

## **SECTION 01780**

### **CONTRACT CLOSEOUT**

#### **PART 1 - GENERAL**

##### **1.1 Summary**

- A.** This Section includes administrative and procedural requirements for Contract closeout including, but not limited to, the following:
  - 1.** Inspection procedures.
  - 2.** Project record document submittal.
  - 3.** Instruction book and operating manual submittal.
  - 4.** Submittal of warranties.
  - 5.** Final cleaning.
- B.** Closeout requirements for specific construction activities are included in the appropriate Sections of the Specifications.
- C. Related Work Specified Elsewhere**
  - 1.** Prerequisites to Contract Completion and Final Acceptance: GENERAL CONDITIONS.
  - 2.** Submittals: SECTION 01330.

##### **1.2 Contract Completion**

- A. Preliminary Procedures:** Before requesting inspection for Notice of Completion, complete the following. List exceptions in the request.
  - 1.** In the Application for Payment that coincides with, or first follows, the date Final Acceptance is claimed, show 100% completion for the portion of the Work.
    - a.** Include supporting documentation for completion as indicated in these Contract Documents and a

statement showing an accounting of changes to the Contract Price.

- b.** If 100% completion cannot be shown, include a list of incomplete items, the value of incomplete Work, and reasons the Work is not complete.
  - 2.** Advise Owner of pending insurance changeover requirements.
  - 3.** Submit specific warranties, workmanship Bonds, maintenance agreements, final certifications, and similar documents.
  - 4.** Obtain and submit releases enabling Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
  - 5.** Submit record drawings, instruction books and operating manuals, final project photographs, damage or settlement surveys, property surveys, and similar final record information.
  - 6.** Deliver tools, spare parts, extra stock, and similar items.
  - 7.** Make final changeover of permanent locks and transmit keys to Owner. Advise Owner's personnel of changeover in security provisions.
  - 8.** Complete start-up testing of systems and instruction of Owner's operation and maintenance personnel. Discontinue and remove temporary facilities from the Site, along with mockups, construction tools, and similar elements.
  - 9.** Submit consent of Certificate of Completion from Contractor.
- B. Inspection Procedures:** On receipt of a request for inspection, Engineer will either proceed with inspection or advise Contractor of unfilled requirements. Owner will prepare the Notice of Completion following inspection or advise Contractor of construction that must be completed or corrected before the notice will be issued.

1. Engineer will repeat inspection when requested and assured by Contractor that the work is complete.
2. Results of the completed inspection will form the basis of requirements for Final Acceptance.

### 1.3 Final Acceptance

**A. Preliminary Procedures:** Before requesting final inspection for Notice of Completion of Final Acceptance and final payment, complete the following. List exceptions in the request.

1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include insurance certificates for products and completed operations where required.
2. Submit an updated final statement, accounting for final additional changes to the Contract Price.
3. Submit a certified copy of Engineer's final inspection list of items to be completed or corrected, endorsed and dated by Engineer. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance and shall be endorsed and dated by Engineer.
4. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the Date of Contract Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
5. Submit consent of surety to final payment.
6. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
7. Submit a final liquidated damages settlement statement.

**B. Reinspection Procedure:** Engineer will re-inspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except for items whose completion is delayed under circumstances acceptable to Engineer.

1. Upon completion of re-inspection, Owner will prepare a Notice of Completion of Final Acceptance. If the Work is incomplete, Engineer will advise Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for Final Acceptance.
2. If necessary, re-inspection will be repeated.

#### **1.4 Record Document Submittals**

- A. General:** Do not use record documents for construction purposes. Protect record documents from deterioration and loss in a secure, fire-resistant location. Provide access to record documents for Engineer's reference during normal working hours.
- B. Record Drawings:** Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation. This will require an "as constructed" elevation of the manhole top and invert elevations of all pipes entering and leaving the manhole.
  1. Record information concurrently with construction progress.
  2. Mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the Work. Mark each document "PROJECT RECORD" in neat, large, printed letters.
  3. Mark new information that is important to Owner but was not shown on Contract Drawings or Shop Drawings.
  4. Note related Change Order numbers where applicable.
  5. Organize record drawing sheets into manageable sets. Bind sets with durable-paper cover sheets; print suitable titles, dates, and other identification on the cover of each set.
  6. Upon completion of the Work, submit record drawings to Engineer for Owner's records.
  7. Include the following:
    - a. Depths of various elements of foundation in relation to finish first floor datum.

- b.** Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
  - c.** Location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of construction.
  - d.** Where Submittals are used for mark-up, record a cross-reference at corresponding location on Drawings.
  - e.** Field changes of dimension and detail.
  - f.** Changes made by Change Order or other Modifications.
  - g.** Details not on original Contract Drawings.
  - h.** As constructed information shall include a GPS coordinate of the sanitary manhole including the invert elevation of the pipes entering and leaving the manhole. The GPS level of accuracy shall be to centimeters. A registered land surveyor of the state of Arizona shall conduct the survey. This information shall be recorded on the record information set submitted to the Engineer. The information shall also be provided in an electronic format compatible with AUTOCAD release 2004.
  - i.** Provide a record location of all service laterals where they connect to the main sewer. The separation distance between the service lateral at the crossing of a water line shall be recorded by the Contractor on his record documents.
- C. Record Specifications:** Maintain one complete copy of the Project Manual including Addenda. Include with the Project Manual one copy of other written construction documents, such as Change Orders and Modifications issued in printed form during construction.

1. Mark these documents to show substantial variations in actual Work performed in comparison with the text of the Specifications and modifications.
  2. Give particular attention to substitutions and selection of options and information on concealed construction that cannot otherwise be readily discerned later by direct observation.
  3. Note related record drawing information and product data.
  4. Upon completion of the Work, submit record Specifications to Engineer for Owner's records.
  5. Include the following:
    - a. Manufacturer, trade name, catalog number, and Supplier of each product and item of Equipment actually installed, particularly optional and substitute items.
    - b. Changes made by Addendum, Change Order, or other Modifications.
    - c. Related Submittals.
- D. Record Product Data:** Maintain one copy of each product data Submittal. Note related Change Orders and markup of record drawings and specifications.
1. Mark these documents to show significant variations in actual Work performed in comparison with information submitted. Include variations in products delivered to the Site and from the manufacturer's installation instructions and recommendations.
  2. Give particular attention to concealed products and portions of the Work that cannot otherwise be readily discerned later by direct observation.
  3. Upon completion of markup, submit complete set of record product data to Engineer for Owner's records.

- E. Miscellaneous Record Submittals:** Refer to other Specification Sections for requirements of miscellaneous record keeping and Submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order. Identify miscellaneous records properly and bind or file, ready for continued use and reference. Submit to Engineer for Owner's records.
  
- F. Warranties and Bonds:** Specified in GENERAL CONDITIONS, Section 01330.

**PART 2 - PRODUCTS - Not Applicable.**

a)

**PART 3 - EXECUTION**

**3.1 Closeout Procedures**

- A. Operation and Maintenance Instructions:** Arrange for each installer of Equipment that requires regular maintenance to meet with Owner's personnel at Project Site to provide instruction in proper operation and maintenance. Provide instruction by manufacturer's representatives if installers are not experienced in operation and maintenance procedures. Include a detailed review of the following items:
  - 1.** Instruction books and operating manuals.
  - 2.** Record documents.
  - 3.** Tools.
  - 4.** Lubricants.
  - 5.** Fuels.
  - 6.** Identification systems.
  - 7.** Control sequences.
  - 8.** Hazards, hazardous chemicals data sheets.

9. Cleaning.
  10. Warranties and bonds.
  11. Maintenance agreements and similar continuing commitments.
- B. As part of instruction for operating Equipment, demonstrate the following procedures:**
1. Start-up.
  2. Shutdown.
  3. Emergency operations.
  4. Noise and vibration adjustments.
  5. Safety procedures.
  6. Economy and efficiency adjustments.
  7. Effective energy utilization.

### **3.2 Final Restoration**

- A. General:** The GENERAL CONDITIONS requires general cleaning during construction.
1. Remove temporary structures, tools, equipment, supplies, and surplus materials.
  2. Remove temporary protection devices and facilities, which were installed, to protect previously completed Work.
  3. Restore the entire construction area to pre-construction condition.
- B. Removal of Protection:** Remove temporary protection and facilities installed for protection of the Work during construction.
- C. Compliance:** Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful, or dangerous



materials into drainage systems. Remove waste materials from the Site and dispose of lawfully.

**PART 4 - MEASUREMENT AND PAYMENT - Not Applicable.**

**\*\* END OF SECTION 01780 \*\***