

***SPECIFIER SHALL REMOVE COMMENTS IN BOLD ITALIC TEXT PRIOR TO SUBMITTING.***

**SECTION 01 73 00**

**EXECUTION**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
1. General Requirements.
  2. Construction layout.
  3. Field engineering and surveying.
  4. General installation of products.
  5. Coordination of Owner-installed products/work of Other Contractors.
  6. Progress cleaning.
  7. Starting and adjusting.
  8. Protection of installed construction.
  9. Correction of the Work.
  10. Shoring and Bracing.
  11. Safety, Security, and Fire Protection.

**1.2 SUBMITTALS**

- A. Qualification Data: For land surveyor to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- B. Certificates: Submit certificate signed by land surveyor certifying that location and elevation of improvements comply with requirements.
- C. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.
- D. Certified Surveys: Submit two copies signed by land surveyor.
- E. Final Property Survey: Submit six (6) copies showing the Work performed and record survey data.

**1.3 QUALITY ASSURANCE**

- A. Land Surveyor Qualifications: A professional land surveyor who is legally licensed to practice in the State of Illinois, where project is located, and who is experienced in providing land-surveying services of the kind indicated.

## **PART 2 - PRODUCTS (Not Used)**

## **PART 3 - EXECUTION**

### **3.1 GENERAL REQUIREMENTS**

- A. Notify Board Authorized Representative in writing, immediately on discovery of errors, omissions, discrepancies and non-compliance with applicable codes and regulations within the documents or any work which will not fit or properly function if it were to be installed as indicated in the Contract Documents. This item is in no way intended to relieve the Architect of design responsibility.
- B. All work shall comply with all applicable laws, codes and regulations.
- C. Except for the basic building permit, the contractor's base price shall include all permits and fees applicable to their work. This includes all tap fees for water, sewer and storm lines.
- D. AOR, Board Authorized Representative, and CPS, their employees or representatives and the representative of any other authority having jurisdiction over the work shall at all times be allowed access to the work. The Contractor shall provide safe and proper facilities for access and inspection, including standby personnel as required.
- E. Hoisting - The Contractor is to provide equipment for staging materials.
- F. Signs - No signs advertising the work or identifying any person, firm or entity concerned with the work shall be allowed at the site unless approved in advance by CPS or their representative. The Contractor is to maintain the project sign provided by CPS.
- G. Access Panels –Provide necessary access panels for Work provided under the contract.
- H. No press or public relation releases are to be made without approval of CPS.
- I. Dewatering: If required, dewater trenches, footings, pits and excavations made for the work. Discharge the water so as not to interfere or create safety hazards to the public or allow water to run on other property. Adhere to all federal, state and city regulations..
- J. Fumes: Conduct operations to minimize fumes or odors to building air intakes. Advise Board Authorized Representative if a problem is foreseen so that concerned parties can be notified in advance.
- K. Install, maintain and effectively operate appliances, machines or equipment in a manner approved by authorities having jurisdiction for the elimination of harmful dust and excessive noise.
- L. The Contractor shall include in the bid costs for all standby trades should work need to be performed during other than normal work hours. This may include electrical tie-in, water taps, abatement (lead/asbestos/tank removal), work which is excessively noisy (i.e. grinding, demolition etc.); removal of materials containing lead based paints etc. Costs for inspections and any other additional work related to the Contract scope deemed necessary by Commonwealth Edison, City - Water, Sewer and Sanitary department are to borne by the Contractor.

- M. Remove and replace existing walls and ceilings as required to facilitate installation of new work. Replacement of the existing walls & ceilings shall be coordinated as directed by the AOR and as delineated in the Contract Documents.

### 3.2 EXAMINATION

- A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.

1. Before construction, verify the location and points of connection of utility services.

- B. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction affecting the Work. Failure to do so does not constitute a change order to the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

- C. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
  - a. Description of the Work.
  - b. List of detrimental conditions, including substrates.
  - c. List of unacceptable installation tolerances.
  - d. Recommended corrections.
2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

### 3.3 PREPARATION

- A. Existing Utility Information: Furnish information to the Board that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents. Submit all requests on a "Request for Interpretation" (RFI) form. Failure to do so in a timely manner does not constitute a change order to the Work.

### 3.4 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect and Board Authorized Representative promptly.
- B. General: Engage a Licensed Land Surveyor to lay out the Work using accepted surveying practices.
  - 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
  - 2. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
  - 3. Inform installers of lines and levels to which they must comply.
  - 4. Check the location, level and plumb, of every major element as the Work progresses.
  - 5. Notify Architect and Board Authorized Representative when deviations from required lines and levels exceed allowable tolerances.
  - 6. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and invert elevations.
- D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect and Board Authorized Representative.

***NOTE: INCLUDE ARTICLE BELOW AND RELATED PARAGRAPHS ONLY ON MAJOR ADDITIONS. EDIT APPROPRIATELY.***

### 3.5 FIELD ENGINEERING

- A. Identification: Owner will identify existing benchmarks, control points, and property corners.
- B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
  - 1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect or Board Authorized Representative. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect and Board Authorized Representative before proceeding.
  - 2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.
- C. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
  - 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
  - 2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
  - 3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.
- D. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.
- E. Final Property Survey: Prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.
  - 1. Show boundary lines, monuments, streets, site improvements and utilities, existing improvements and significant vegetation, adjoining properties, acreage, grade contours, and the distance and bearing from a site corner to a legal point.
  - 2. Recording: At Preliminary Acceptance, have the final property survey recorded by or with authorities having jurisdiction as the official "property survey."

### 3.6 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
  - 1. Make vertical work plumb and make horizontal work level.
  - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
  - 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.

4. Lay out required blocking, backings and grounds in concealed areas.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that shall ensure the best possible results. Maintain conditions required for product performance until Preliminary Acceptance.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
  1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
  2. Allow for building movement, including thermal expansion and contraction.
- G. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- H. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

***INCLUDE ARTICLE BELOW AND ASSOCIATED PARAGRAPHS IF APPLICABLE.***

**3.7 OWNER-INSTALLED PRODUCTS/WORK BY OTHER CONTRACTORS**

- A. Site Access: Provide access to Project site for Owner's construction forces.
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction forces.
  1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
  2. Preinstallation Conferences: Include Owner's construction forces at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction forces if portions of the Work depend on Owner's construction.

**3.8 PROGRESS CLEANING**

- A. General Contractor is to comply with all requirements of the City of Chicago Construction Site Cleanliness Ordinance as applicable to this project.

1. Portions of the ordinance that become effective subsequent to the commencement of this Contract shall be followed from the time they become effective. No change orders shall be accepted for work related to provisions of the Construction Site Cleanliness Ordinance.
- B. General -Clean work areas daily. All debris shall be collected and placed in dumpsters. Clean and dispose of all debris, mud, dirt, etc., in areas outside the building, including public areas, resulting from construction operations. All crates and boxes are to be dismantled or flattened before being placed in the container.
  1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
  2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F.
  3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- C. Provide and maintain all dumpsters and/or disposal boxes as may be required for the prosecution of the work. Dumpsters are to be immediately removed from the site when level full. Any use whatsoever of CPS dumpsters is strictly prohibited.
- D. Snow Removal - Remove snow and ice from the site and in all work areas for access, equipment, and material storage.. This includes all fenced in boundaries of the construction site and sidewalks. No salt or calcium chloride is to be used in snow and ice removal.
- E. Maintain haul roads, public roads, stockpiles and paving areas that are used for construction operations free from any debris or damage. Legally dispose of all trash and rubbish.
- F. Site: Maintain Project site free of waste materials and debris. Refer to Division 01 Sections "General Construction Requirements," and "Construction Operations and Site Utilization Plan."
- G. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
  1. Remove liquid spills promptly.
  2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- H. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that shall not damage exposed surfaces.
- I. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- J. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Preliminary Acceptance.
- K. Cutting and Patching: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

1. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.
- L. Waste Disposal: Burying or burning waste materials on-site shall not be permitted. Washing waste materials down sewers or into waterways shall not be permitted.
- M. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Preliminary Acceptance.
- N. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- O. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

### 3.9 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: If a factory-authorized service representative is required to inspect field-assembled components and equipment installation, comply with qualification requirements in Division 01 Section "Quality Requirements."

### 3.10 PROTECTION OF INSTALLED CONSTRUCTION

- A. General: Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Preliminary Acceptance.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.
- C. Maintain adequate protection of the Owner's property and all adjacent property from damage or loss at all times during the execution of the Work. This includes all existing fixed, movable, or built-in furniture, equipment, and materials. Prior to starting work in an area, make arrangements for moving of and subsequent replacement of any existing items which may conflict with the work area. Protection of items to remain is to include all measures necessary to prevent any accumulation of dust, dirt, construction debris or any physical damage. The Contractor shall be responsible for the cost of any cleaning, repair, or replacement required due to inadequate protection.
- D. Protect finished work against any possible damage resulting from the conduct of work by any trade or their own forces. This includes all finished walls, floors, ceilings, doors,

mechanical/electrical fixtures to remain -- stair treads, railings, and protection of jambs and soffits of all openings used as passageways or through which materials are handled. Finished floors are to be protected by non-staining craft building paper, plywood or hardboard in traffic areas before moving any materials or equipment over these finished areas. Refinish or replace all damaged surfaces, assemblies, and equipment representing the finished work.

- E. Roof surfaces shall not be subjected to construction traffic, or be used for storage of materials. If an activity must take place on either the new or existing roof to complete contract work, adequate protection is to be provided by the Contractor. Any damage due to roof leaks as a result of roof operations shall be the responsibility of the Contractor.

### 3.11 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 01 Section "Cutting and Patching."
  - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

### 3.12 SHORING, BRACING, AND SCAFFOLDING

- A. Provide all shoring and bracing required for safety and the proper execution of the work. Install bracing and shoring so it does not interfere with the work of other Contractors or CPS.
- B. Remove shoring and/or bracing that is no longer required.
- C. Scaffolding - Provide and maintain scaffolding required in connection with the work. All scaffolding shall conform to the rules and regulations of all authorities having jurisdiction.

### 3.13 SAFETY, SECURITY, AND FIRE PROTECTION

- A. The Contractor shall be solely responsible for all safety and security at the project site. Assign a designated job safety person.
- B. Conduct operations in accordance with all applicable regulations and requirements of local state and federal laws, including "OSHA". It is expected that all supervisory personnel shall instill in their workers and staff by directions and actions an attitude toward safety necessary for the success of the program.
- C. Provide safety protection, fall protection, barricades, warning signs, and coverings as required by the City of Chicago Building Code and Ordinance, OSHA or by CPS. Maintain lights or signals as warning during the work, removing same when completed.

- D. Replace protection, barriers, safety devices or warnings immediately upon completion of work requiring the removal of same or at the end of a working day should the work exceed one day.
- E. Provide all safety equipment or weather protective gear required to perform the work including personal protective equipment such as eye, ear protection, and hard hats,.
- F. MSDS Sheets - The Contractor is to submit MSDS sheets for all material submittals for Architects records. The Contractor must comply with OSHA regulations regarding MSDS sheets.
- G. Access to roofs shall be through roof scuttles where available, otherwise use properly anchored, OSHA approved ladders.
- H. Furnish all flagmen required for deliveries to the site..
- I. Watchman Service - No watchmen will be provided. CPS or their representative will not be responsible for a loss on account of theft of or damage to the property and/or equipment of any Contractor.
- J. When working in the existing facility, lock and secure the premises at the end of the workday. Protect all work from damage, vandalism, and theft.
- K. Fire Protection - Conform to all regulations for the governing Fire Department and of the carrier of the Fire Insurance for storage of flammable materials on site.
- L. Provide blankets and auxiliary fire protection as required to prevent damage to adjacent work or materials as a result of welding, burning, or cutting by torch. Obtain from CPS or their representative approval of burning or welding in the existing facility before starting.
- M. Fire prevention facilities shall include fire extinguisher in adequate supply where flammable demolished materials accumulate and as otherwise required by OSHA and NFPA regulations.

**END OF SECTION**