



Landscape – Irrigation – Supply Line on Structures

Revision and Approval

Revision	Date	Nature of Changes	Approved By
0	04-30-2021	Original Issue	Michael Francis

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Background

This process establishes Structure Construction (SC) responsibilities and procedures for authorization of submittals, quality assurance, materials, and construction of water supply lines through bridges and on the exterior of concrete structures.

Review and installation of water supply lines is generally administered by the Resident Engineer. SC staff assist the Resident Engineer with field inspection as agreed upon when water supply lines run through bridges or are to be attached to concrete structures, pipe casing installation, welding, flexible expansion connectors, payment and coordination with Buy America requirements. SC verifies the hangers and brackets that attach the water supply line to the structure are consistent with contract requirements and that the structure is not damaged during the installation. Water supply line connections at abutments and hinges deserve special attention as flexible joints present more risk to water supply line integrity.

Prior to reviewing this Bridge Construction Memo (BCM), it is essential to review the [Contract Specifications](#), Section 20-2.13, *Landscape – Irrigation – Supply Line on Structures*, that this BCM is based on as identified in the title block above. The information in the contract specifications typically will not be repeated in the text of this BCM.

Process Inputs

1. Water supply line submittals including:

- a. Submittal for temporary casing supports at abutments
- b. Submittal for hanger details for permanent water line attachments on bridge concrete surfaces
- c. Submittal of manufacturer data for material incorporated in work

Procedure

1. All work associated with this process is charged as [Project Direct – Construction](#).
2. Inspection of field work for this process is:
 - a. [Intermittent](#) for installation of the water supply line.
3. Before construction begins:
 - a. Review the:
 - i. Contract documents to verify the details are constructable on the exterior of the structure or through it.
 - ii. As-built plans and field conditions for conflicts. See [Attachment 1](#), *Potential Issues to Look for When Reviewing As-Built Drawings and Field Conditions*.
 - b. Discuss with the RE the installation work schedule.
 - c. Consult with the District Landscape Architect (as needed).
 - d. Verify that material submittals meet specified material requirements and the Buy America requirement.
 - e. Authorize or reject submittals by notifying the contractor in writing including:
 - i. For welded steel casing, the SR authorizes shop drawings for the temporary support of casings at the abutments per Standard Specifications (SS) 20-2.13A(2)(c), *Landscape – Supply Line on Structures – Materials – Installation*, and [BCM 70-7](#), *Miscellaneous Drainage Facilities – Casings for Bridges*
 - ii. Collaborate with the Structure Designer and District Landscape Architect for review and authorization of the submittal for:
 1. More than 4 Inch supply line through the Structure Design Documents Unit.
 2. Less than 4-inch supply line the review is by SC field personnel.
 - iii. Update the project submittal log.
 - f. Prior to installation, review the *Construction Manual*, [Section 6-2](#), *Sampling and Testing – Acceptance of Manufactured or Fabricated Materials and*

- Products*, to determine if materials are released by Materials Engineering and Testing Services (METS) or field released by SC. If field released:
- i. Materials are accepted by certificate of compliance.
 - ii. Materials accepted are on [Authorized Material List](#).
- g. If required, review and comply with Section 1-29 of Attachment 2, *SC Staff Responsibilities for Performing Standard Construction Activities*, of [BCM A-1](#), *SC Staff Responsibilities for Processes Owned by Others*.
4. During construction:
- a. Verify work is completed in accordance with the contract documents, authorized submittals, and manufacturer's recommendations.
 - b. Verify flexible connections are installed per plans and are functional.
 - c. Prior to placing concrete, verify:
 - i. Water supply line pipe hanger attachments for alignment and consistency with the requirements of the contract documents.
 - ii. Pipe casings are installed in abutments and bent caps in accordance with the contract documents.
 - d. For existing structures:
 - i. Verify no damage to reinforcement or prestressing from water supply line pipe hanger bracket anchors.
 - ii. Verify drilling will not damage the structure.
 - e. Prior to accepting work:
 - i. Verify passing pressure test; consider:
 1. Contacting the District Landscape Architect for assistance (as needed).
 2. Early pressure testing, which is recommended in case leak repair is needed.
 - f. Document all inspection, construction, and quality assurance activities, pertinent to this BCM, in the daily reports per [BCM C-7](#), *Daily and Weekly Reports*.
 - g. Record any changes to the as-built plans.
 - h. File certificate of compliance for field released material with [Form CEM-4102](#), *Materials Inspected and Released on Job*.
5. File all test results and daily reports in the appropriate category in the project records as specified in the *Construction Manual*, [Section 5-1.02](#), *Contract Administration – Project Records and Reports – Organization of Project Documents*.

Process Outputs

1. Authorized submittals
2. Materials certification documentation
3. Daily reports
4. As-built plans

Attachments

1. [Attachment 1](#), *Potential Issues to Look for When Reviewing As-Built Drawings and Field Conditions*