

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
VIDEO INSPECTION OF UNDERDRAIN

CFS:DMG

1 of 2

APPR:TWK:DBP:05-27-21
FHWA:APPR:05-27-21

a. Description. This work consists of video inspection of all underdrains installed under this contract and furnishing photographs and a documented written record of deficiencies revealed during the inspection. This work includes any labor required to expose and backfill structures that may have underdrains tapped into them.

b. Materials. None specified.

c. Construction. Perform video inspection of all installed foundation underdrain, bank underdrain, subbase underdrain, subgrade underdrain, open-graded underdrain, underdrain outlets and outlet endings. Conduct the video inspection in the presence of the Engineer. The Engineer reserves the right to conduct quality assurance video inspection at any time.

Ensure video inspection of all underdrains within the pavement structure is conducted after trimming for final grade but prior to paving unless approved otherwise by the Engineer. If corrective actions are necessary, the Contractor must return the location to its original condition at no cost to the contract. This includes the subgrade and entire pavement structure or other impacted locations.

Conduct video inspection of foundation underdrain after at least three feet of backfill has been placed, compacted, and accepted.

Conduct video inspection of bank underdrain after the items of work for turf establishment have been completed and accepted.

Use a pushrod type camera system designed and constructed for inspecting small diameter pipe (4 inch and 6 inch) that are typically installed as underdrain. Ensure the camera is equipped with lighting and is underwater operation capable of producing picture quality satisfactory to the Engineer. Ensure the camera system is capable of inspecting underdrain runs up to 450 feet in length. The system must utilize a compatible sonde to facilitate the location of the camera during video inspection.

Submit a written log documenting the locations of the inspected drain outlets installed on the project to the Engineer. Ensure the drain outlet log includes locations for the underdrain outlet endings and those tapped into structures. Provide a written log including photographs of damages or installation defects discovered during the inspection and the measured distance of each of the deficiencies from the outlet ending or structure.

1. Deficiencies. The Engineer will require corrective action, including excavation and repair or removal and replacement of the underdrain or underdrain outlets, if video inspection reveals any of the following deficiencies:

- A. Crushed pipe (camera cannot advance),
- B. Separated joints,
- C. Plugged underdrain or underdrain outlet pipe,
- D. Standing water greater than half the pipe diameter for greater than 10 feet,
- E. Other defects in materials or workmanship as determined by the Engineer.

2. Corrective Action. Ensure the Engineer approves the repair or removal and replacement method before beginning corrective action. Complete corrective action as approved by the Engineer.

Complete the following corrective action at no additional cost to the contract:

- A. Excavate;
- B. Repair or remove and replace defective underdrain, underdrain outlets and outlet endings;
- C. Backfill excavated areas;
- D. Replace and compact overlying fill, subbase, dense-graded aggregate and open-graded drainage course materials in accordance with the standard specifications and the contract;
- E. Replace geotextile materials as required;
- F. Replace pavement as necessary; and
- G. Video inspect the run after corrective actions are made.

If the finished shoulder material is in place when the Department discovers a deficiency, remove the shoulder material, and replace in accordance with the contract at no additional cost to the contract.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	Pay Unit
Video Inspection of Underdrain.....	Foot