennessee Supplier's License Classification	
State of Tennessee Supplier's License Expiration Date	

Subcontractors to be used on this project (If subcontract work is not required, write "none required")

Electrical Subcontractor Name on the State of Tennessee's Supplier's License		**State of Tennessee Supplier License Number**	
State of Tennessee Supplier License Classification(s)		**Expiration Date of State Supplier's**	
HVAC Subcontractor Name on the State of Tennessee's Supplier's License		**State of Tennessee Supplier License Number**	
State of Tennessee Supplier License Classification(s)		**Expiration Date of State Supplier's**	
Masonry Subcontractor Name on the State of Tennessee's Supplier's License		**State of Tennessee Supplier License Number**	
State of Tennessee Supplier License Classification(s)		**Expiration Date of State Supplier's**	
Plumbing Subcontractor Name on the State of Tennessee's Supplier's License		**State of Tennessee Supplier License Number**	
State of Tennessee Supplier License Classification(s)		**Expiration Date of State Supplier's**	

Advisement: KCDC will not consider notes changing the bid written on the bid envelope. Such notes must be inside the envelope.