



# Illinois Department of Transportation

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To: Studies and Plans Squads PPM 60-10  
From: James M. Sullivan Revised By: Scott Neihart  
Subject: Treatment of Existing Field Tile Systems  
Date: December 22, 1998 Revision Date: April 1, 2016

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## **PLAN PREPARATION MEMORANDUM 60-10**

The following are our general practices concerning field tile:

Studies and Plans squads should consult the resources listed below to locate existing field tile on projects that may require replacement or relocation of field tile.

- Field books from prior surveys or construction may be available in Surveys Unit or Project Implementation files or microfiche.
- The Final Inspection reports for many older jobs give the locations of added tiles, especially edge drains.
- As-built plans will often indicate the location of tile encountered with a project.
- Local residents and adjacent landowners can sometimes recall locations of existing tiles.
- Drainage Districts should have maps of their systems.
- Depending upon the importance and size of individual tiles, it may be worthwhile to have our Operations forces actually dig up critical locations or to hire a consultant to videotape the lines.

### **When to Include Field Tile Work in Plans**

Field tile work is generally included with jobs requiring significant earthwork.

New construction or reconstruction jobs generally include extensive earthwork and major investments in new pavements. In order to assure maximum benefit of these major efforts, existing field tile systems should be located using exploration trench, and replaced where found within the right of way. However, any field tile in place by permit, or otherwise shown not to have prior rights should be treated as any other utility and adjusted or replaced at its owner's expense.

For other jobs on existing alignments which include reworking of ditches (more extensive than ditch cleaning), the field tile should be located using exploration trench. Inspection wells should be placed near the right of way line for all tiles located by the exploration trench. Existing tiles which do not meet current standards should be replaced under ditches and other earth surfaces. If the

tiles crossing under the pavement are deteriorated, they should also be replaced. Any field tile in place by permit, or otherwise shown not to have prior rights should be treated as any other utility and adjusted or replaced at its owner's expense.

For jobs which include the replacement of across road culverts, exploration trench should be included to find any field tile crossings. If the field tile found in these investigations are not up to current standards, are deteriorated, or are in conflict with the proposed work, they should be replaced. On some cases, it may be necessary to reroute the crossing from underneath the culvert. However, any field tile in place by permit or otherwise shown not to have prior rights should be treated as any other utility and adjusted or replaced at its owner's expense.

Repair for replacement of other field tile may be included on other contracts where there are known deficiencies affecting either the subgrade support for our pavements or the drainage of our highways. This determination will be on a case-by-case basis consistent with the scope of work for each job considered.

Improvement, upsizing, or replacement for causes not listed above will be the responsibility of the Drainage District or other entity having jurisdiction of the tile.

### **Outletting in Ditch vs. Maintaining Closed System**

In many cases the choice of outletting to our ditch or maintaining closed flow underground will be dictated by the relative grades of the tile and ditch. Whenever possible, underground water should be kept underground, and surface water should be kept on the surface.

### **Applicable Details and Special Provisions**

District CADD Detail "61101011A - Field Tile Systems (Treatment of Existing)" is to be used when field tile work is anticipated on a contract. It should be used in conjunction with District Special Provision "Treatment of Existing Field Tile Systems." It is the District's intent to show and describe treatments that may be consistently used in this work.

### **Items of Note and Emphasis**

Pipe sizes from 4 inch through 8 inch are reintroduced, and allowed to be used both for Storm Sewer, special and Storm Sewer, Protected. Exploration Trench should be included to cover the areas of ditch work. There should be adequate length of exploration trench quantity to cover all new or re-cut ditch lengths along one side of the alignment, and additional allowance to find crossing tiles on the other side of the pavement (at least 100 ft. per drainage swale).

Junction chambers are described with reference to standard drawings. Wherever possible, these items should be used. Remember to use Trench

Backfill in the same manner as for other storm sewers. A typical headwall outlet is shown. The designer and resident should remember to address ditch linings as appropriate. Where existing tiles are abandoned under pavements or paved shoulders, it may be necessary to fill the abandoned tile with grout. This is more likely if the tile is large (greater than 8 inch diameter), and/or in poor condition. If the tile is small, is sound, or is already packed full of sediment, the probability of its collapse or infiltration is smaller and poses less risk to undermining our paved areas. If visibility of the inspection wells is a concern, consideration can be given to placing a delineator post with orange painted top adjacent to the inspection well.

There should not be changes in pipe materials or sizes between structures or concrete collars. The entire run of pipe between collars and/or structure should be the higher designation (Storm Sewer (Protected taking precedence over Storm Sewer, Special) occurring in that run and of the highest type (based on depth of cover).

Token quantities should not be included in the plans. If sizes and locations of existing tile are known appropriate pay items should be included in the plans to locate, repair, and/or replace them. If the sizes and locations are now known, then adequate quantities of exploration trench should be included. Agreed unit prices for the various pay items will then be negotiated by Project Implementation.

Tile complaints received by any bureau should be coordinated with the Bureau of Operations. The final action decided upon should be based upon as much history of the particular situation as possible.

- a. Permit – usually delineates the maintenance responsibility.
- b. Agreement – drainage district, municipality, county, township, or private party.
- c. Highway Plans – original and subsequent improvements give some idea of tile's location and origin.
- d. Field Investigation – could reveal poor connections or other roadway features leading to present problem.
- e. Utility Construction – often another party failed to properly repair damage.

Field tile that do not directly benefit highway drainage by means of a catch basin, etc. are not considered to be the Department's maintenance responsibility. The Department's position on field tile is similar to that of other utilities. It is the responsibility of the owner to repair any non-functioning existing tile, and a permit will be issued. If a catch basin, etc. is connected, shared responsibility may exist.

The Bureau of Operations may provide assistance by locating the problem and doing minor repair or cleaning work on a case-by-case

basis. These repairs are done for safety and convenience of motorists and are intended to avoid undue delays in repairing a highway hazard. The tile repairs are always done with the understanding that they are not the Department's responsibility.

Exceptions to the above guidelines should be evaluated on case-by-case basis.

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