

Superior Unified School District #15



Project Manual

For

John F. Kennedy Elementary School Campus Buildings - SFB 1001-1004 Flooring Renovations

SFB Project No. 110215101-9999-015-BRG

May 6, 2020



ARCHITECHNOLOGY

5229 North 7th Avenue, Suite 101
Phoenix, Arizona 85013



EXPIRES: 3-21-22

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EXPIRES: 3-21-22

SECTION 01 10 00

SUMMARY

PART 1 GENERAL

1.01 PROJECT

- A. Project Name: John F. Kennedy Elementary School
- B. Owner's Name: Superior Unified School District
- C. The Project consists of flooring renovations in buildings 1001,1002,1003 and 1004.

1.02 CONTRACT DESCRIPTION

- A. Contract Type: A single prime contract.

1.03 DESCRIPTION OF ALTERATIONS WORK

- A. Scope of demolition and removal work is shown on drawings and specified in Section 02 25 50.

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. 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.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Preconstruction meeting.
- B. Progress meetings.
- C. Construction progress schedule.
- D. Submittals for review, information, and project closeout.
- E. Number of copies of submittals.
- F. Submittal procedures.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

- A. Owner will schedule a meeting after Notice of Award.
- B. Attendance Required:
 - 1. Owner.
 - 2. Architect.
 - 3. Contractor.
- C. Agenda:
 - 1. Execution of Owner-Contractor Agreement.
 - 2. Submission of executed bonds and insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Submission of list of Subcontractors, list of Products, schedule of values, and progress schedule.
 - 5. Designation of personnel representing the parties to Contract, Owner and Architect.
 - 6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 - 7. Scheduling.
- D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.02 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at maximum weekly intervals.
- B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- C. Attendance Required: Job superintendent, major Subcontractors and suppliers, Owner, Architect, as appropriate to agenda topics for each meeting.
- D. Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review of Work progress.

3. Field observations, problems, and decisions.
 4. Identification of problems which 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 two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.03 CONSTRUCTION PROGRESS SCHEDULE

- A. Within 1 day 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 5 days.
- C. Within 5 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 5 days after joint review, submit complete schedule.
- E. Submit updated schedule every 30 days.

3.04 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 only 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 78 00 - CLOSEOUT SUBMITTALS.

3.05 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. No action will be taken.

3.06 SUBMITTALS FOR PROJECT CLOSEOUT

- A. When the following are specified in individual sections, submit them at project closeout:
 1. Project record documents.

2. Operation and maintenance data.
3. Warranties.
4. Bonds.
5. Other types as indicated.

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

3.07 NUMBER OF COPIES OF SUBMITTALS

- A. Documents for Review:
 1. Small Size Sheets, Not Larger Than 8-1/2 x 11 inches: Submit the number of copies which the Contractor requires, plus two copies which will be retained by the Architect.
 2. Larger Sheets, Not Larger Than 36 x 48 inches: Submit the number of opaque reproductions which Contractor requires, plus two copies which will be retained by Architect.
- B. Documents for Information: Submit two copies.
- C. Documents for Project Closeout: Make one reproduction of submittal originally reviewed. Submit one extra of submittals for information.
- D. 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.

3.08 SUBMITTAL PROCEDURES

- A. Transmit each submittal with approved form.
- B. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
- C. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.
- D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
- E. Deliver submittals to Architect at business address.
- F. Schedule submittals to expedite the Project, and coordinate submission of related items.
- G. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
- H. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work.
- I. Provide space for Contractor and Architect review stamps.
- J. When revised for resubmission, identify all changes made since previous submission.
- K. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
- L. Submittals not requested will not be recognized or processed.

END OF SECTION

SECTION 01 20 00

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Procedures for preparation and submittal of applications for progress payments.

1.02 SCHEDULE OF VALUES

- A. Submit a printed schedule on AIA Form G703 - Application and Certificate for Payment Continuation Sheet. Contractor's standard form or electronic media printout will be considered.
- B. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement, but must be approved before submission of first pay application.
- C. Revise schedule to list approved Change Orders, with each Application For Payment.

1.03 APPLICATIONS FOR PROGRESS PAYMENTS

- A. Payment Period: Submit at intervals stipulated in the Agreement.
- B. Present required information in typewritten form.
- C. Form: AIA G702 Application and Certificate for Payment and AIA G703 - Continuation Sheet including continuation sheets when required.
- D. Execute certification by signature of authorized officer.
- E. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored Products.
- F. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of Work.
- G. Submit three copies of each Application for Payment.
- H. Include the following with the application:
 - 1. Any documents required by Owner as stipulated in the Conditions of the Contract.

1.04 MODIFICATION PROCEDURES

- A. Architect will advise of minor changes in the Work not involving an adjustment to Contract Sum or Contract Time as authorized by the Conditions of the Contract by issuing supplemental instructions on AIA Form G710.
- B. Construction Change Directive: Architect may issue a document, signed by Owner, instructing Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 - 1. The document will describe changes in the Work, and will designate method of determining any change in Contract Sum or Contract Time.
 - 2. Promptly execute the change in Work.
- C. Proposal Request: Architect may issue a document which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within 14 days.
- D. Contractor may propose a change by submitting a request for change to Architect, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation and

a statement describing the effect on Work by separate or other contractors. Document any requested substitutions in accordance with Section 01 60 00.

- E. Computation of Change in Contract Amount:
 - 1. For change requested by Architect for work falling under a fixed price contract, the amount will be based on Contractor's price quotation.
 - 2. For change requested by Contractor, the amount will be based on the Contractor's request for a Change Order as approved by Architect.
- F. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract on AIA G701.
- G. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.
- H. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
- I. Promptly enter changes in Project Record Documents.

1.05 APPLICATION FOR FINAL PAYMENT

- A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- B. Application for Final Payment will not be considered until the following have been accomplished:
 - 1. All closeout procedures specified in Section 01 70 00.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 40 00

QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. References and standards.
- B. Quality assurance submittals.
- C. Mock-ups.
- D. Control of installation.
- E. Tolerances.
- F. Testing and inspection services.
- G. Manufacturers' field services.

1.02 SUBMITTALS

- A. Test Reports: After each test/inspection, promptly submit two copies of report to Architect and to Contractor.
 - 1. Test reports are submitted for Architect's knowledge as contract administrator or for the Owner, for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.
- B. 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.
 - 2. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.
- C. 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.
- D. Manufacturer's Field Reports: Submit reports for Architect's benefit as contract administrator or for Owner.
 - 1. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

1.03 REFERENCES AND STANDARDS

- A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.
- C. Obtain copies of standards where required by product specification sections.
- D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

- E. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.
- F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Architect shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.04 TESTING AND INSPECTION AGENCIES

- 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. Testing agency: Comply with requirements of ASTM E 329, ASTM E 543, and ASTM C 1077.
 - 2. Laboratory: Authorized to operate in Phoenix, Arizona.

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. Tests will be performed under provisions identified in this section and identified in the respective product specification sections.
- 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, remove mock-up and clear area when directed to do so.

3.03 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

3.04 TESTING AND INSPECTION

- A. See individual specification sections for testing required.
- B. 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.
- C. 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.
- D. Contractor Responsibilities:
 - 1. Deliver to agency at designated location, adequate samples of materials proposed to be used which 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 laboratory 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.
- E. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Architect. Payment for re testing will be charged to the Contractor by deducting testing charges from the Contract Price.

3.05 MANUFACTURERS' FIELD SERVICES

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.
- B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.06 DEFECT ASSESSMENT

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

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

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Temporary utilities.
- B. Temporary telephone service.
- C. Temporary sanitary facilities.
- D. Temporary Controls: Barriers, enclosures, and fencing.
- E. Security requirements.
- F. Vehicular access and parking.
- G. Waste removal facilities and services.
- H. Project identification sign.
- I. Field offices.

1.02 TEMPORARY UTILITIES

- A. Provide and pay for all electrical power, lighting, water, heating and cooling, and ventilation required for construction purposes beyond those made available by Owner.
- B. Existing facilities may be used.
- C. Use trigger-operated nozzles for water hoses, to avoid waste of water.

1.03 TELEPHONE SERVICE

- A. Provide, maintain, and pay for telephone service to field office if required at time of project mobilization.
- B. Telephone service may be provided through a mobile phone service.

1.04 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
- B. New permanent facilities may not be used during construction operations.
- 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 and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.06 FENCING

- A. Provide 8-foot-high fence around construction site; equip with vehicular and pedestrian gates with locks.

1.07 EXTERIOR ENCLOSURES

- A. Provide temporary weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance

of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.08 SECURITY

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

1.09 VEHICULAR ACCESS AND PARKING

- A. Coordinate access and haul routes with governing authorities and Owner.
- B. Provide and maintain access to fire hydrants, free of obstructions.
- C. Provide means of removing mud from vehicle wheels before entering streets.
- D. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

1.10 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.

1.11 PROJECT IDENTIFICATION

- A. Provide project identification sign of design and construction indicated on Drawings.
- B. Erect on site at location indicated.
- C. No other signs are allowed without Owner permission except those required by law.

1.12 FIELD OFFICES

- A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture and drawing display table if required by the Owner.
- B. Provide space for Project meetings, with table and chairs to accommodate 6 persons.
- C. Locate offices a minimum distance of 30 feet from existing structures.
- D. District will provide a classroom space for a temporary field office. Contractor shall return the space to the district in the same or better condition upon completion.

1.13 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion inspection.
- B. Clean and repair damage caused by installation or use of temporary work.
- C. Restore existing facilities used during construction to original condition.
- D. Restore new permanent facilities used during construction to specified condition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 70 00

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. Cutting and patching.
- D. Cleaning and protection.
- E. Starting of systems and equipment.
- F. Demonstration and instruction of Owner personnel.
- G. Closeout procedures, except payment procedures.

1.02 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Cutting and Patching: Submit written request in advance of cutting or alteration which 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.

1.03 PROJECT CONDITIONS

- A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- B. 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.
- C. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
- D. 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.

1.04 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, with provisions for accommodating items installed later.
- B. Notify affected utility companies and comply with their requirements.
- 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 which are indicated diagrammatically on Drawings. Follow routing shown 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. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- F. Coordinate completion and clean-up of work of separate sections.
- G. 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 60 00.

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 misfabrication.
- 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.

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 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.

3.04 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 shown.
 - 2. Report discrepancies to Architect before disturbing existing installation.
 - 3. Beginning of alterations work constitutes acceptance of existing conditions.
- B. 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.
- C. Remove existing work as indicated and as required to accomplish new work.
 - 1. Remove rotted wood, corroded metals, and deteriorated concrete; replace with new construction specified.
 - 2. Remove items indicated on drawings.
 - 3. 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.
 - 4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.
- D. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): 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.
- E. 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.
 - 4. Patch as specified for patching new work.
- F. Adapt existing work to fit new work:
 - 1. 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.
 - 2. Where a change of plane of 1/4 inch or more occurs in existing work, submit

recommendation for providing a smooth transition for Architect review and request instructions.

- G. Refinish existing surfaces as indicated:
 - 1. Where materials 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.
 - 3. Patch as specified for patching new work.
- H. Clean existing systems and equipment.
- I. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.
- J. Do not begin new construction in alterations areas before demolition is complete.
- K. Comply with all other applicable requirements of this section.

3.05 CUTTING AND PATCHING

- A. Execute cutting and patching to complete the work, to uncover work in order to install improperly sequenced work, to remove and replace defective or non-conforming work, to remove samples of installed work for testing when requested, to provide openings in the work for penetration of mechanical and electrical work, to execute patching to complement adjacent work, and to fit products together to integrate with other work.
- B. Execute work by methods to avoid damage to other work, and which will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
- C. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- D. Restore work with new products in accordance with requirements of Contract Documents.
- E. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- F. Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
- G. Make neat transitions. Patch work to match adjacent work in texture and appearance. Where new work abuts or aligns with existing, perform a smooth and even transition.

3.06 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 if materials fall into space during roofing activities 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.

3.07 PROTECTION OF INSTALLED WORK

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.

- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Provide protective coverings at walls, projections and soffits of openings.
- E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- F. Prohibit traffic or storage upon roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from roofing material manufacturer.
- G. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.

3.08 STARTING SYSTEMS

- A. Coordinate schedule for start-up of various equipment and systems that were disassembled during roofing activities.
- B. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions which may cause damage.
- C. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- D. Verify that wiring and support components for equipment are complete and tested.
- E. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.
- F. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.09 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 personnel.

3.10 ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.11 FINAL CLEANING

- A. Use cleaning materials that are nonhazardous.
- B. Clean interior if required from roofing debris falling into space and exterior glass, surfaces exposed to view and stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- C. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- D. Clean filters of operating equipment.
- E. Clean debris from roofs, gutters, downspouts, and drainage systems.
- 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.

3.12 CLOSEOUT PROCEDURES

- A. Make submittals that are required by governing or other authorities.
- B. Notify Architect when work is considered ready for Substantial Completion.
- C. Submit written certification 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 review.
- D. Correct items of work listed in executed Certificates of Substantial Completion and comply with requirements for access to Owner-occupied areas.
- E. Notify Architect when work is considered finally complete.
- F. Complete items of work determined by Architect's final inspection.

END OF SECTION

SECTION 01 60 00

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. Product option requirements.
- E. Substitution limitations and procedures.
- F. Spare parts and maintenance materials.

1.02 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. 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.
- C. Reused Products: Reused products include materials and equipment previously used in this or other construction, salvaged and refurbished as specified.

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.
- C. Adhesives and Joint Sealants:
 - 1. Definition: This provision applies to gunnable, trowelable, and liquid-applied adhesives, sealants, and sealant primers used anywhere on the interior of the building inside the weather barrier, including duct sealers.
 - 2. Specific Product Categories: Comply with limitations specified elsewhere.

2.03 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.04 SPARE PARTS AND MAINTENANCE PRODUCTS

- A. Provide spare parts, maintenance, and extra products 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 PROCEDURES

- A. Instructions to Bidders specify time restrictions for submitting requests for substitutions during the bidding period. Comply with requirements specified in this section.
- B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
- C. A request for substitution 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.
 - 2. Will provide the same warranty for the substitution as for the specified product.
 - 3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension which may subsequently become apparent.
- D. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
- E. Substitution Submittal Procedure:
 - 1. Submit three copies of request for substitution for consideration. Limit each request to one proposed substitution.
 - 2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
 - 3. The Architect will notify Contractor in writing of decision to accept or reject request.

3.02 TRANSPORTATION AND HANDLING

- A. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- B. Transport and handle products in accordance with manufacturer's instructions.
- C. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- D. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- E. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

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

3.03 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. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- G. Prevent contact with material that may cause corrosion, discoloration, or staining.
- H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- I. 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 78 00

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 SECTIONS

- A. Section 01 30 00 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- B. Individual Product Sections: Specific requirements for operation and maintenance data.
- C. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

- A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.
- B. Operation and Maintenance Data:
 - 1. Submit two copies 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 1 copy of completed documents 15 days prior to final inspection. 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 two sets of revised final documents in final form within 10 days after final inspection.
- C. Warranties and Bonds:
 - 1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within ten days after acceptance.
 - 2. Make other submittals within ten 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 ten 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. Addenda.
 - 3. Change Orders and other modifications to the Contract.
 - 4. 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. 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. 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 MANUALS

- A. Prepare instructions and data by personnel experienced in maintenance and operation of described products.
- B. Prepare data in the form of an instructional manual.
- C. Binders: Commercial quality, 8-1/2 x 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- D. Cover: Identify binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.
- E. Provide tabbed dividers for each separate product and system, with typed description of product and major component parts of equipment.
- F. Text: Manufacturer's printed data, or typewritten data on 24 pound paper.
- G. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- H. Arrange content by systems under section numbers and sequence of Table of Contents of this Project Manual.
- I. Contents: Prepare a Table of Contents for each volume, with each product or system description identified, in three parts as follows:
 - 1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect, Contractor, Subcontractors, and major equipment suppliers.
 - 2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
 - a. Significant design criteria.
 - b. List of equipment.
 - c. Parts list for each component.
 - d. Operating instructions.
 - e. Maintenance instructions for equipment and systems.

3. Part 3: Project documents and certificates, including the following:
 - a. Shop drawings and product data.
 - b. Certificates.
 - c. Photocopies of warranties and bonds.

3.04 WARRANTIES AND BONDS

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within ten 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 the Date of Substantial completion is determined.
- 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. Include originals of each in operation and maintenance manuals, indexed separately on Table of Contents.

END OF SECTION

SECTION 02 22 50

PARTIAL DEMOLITION FOR REMODELING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Demolishing designated building equipment and fixtures.
 - 2. Demolishing designated construction.
 - 3. Cutting and alterations for completion of the Work.
 - 4. Removing designated items for reuse and Owner's retention.
 - 5. Protecting items designated to remain.
 - 6. Removing demolished materials.
- B. Related Sections:
 - 1. None.

1.2 SUBMITTALS

- A. Requirements for submittals.
- B. Describe demolition removal procedures and schedule.
- C. Shop Drawings:
 - 1. Indicate demolition and removal sequence.
 - 2. Indicate location of items designated for reuse and Owner's retention.
 - 3. Indicate location and construction of temporary work.

1.3 CLOSEOUT SUBMITTALS

- A. Requirements for submittals.
- B. Project Record Documents: Accurately record actual locations of capped utilities and subsurface obstructions.
- C. Operation and Maintenance Data: Submit description of system, inspection data, and parts lists.

1.4 QUALITY ASSURANCE

- A. Conform to applicable local code for demolition work, dust control, products requiring electrical disconnection and re-connection.
- B. Conform to applicable codes for procedures when hazardous or contaminated materials are discovered.

- C. Obtain required permits from authorities having jurisdiction.
- D. Perform Work in accordance with local building codes.

1.5 SCHEDULING

- A. Schedule Work to coincide with new construction.
 - B. Perform noisy, malodorous and dusty work:
 - 1. Between hours of 3:00pm and 5:30am on school days.
- OR
- 2. On following days: Saturdays or as approved by the district.
 - 3. Monday through Friday if School is closed for Summer, Spring Break or Winter Break.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 PREPARATION

- A. Notify affected utility companies before starting work and comply with their requirements.
- B. Mark location and termination of utilities.
- C. Erect, and maintain temporary barriers and security devices as required including warning signs and lights, and similar measures, for protection of the public, Owner, and existing improvements indicated to remain.
- D. Erect and maintain weatherproof closures for exterior openings.
- E. Erect and maintain temporary partitions to prevent spread of dust, odors, and noise to permit continued Owner occupancy.
- F. Prevent movement of structure; provide temporary bracing and shoring required to ensure safety of existing structure.
- G. Provide appropriate temporary signage including signage for exit or building egress.
- H. Do not close or obstruct building egress path.
- I. Do not disable or disrupt building fire or life safety systems without 3 days prior written notice to Owner.

3.2 SALVAGE REQUIREMENTS

- A. Coordinate with Owner to identify building components and equipment required to be removed and delivered to Owner.
- B. Tag components and equipment Owner designates for salvage.
- C. Protect designated salvage items from demolition operations until items can be removed.
- D. Carefully remove building components and equipment indicated to be salvaged.
- E. Disassemble as required to permit removal from building.
- F. Package small and loose parts to avoid loss.
- G. Mark equipment and packaged parts to permit identification and consolidation of components of each salvaged item.
- H. Prepare assembly instructions consistent with disassembled parts. Package assembly instructions in protective envelope and securely attach to each disassembled salvaged item.
- I. Deliver salvaged items to Owner. Obtain signed receipt from Owner.

3.3 DEMOLITION

- A. Conduct demolition to minimize interference with adjacent and occupied building areas.
- B. Cease operations immediately when structure appears to be in danger and notify Architect/Engineer.
- C. Disconnect, remove, cap, and identify designated utilities within demolition areas.
- D. Demolish in orderly and careful manner. Protect existing improvements, supporting structural members and protecting existing finishes.
- E. Carefully remove building components indicated to be reused.
 - 1. Disassemble components as required to permit removal.
 - 2. Package small and loose parts to avoid loss.
 - 3. Mark components and packaged parts to permit reinstallation.
 - 4. Store components, protected from construction operations, until reinstalled.
- F. Remove demolished materials from site except where specifically noted otherwise. Do not burn or bury materials on site.
- G. Remove materials as Work progresses. Upon completion of Work, leave areas in clean condition.
- H. Remove temporary Work.

3.4 SCHEDULES

- A. Remove, store and protect the following materials and equipment:
 - 1. Mechanical to be removed and reinstalled after curbs are raised.

END OF SECTION

SECTION 09 65 00

RESILIENT BASE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Resilient base.

1.02 REFERENCES

- A. ASTM F 1861 - Standard Specification for Resilient Wall Base; 2002.

1.03 SUBMITTALS

- A. See Section 01 30 00 - 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. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning.

1.04 DELIVERY, STORAGE, AND PROTECTION

- A. Protect materials from damage by storing on end.

1.05 ENVIRONMENTAL REQUIREMENTS

- A. Maintain temperature in storage area between 55 degrees F and 90 degrees F.
- B. Store materials for not less than 48 hours prior to installation in area of installation at a temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

PART 2 PRODUCTS

2.01 MATERIALS - TILE FLOORING

2.02 MATERIALS - BASE

- A. Resilient Base: ASTM F 1861, Type TS rubber, vulcanized thermoset; top set Style B, Cove, and as follows:
 - 1. Height: **4-1/2 inches (3.2mm) thick.**
 - 2. Thickness: 0.125 inch thick.
 - 3. Finish: Satin.
 - 4. Color: Color as selected from manufacturer's standards.
 - a. Burke Flooring: www.buremercer.com
 - b. Johnsite. A Tarkett Company: www.johnsonite.com
 - c. Roppe Corp.: www.roppe.com
 - d. Or, approved equal.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that wall surfaces are dust-free and free of substances which would impair bonding of adhesive materials to resilient base.

3.02 PREPARATION

- A. Remove ridges and bumps from wall surface. Fill minor low spots, cracks, joints, holes, and

other defects with wall filler to achieve smooth, flat, hard surface.

- B. Clean substrate prior to applying adhesive materials and resilient base.

3.04 INSTALLATION - BASE

- A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches between joints.
- B. Miter internal corners. At external corners, use premolded units. At exposed ends, use premolded units.
- C. Install base on solid backing. Bond tightly to wall and floor surfaces.
- D. Scribe and fit to door frames and other interruptions.

3.05 CLEANING

- A. Remove excess adhesive from base, and wall surfaces without damage.

END OF SECTION

SECTION 03 35 43

POLISHED CONCRETE FINISHING

PART I – GENERAL

1.01 SUMMARY

- A. Basis of Design Product: Subject to compliance with requirements, provide Architectural Polished Concrete Finishing System by DIAMATIC®. The system is ULTRAFLOOR Architectural Polished Concrete System as described below. Additional acceptable manufacturers include the following:
 - 1. Pre-Approved Equal.
- B. Complete installation details are provided in the DIAMATIC® Technical Brochures available at www.diamaticusa.com, www.ultraflor.com
- C. ULTRAFLOOR® polished concrete finish is a combination of mechanical grinding, honing and polishing combined with chemical treatments to produce a fully refined surface that's dust proof, durable, stain resistant, light reflective and easy to maintain.

1.02 SECTION INCLUDES

- A. Products and procedures for the installation of the ULTRAFLOOR® Architectural Polished Concrete System using a multi-step dry mechanical process and accessories indicated, specified or required to complete system and achieve specified finish:
 - 1. DIAMATIC® Mechanical Diamond Grinding and Polishing Equipment
 - 2. ULTRAFLOOR® Concrete Treatment Chemicals
 - 3. Joint filler and repair materials.
 - 4. Products and procedures for the initial and long term maintenance of the ULTRAFLOOR® Architectural Polished Concrete System.

1.03 RELATED SECTIONS

- A. Section 09 65 00 40 – Flooring Adhesive System
- B. Section 09 68 13 – Tile Carpet

1.04 SUBMITTALS

- A. Product Data: Submit Manufacturer's technical literature for each product indicated, specified or required. Include manufacturer's technical data, application instructions, recommendations and MSDS.
- B. Installer Qualifications: Data for company, principal personnel, experience, and training. Provide a letter documenting installer's accreditation and certification compliance, as specified under quality assurance.
- C. Maintenance Data: Provide manufacturer's instructions for maintenance of installed work, including methods and frequency recommended for maintaining optimum condition under intended use. These instructions should contain precautions against cleaning products and methods, which may be detrimental to finishes and performance.
- D. Pre-approved Substitutions: Pre-approval will only be granted if sufficient information is received to demonstrate equal system quality and warranty coverage. Manufacturers of equivalent products shall be considered in accordance with provisions of the "Special Terms and Conditions of the IFB." Comply with "Request for Approved Equal."

1.05 QUALITY ASSURANCE / WARRANTY

- A. Warranty Requirements: The ULTRAFLOOR® Architectural Polished Concrete System consists of a process and products engineered and manufactured by DIAMATIC. Any substitutions within the system are not permitted and will void warranty. The complete list of warranty requirements may be obtained through DIAMATIC or DMS @ 800-295-5512

- B. Installer Qualifications:
1. Installer must be an DIAMATIC® ELITE installer for the ULTRAFLOOR® Architectural Polished Concrete System, including the use of DIAMATIC® equipment and diamond abrasives, and DIAMATIC® concrete preparation, and chemical hardening and finishing materials.
 2. Installer must be experienced in performing specified work similar in design, products and scope of this project, with a documented track record of successful, in-service performance and with sufficient production capabilities, facilities and personnel to produce specified work.
 3. An ULTRAFLOOR® DIAMATIC® certified supervisor must be maintained on site during all times during which specified work is performed. For a complete list of qualified installers in your region contact the DMS (Diamatic Management Services) Project Manager at 858-253-1612.
 4. National brand specific projects must have DMS (Diamatic Management Services) personnel present during the pre-construction conference to insure quality control standards are in compliance.
 5. Installer must provide written documentation from the manufacturer confirming the Installer's current accreditation and training from DIAMATIC on installation of the ULTRAFLOOR® Architectural Polished Concrete System and related equipment and processes. Failure to provide current accreditation will void any warranty implied or otherwise associated with the ULTRAFLOOR® Architectural Polished Concrete System.
 6. A current list of qualified installers may be obtained through DIAMATIC MANAGEMENT SERVICES, DIAMATIC® USA 858-253-1612.
- C. Mock-Up: Before performing the work in this section, an adequate on-site mock-up of the ULTRAFLOOR® Architectural Polished Concrete System representative of specified process, surface, finish, color and joint design/treatments must be installed for review and approval. These mock-ups should be installed using the same size machine and personnel who will perform work. The minimum size shall be 10' x 10' to show the complete process. Approved mock-ups may become part of completed work, if undisturbed at time of substantial completion.
- D. Static Coefficient of Friction: A reading of not less than 0.5 for level floor surfaces shall be achieved and documented as determined by certified an NFSI walkway auditor using the ASTM D-2047 quality control test.
- E. Dynamic Coefficient of Friction: A reading not less than 0.6 for level floor surfaces shall be achieved and documented as determined by certified an NFSI walkway auditor using the ANSI B101.3 quality control test.
- F. Test Reports: Comply with the provisions of the following specifications and standards, except as otherwise noted or specified, or as accepted or directed by the Owner and/or Architect. All test data shall be recorded and submitted upon completion of job.
1. Section 03 30 00, Cast-In-Place Concrete
 2. ASTM E1155, Standard Test Method for Determining Floor Flatness and Levelness using the F number system.
 3. ASTM D-523, Standard Test Method for Measurement of Gloss of High-Gloss Surfaces by Abridged Goniophotometry.
 4. ASTM D-5767-95 Distinctness of Image (DOI).
 5. ASTM D-2407 Standard Specification for Coefficient of Friction.
 6. ASTM F-2170 Standard Test Method for Relative Humidity in Concrete Floors.
 7. ASTM F-1869-04 Standard Test Method for Measuring MVER in Concrete Sub Floors.
 8. ANSI B-101.3 Dynamic Coefficient of Friction.
 9. ACI 302 1R-15 Guide for Concrete Floor and Slab Construction, chapters, 8-11
 10. ACI 117-10 Specification for Tolerances for Concrete Construction, section 4.5.6
 11. ACI 310 R-13 Guide to Decorative Concrete, section 7.2
- G. Pre-Installation Conference: Prior to the installation of the ULTRAFLOOR® Architectural

requirements.

1. Required attendees include the Owner, Architect, General Contractor, ULTRAFLOOR® Architectural Polished Concrete System Subcontractor, and DMS representative as required in 1.04-B section d, Quality Assurance.
2. The minimum agenda shall include:
 - i. Review slab finish requirements, F-numbers and finishing practices.
 - ii. Review of System requirements, including drawings, specifications and other contract documents.
 - iii. Review of mock-up location, size and equipment. See reference in section 1.05-C.
 - iv. Review and finalization of installation schedule, and verification of availability of required materials, trained Installer personnel, equipment and facilities to execute specification and avoid delays.
 - v. Limit access to work area by other trades to reduce possible damage to the floor before, during and after completion. To include no pipe cutting on floor. All lifts must be diapered to prevent drips or staining.
 - vi. Review of required inspection, testing, certification and material usage accounting procedures.
 - vii. Review of power requirements and responsibility
 - viii. Review of temporary protection requirements during and after installation.
 - ix. Review of cleaning procedures during and after installation. Reference section 4-01 or ULTRAFLOOR® Maintenance Specification 03 09 00.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver all materials in original containers, bearing manufacturer's labels indicating brand name and directions for storage, factory numbered and sealed until ready for installation.
- B. Maintain copies of all chemical MSDS, and Technical data sheets for all products.
- C. Store all materials in a dry, climate-controlled environment at a minimum of 55°F (13°C) and maximum of 85°F (29°C).

1.07 SITE CONDITIONS

- A. Comply with manufacturer's written instructions for substrate temperature and moisture content, ambient temperature and humidity, ventilation and other conditions affecting the floor finish.
- B. Close areas to traffic during and after ULTRAFLOOR® Architectural Polished Concrete System application for a time period recommended by DIAMATIC®
- C. Inspect the existing substrate and document unsatisfactory conditions in writing. Verify that surfaces and site conditions are ready to receive work. Correct unacceptable conditions prior to installation of System. Commencement of work constitutes acceptance of substrate conditions.
- D. Existing concrete must be cured for a sufficient time period as recommended by DIAMATIC® before the application can begin, typical 21-28 days.
- E. Protect existing concrete and the new ULTRAFLOOR® Architectural Polished Concrete System from contamination by petroleum, oil, hydraulic fluid, acid and acidic detergents, paint and other liquid dripping from trades and equipment working over these substrates. If construction equipment must be used on these substrates, diaper all components that may drip fluids.
- F. Prohibit the placement and storage of construction materials over new ULTRAFLOOR® Architectural Polished Concrete System, to include ferrous metals and steel members.
- G. Prohibit vehicle parking and pipe cutting operations over concrete before and after the ULTRAFLOOR® Architectural Polished Concrete System.
- H. An exception for high moisture floors may be obtained in writing from DIAMATIC USA or DMS upon request. Contact the main office @ 800-295-5512.
 1. The Owner or General Contractor shall be responsible for any and all testing

conducted.

PART 2 – PRODUCTS

2.01 SYSTEM INTEGRITY

- A. The ULTRAFLOOR® Architectural Polished Concrete System is an engineered and integrated complete installation system requiring strict adherence to all specified installation processes, equipment, diamond abrasives, concrete preparation, joint treatment and chemicals to achieve the intended result. Any substitutions from the specified products and/or processes will void the system warranty.

2.02 MATERIALS

- A. DIAMATIC® Equipment
 1. DIAMATIC® BMG-780 Planetary Grinder and Polisher, Large Platform: 32” planetary floor polisher. Minimum head pressure of 725 lbs.
 2. DIAMATIC® Micro Polisher MPS-1827LP Propane Burnisher, MPS-1027E Electric Burnisher.
 3. Vacuums: Dust Collection must be designed for filtering of concrete dust. Minimum air speed of 340 CFM for Large and Medium Platform equipment.
 4. DIAMATIC® Dust Extractors BDC 3140-P, BDC 44, BDC 66.
- B. DIAMATIC® Diamond Abrasives and Blades
 1. Metal Bonded Diamonds – 18/20, 30/40, 60/80, 120-140 Grits.
 - a. Note: Concrete has hardness levels of soft, medium and hard. The hardness of the concrete will determine the required hardness of the metal bonded diamonds:
 - i. Extra Hard Concrete: Extra Soft metal bonded diamonds
 - ii. Hard Concrete: Soft metal bonded diamonds
 - iii. Medium Concrete: Medium metal bonded diamonds
 - iv. Soft Concrete: Hard metal bonded diamonds
 - v. Extra Soft Concrete: Extra Hard metal bonded diamonds
 - b. Transitional Diamonds, - #0, #1, #2 Grit.
 - c. Hybrid Flex-res Resin Bonded Diamonds -50, 100, 200, 400, 800, 1500, 3000 Grit.
 - d. FLOR-GRIT Diamond Impregnated Pads – 200, 400, 800, 1500, 3000 Grit.
 - e. Easy Edge Ceramic wheels for hand grinders – 30-50-100-270-400 Grit. Available in 5” and 7”.
- C. ULTRAFLOOR® Concrete Treatment Chemicals 1-800-295-5512
 1. FLOR-SIL™ Lithium Densifier for standard concrete and terrazzo
 2. FLOR-FILL™ (RSG) Reactive Surface Grout and Pin Hole Filler
 3. FLOR-SHIELD™ Surface Densifying and Surface Protective Treatment
 4. FLOR-COLOR™ Micronized Water Borne High Performance Dye
 5. FLOR-FINISH™ Stain and Wear Protection Treatment (high-gloss)
 6. FLOR-CLEAN™ CR Polished Concrete Cleaner & Restorer
- D. DIAMATIC® Repair Materials
 1. DIAMATIC PRM-16 POLISHABLE REPAIR MORTAR
 2. DIAMATIC PC-5614 POLISHALBE CONCRETE TOPPING
- E. Joint Materials
 1. VERSAFLEX 100% solids polyurea joint fillers
 - a. SL/75, SL/85, SL/90
 2. METZGER MCGUIRE 100% solids polyurea joint filler
 - a. SPAL-PRO RS 88 Rapid Set Polyurea Joint Filler
 3. HI TECH SYSTEMS Polyurea elastomeric Joint Filler
 - a. HT-PE85 MI Flexible Joint Filler
- F. Protection Materials
 1. To prevent minor damage from light trade traffic during build out of site, an approved

Construction grade flooring protection material for the ULTRAFLOOR® Architectural Polished Concrete System shall be installed. At no time will any tape be used or applied to a finished ULTRAFLOOR® surface as the adhesive may leave a permanent residue or remove the surface finish.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Inspect all concrete substrates and conditions under which the ULTRAFLOOR® Architectural Polished Concrete System to be installed.
- B. Verify that all surfaces and site conditions are ready to receive work; document and correct conditions detrimental to timely and proper installation of work. Beginning work constitutes acceptance of substrate condition.
- C. Verify that existing concrete has cured a minimum of 28 days and meets finish and surface profile requirements in Division 03 Section “Cast-In-Place Concrete,” before installing the ULTRAFLOOR® Architectural Polished Concrete System.
- D. Inspect to mock-up panel to insure it is satisfactory and meets all of the owner’s requirements. The mock-up panel shall be a minimum size of 10’x10’.

3.02 PREPARATION

- A. Demolition
 - 1. Clear surfaces of any debris and construction materials.
 - 2. Power connections for the equipment of the ULTRAFLOOR® Architectural Polished Concrete System shall be located and prepared by general contractor.
 - 3. Using the appropriate mechanical means and methods, remove existing floor coverings and coatings, including but not limited to carpet VCT, ceramic tile and grout, wood, epoxy/ urethane, quartz, mastic, adhesives, paint or other non-concrete floor materials. Adhesives must be removed to their penetrated depth.
 - a. Note: The mechanical removal of resilient flooring, backing, lining felt, cutback and other adhesives can be hazardous, as certain materials may contain asbestos or crystalline silica. Do not sand, dry sweep, dry scrape, drill, saw, bead blast, grind, mechanically chip or pulverize these materials, as harmful dust may result. Inhalation of this dust may cause asbestosis or other bodily harm. Please consult the adhesive manufacturer, the Resilient Floor Covering Institute (www.rfci.com) and all applicable government agencies for rules and regulations concerning the handling and removal asbestos-containing materials.
 - b. Prevent any damage to concrete slab surface during demolition from chipping hammers. Existing flooring should be removed mechanically with walk-behind or ride-on scraping equipment.
 - 4. Chemical preparation of the substrate is NOT acceptable, including but not limited to acid etching, sweeping compounds, solvents and adhesive removers.
 - 5. Suppress dust during demolition with the use of dust collection equipment to reduce or eliminate airborne concrete and substrate dust.
 - 6. Where existing concrete is cracked, damaged, spalled, not within specified tolerance, or contains unacceptable levels of contaminants or moisture vapor, the Installer of the ULTRAFLOOR® DIAMATIC® Polished Concrete System will evaluate conditions and proceed with appropriate ULTRAFLOOR® System components.
 - 7. For specific repairs apply the PRM-16 Polishable Repair Mortar in accordance with the Technical Data Sheet.
- B. Joint Fill (Indoor)
 - 1. All joint fill materials shall be installed in accordance with the written instructions provided in the approved manufacturer’s technical data.
 - 2. For the best results all joints should be filled before or after the first pass of metal

bonded diamonds, but before any further grinding continues.

3. If the joint filling will occur after the polishing process, apply soap or another product as instructed by the manufacturer to the edge of the concrete to prevent staining the concrete surface.

3.03 GLOSS ATTAINMENT (ASTM D-523)

- A. Gloss readings are not to be obtained through the use of any microfilming products, sealers, coatings, enhancers or as the result of resin transfer from resin bond abrasives.
- B. Divide the floor into 9 equal segments based on the floor plan drawing, 3 sections for the back of the building, 3 sections for the center, and 3 sections at the front. Take 3 readings per section and record the average for each section on the close out report.
 1. Level A Sheen – Low Gloss reading of 30 to 40. 400 grit diamond finish.
 2. Level B Sheen – Medium Gloss reading of 41 to 55. 800 grit diamond finish.
 3. Level C Sheen – High Gloss reading of 56 or higher. 1500 grit or higher.
- C. For instructions on achieving gloss levels, refer to the appropriate sub-section of section 3.04.

3.04 POLISHING

Use the section below to determine specific finish details for the project. Refer to section 3.04-C for specific tooling and process steps.

- A. Cut Levels
 1. Level 1 Cut / A light cut that removes the surface paste exposing the fine aggregates near the surface. Also referred to as a light aggregate finish. Note that a Level 1 cut will require higher F-numbers to achieve, Min FF 50.
 2. Level 2 Cut / A slightly deeper cut the exposes the fine aggregates and begins to expose the coarse aggregates. Also referred to as a salt and pepper finish.
 3. Level 3 Cut / A deep cut that exposes the coarse aggregates in the surface.
- B. Polished Concrete Project Specific Details:
 1. Specified Floor Finish shall have a Cut Level of “Level 2 / Salt & Pepper”
 2. Specified Floor Finish shall have a Gloss Level of “Level A / Low Gloss”
 3. Specified FLOR-COLOR “N/A”
 4. Alternate #1: At areas indicated on the drawings to receive carpet, Specified Floor Finish shall have a Cut Level of “Level 1 / Light Aggregate Finish”
 5. Alternate #1: At areas indicated on the drawings to receive carpet, Specified Floor Finish shall be polished without the use of treatment chemicals.
 6. Alternate #1: A areas indicated on the drawings to receive carpet, Specified FLOR-COLOR “N/A”
 7. Alternate #1: Assure compatibility of prepared slab with Flooring Adhesive System.
- C. Polishing Steps
 1. GRIND/POLISH #1: DIAMATIC 30/40 Grit Metal Bonded Diamonds. Cross hatch until level of aggregate exposure has been achieved and all existing glue and residue has been removed.
 2. Squeegee, vacuum or auto-scrub to remove all residual dust.
 3. GRIND/POLISH #2: DIAMATIC 60/80 Grit Metal Bonded Diamonds
 4. Squeegee, vacuum or auto-scrub to remove all residual dust.
 5. GRIND/POLISH #3: DIAMATIC #1 Transitional Diamonds, Ceramic Bonded.
 6. Apply DIAMATIC FLOR-SIL™ per application instructions at a rate of 400 square feet per gallon.
 7. Allow DIAMATIC FLOR-SIL™ to dry 1 hour before continuing on to the next step.
 8. GRIND/POLISH #4: DIAMATIC 200 Grit Resin Bonded Diamonds.
 9. Squeegee, vacuum or auto-scrub to remove all residual dust.
 10. Apply DIAMATIC FLOR-SIL™ per application instructions at a rate of 400 square feet per gallon.
 11. Allow DIAMATIC FLOR-SIL™ to dry 1 hour before continuing on to the next step.
 12. GRIND/POLISH #5: DIAMATIC 400 Grit Resin Bonded Diamonds.

13. Squeegee, vacuum or auto-scrub to remove all residual dust.
14. MICROPOLISH/BURNISH #1: FLOR-GRIT 400 Diamond Impregnated Pad.
15. Dry mop the floor clean to remove all debris.
16. Apply DIAMATIC FLOR-FINISH™ with Low-gloss additive per application instructions at a rate of 2500-3,000 square feet per gallon.
17. Allow to dry a minimum of 15 minutes.
18. MICROPOLISH/BURNISH #2: FLOR-GRIT 400 Diamond Impregnated Pad.
19. Apply a second coat of FLOR-FINISH™ with Low-gloss additive. Allow to dry for 15 minutes.
20. MICROPOLISH/BURNISH #3: FLOR-GRIT 400 Diamond Impregnated Pad

3.05 EDGES

- A. Where required polished edge work of all areas shall be done with a 5" or 7" DIAMATIC Hand Held, Walk Behind polishing tool or equal. The edge polishing process will match the corresponding steps outlined above for the desired gloss level, and each edge polishing step shall be done immediately after the matching main polishing step.
- B. NOTE: All grinding and polishing completed with grinder/polisher equipment connected to a dust collector.

3.06 ACCEPTANCE

- A. Remove all installation materials and any foreign materials resulting from the installation, from the site.
- B. Clean adjacent surfaces and materials.
- C. Perform post job walk to ensure that the ULTRAFLOOR® Architectural Concrete System has been completed per the process spec.
- D. Take pictures of final product for documentation and submittal, if requested or required.

3.07 PROTECTION

- A. Prevent any spills or stains from coming into contact with the floor. Clean any spills that may occur as quickly as possible.
- B. Protect the finished ULTRAFLOOR® Architectural Polished Concrete System from continuing construction and build out as needed by installing the protective floor covering system.
 1. The installation of the protective floor covering must be approved by the Installer and General Contractor of the ULTRAFLOOR® installation.
 2. If the protective floor covering material is damaged during use, then that section must be cut out and replaced to maintain the integrity of the protective covering.
 3. The protective floor covering shall be the responsibility of the general contractor.

ONGOING MAINTENANCE

- A. Restrict using water on the surface for 72 hours after initial installation. The surface should not be cleaned using a string mop for 60 days to avoid streaking of the FLOR-FINISH. Avoid using mats or treated coverings for a minimum of 14 days to allow the finish to fully cure.
- B. DO NOT USE cleaners that are acidic or have citrus (de-limonene) or butyl compounds. Although the ULTRAFLOOR® Architectural Polished Concrete System is chemical and stain resistant, the application of these high acid cleaners may etch the surface and cause a residual stain. Regular maintenance and cleaning will help prolong surface shine.
Daily Maintenance.

DAILY MAINTENANCE

- A. Once the system is fully cured out (min. 72 hours), routinely sweep, dry mop, use of a high quality micro-fiber dust mop is the best method FLOR-CLEAN™ CR Polished Concrete Cleaner & Restorer may be used when soils or stains must be removed. Any standing water should be removed immediately after cleaning.

- B. An auto-scrubber may be used if equipped with a vacuum system to remove any standing water. The equipment tank should use FLOR-CLEAN™ diluted in clean water. The scrubber should be equipped with a soft pad only, DO NOT USE A BRUSH attachment.

WEEKLY MAINTENANCE

- A. An auto-scrubber may be used if equipped with a vacuum system to remove any standing water, the equipment tank should use FLOR-CLEAN™ diluted in clean water. The scrubber should be equipped with a soft pad only, DO NOT USE A BRUSH attachment.
- B. Use of a BURNISHER equipped with a FLOR-GRIT pad may be used as needed to restore gloss to specified levels. An 800 or 1500 grit pad is recommended.

EXTENDED MAINTENANCE

- A. After thorough cleaning a coat of the ULTRAFLO® FLOR-FINISH may be applied to restore original gloss and increase the stain resistance on the surface. Follow all technical data instructions for proper application or consult the original floor installer for assistance.
- B. Use of a BURNISHER equipped with a FLOR-GRIT pad may be used after the application of the FLOR-FINISH to restore gloss to specified levels. An 800 or 1500 grit pad is recommended.
- C. For additional information consult the ULTRAFLO® Maintenance Specification 03 90 00.

END OF SECTION 03 35 43