**SECTION 04 08 00**

**COMMISSIONING OF MASONRY**

**BASED ON DFD MASTER SPECIFICATION DATED 02/27/15**

***This section has been written to cover most (but not all) situations that you will encounter. Depending on the requirements of your specific project, you may have to add material, delete items, or modify what is currently written. The Division of Facilities Development expects changes and comments from you.***

**P A R T 1 ‑ G E N E R A L**

**SCOPE**

This section includes commissioning forms for construction verification and functional performance testing. Included are the following topics:

PART 1 - GENERAL

Scope

Related Work

Reference

Submittals

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

***DO NOT INCLUDE ANY COMMISSIONING FORMS for PRELIMINARY review. Just edit the list below and only submit pages 04 08 00-1 through 04 08 00-2 with strikethroughs.***

Commissioning Forms

CV-04 20 00 Unit Masonry

CV-04 40 00 Stone Assemblies

**RELATED WORK**

Section 01 91 01 or 01 91 02 – Commissioning Process

**REFERENCE**

Applicable provisions of Division 1 shall govern work under this section.

**SUBMITTALS**

Reference the General Conditions of the Contract for submittal requirements.

Reference Section 01 91 01 or 01 91 02 Commissioning Process for Construction Verification Checklist and Functional Performance Test submittal requirements.

**P A R T 2 – P RO D U C T S**

(Not Used)

**P A R T 3 – E X E C U T I O N**

**COMMISSIONING FORMS**

Commissioning forms are to be filled in as work progresses by the individuals responsible for installation and shall be completed for each installation phase.

Provide a description of the work completed since the last entry, the percentage of the total work completed for the system for that area and the step of installation or finalization.

Circle Yes or No for each commissioning form item. If the information requested for an item does not apply to the given stage of installation for the system, list it as “N/A”. Explain all discrepancies, negative responses or N/A responses in the negative responses section.

Once the work is 100% complete and the responses to each item are complete and resolved for a given commissioning forms group, mark as complete, initial and date in the spaces provided.

Provide copies of the commissioning forms to the commissioning agent 2 days prior to construction progress meetings.

***Edit the individual construction verification checklists and provide additional checklists as needed to reflect the verification requirements of assemblies, components, equipment and systems to be commissioned on this project.***

***DO NOT INCLUDE ANY of the following***

***COMMISSIONING FORMS for PRELIMINARY review. Just edit the list in Part I above and only submit pages 04 08 00-1 through 04 08 00-2 with strikethroughs.***

**CV-04 20 00 – Unit Masonry**

**Identification/Tag: \_\_\_\_\_\_**

**Location:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**A) PRE-INSTALLATION CHECKS**

| **Date** | **Description of Work Performed** | **%**  **Complete** | **Initials** | **Questions (See details below)** | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1)** | **2)** | **3)** |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |
| **❑ CHECKLIST GROUP COMPLETE** | | | | **INITIALS:** | |  | | | **DATE:** | |  | | |

**Question Details**

1. Shop drawings, product data and samples have been submitted and approved.
2. All materials are as designed, specified, and approved.
3. Mock-ups have been done and approved.

**Negative Responses**

| **Group/Item** | **Date**  **Found** | **Found**  **By** | **Location** | **Reason for Negative Response** | **Resolved** | **Date**  **Resolved** | **Resolution** |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | **YES / NO** |  |  |
|  |  |  |  |  | **YES / NO** |  |  |
|  |  |  |  |  | **YES / NO** |  |  |
|  |  |  |  |  | **YES / NO** |  |  |
|  |  |  |  |  | **YES / NO** |  |  |

**B) INSTALLATION CHECKS**

| **Date** | **Description of Work Performed** | **%**  **Complete** | **Initials** | **Questions (See details below)** | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1)** | **2)** | **3)** | **4)** | **5)** | **6)** | **7)** | **8)** | **9)** | **10)** |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |
| **❑ CHECKLIST GROUP COMPLETE** | | | | **INITIALS:** | |  | | | **DATE:** | |  | | |

**Question Details**

1. Weather conditions are acceptable for installation or proper steps have been taken for cold weather installations.
2. Site conditions are in compliance with requirements for installation.
3. Substrate true and level and reinforcing dowels properly placed.
4. Units installed level, true, and plumb
5. Reinforcing, ties, anchors and accessories installed as designed and in correct spacing.
6. Lintels installed as designed with specified bearing lengths.
7. Insulation, flashing, weep holes, cavity drainage and vent materials are installed as designed.
8. Joints are full, tight and solid.
9. Control/expansion joints have been installed as designed and/or as required.

**Negative Responses**

| **Group/Item** | **Date**  **Found** | **Found**  **By** | **Location** | **Reason for Negative Response** | **Resolved** | **Date**  **Resolved** | **Resolution** |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | **YES / NO** |  |  |
|  |  |  |  |  | **YES / NO** |  |  |
|  |  |  |  |  | **YES / NO** |  |  |
|  |  |  |  |  | **YES / NO** |  |  |
|  |  |  |  |  | **YES / NO** |  |  |

**C) CLEANING CHECKS**

| **Date** | **Description of Work Performed** | **%**  **Complete** | **Initials** | **Questions (See details below)** | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1)** | **2)** | **3)** |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |
| **❑ CHECKLIST GROUP COMPLETE** | | | | **INITIALS:** | |  | | | **DATE:** | |  | | |

**Question Details**

1. Cavities clean of mortar droppings and other materials.
2. Final cleaning has been done by method specified.
3. Excess materials removed and exposed surfaces cleaned.

**Negative Responses**

| **Group/Item** | **Date**  **Found** | **Found**  **By** | **Location** | **Reason for Negative Response** | **Resolved** | **Date**  **Resolved** | **Resolution** |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | **YES / NO** |  |  |
|  |  |  |  |  | **YES / NO** |  |  |
|  |  |  |  |  | **YES / NO** |  |  |
|  |  |  |  |  | **YES / NO** |  |  |
|  |  |  |  |  | **YES / NO** |  |  |

**CV-04 40 00 – Stone Assemblies**

**Identification/Tag: \_\_\_\_\_\_**

**Location:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**A) PRE-INSTALLATION CHECKS**

| **Date** | **Description of Work Performed** | **%**  **Complete** | **Initials** | **Questions (See details below)** | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1)** | **2)** |  |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** |  |  |  |  |  |  |  |  |
| **❑ CHECKLIST GROUP COMPLETE** | | | | **INITIALS:** | |  | | | **DATE:** | |  | | |

**Question Details**

1. Shop drawings, product data and samples have been submitted and approved.
2. All materials are as designed, specified, and approved.

**Negative Responses**

| **Group/Item** | **Date**  **Found** | **Found**  **By** | **Location** | **Reason for Negative Response** | **Resolved** | **Date**  **Resolved** | **Resolution** |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | **YES / NO** |  |  |
|  |  |  |  |  | **YES / NO** |  |  |
|  |  |  |  |  | **YES / NO** |  |  |
|  |  |  |  |  | **YES / NO** |  |  |
|  |  |  |  |  | **YES / NO** |  |  |

**B) INSTALLATION CHECKS**

| **Date** | **Description of Work Performed** | **%**  **Complete** | **Initials** | **Questions (See details below)** | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1)** | **2)** | **3)** | **4)** | **5)** | **6)** | **7)** | **8)** | **9)** |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |
|  |  |  |  | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** | **YES**  **NO** |  |
| **❑ CHECKLIST GROUP COMPLETE** | | | | **INITIALS:** | |  | | | **DATE:** | |  | | |

**Question Details**

1. Site conditions are in compliance with requirements for installation.
2. Substrate examined and acceptable.
3. Wall ties, anchoring devices, inserts, and reinforcement properly installed.
4. Flashing, weeps, vents and mortar nets installed.
5. Cavity kept clean of excess mortar for anchored stone masonry.
6. Joints are full, tight and solid.
7. Pattern is per approved samples.
8. Defective or damaged stone masonry has been removed or replaced.
9. Final cleaning has been performed.

**Negative Responses**

| **Group/Item** | **Date**  **Found** | **Found**  **By** | **Location** | **Reason for Negative Response** | **Resolved** | **Date**  **Resolved** | **Resolution** |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | **YES / NO** |  |  |
|  |  |  |  |  | **YES / NO** |  |  |
|  |  |  |  |  | **YES / NO** |  |  |
|  |  |  |  |  | **YES / NO** |  |  |
|  |  |  |  |  | **YES / NO** |  |  |