



## FDM 18-10-1 Overview

February 28, 2007

This section describes the major utility coordination activities needed during the development of a highway improvement project. Utility coordination is the same for both compensable and non-compensable utility work until the time compensable utility parcels are identified.<sup>1</sup> The degree of utility coordination needed depends on the nature and extent of the highway improvement work.

As the complexity of a highway improvement project increases, the severity of impacts on utility facilities becomes greater. Seven general levels of improvement projects are classified in the Six-Year STH improvement program: Resurfacing, Pavement Replacement, Reconditioning, Reconstruction, Expansion, Bridge Rehabilitation, and Bridge Replacement<sup>2</sup>. Regardless of the proposed level of improvement of a project, it is essential that a general knowledge of the types and locations of all utilities within the project limits be obtained. Then, as the project is being developed, a more complete and detailed knowledge about the utilities will be required depending on the level of the improvement. A detailed field survey of utilities and coordination with utility representatives is essential wherever the surface of the land is being disturbed.

Resurfacing and pavement replacement projects may have work in localized areas that could affect utilities. This may include: elimination or shielding of roadside obstacles, culvert replacements, signals, signing, spot curb and gutter replacement, and intersection improvements.

Reconditioning projects may include improvement of an isolated grade, curve, intersection, or sight distance problem; changing the subgrade to widen shoulders or to correct a structural problem; replacing or expanding existing storm sewer systems; grading ditches and slopes to improve drainage or flatten vehicle recovery areas; adding parking lanes; or reconstruction of less than 50% of the length of a project. All of these activities could affect utility facilities.

Reconstruction projects rebuild both the pavement and subgrade of an existing highway. This includes flattening of grades, improvement of curves, widening of the roadbed, storm sewer installation, and drainage improvements. These projects often have an extensive impact on utility facilities. Utility coordination from the very beginning is especially important for reconstruction projects since more lead time is needed by both utilities and the highway agency to make the necessary arrangements. Early and regular discussions between utility and highway design staffs may help to minimize the cost of conflicts by considering existing utility facility locations when making highway design decisions. Detailed field information along with an understanding of the impacts on and related costs of utility facilities is required. When new right-of-way is being acquired, utility relocations from within the new right-of-way may require extensive negotiations with reimbursement agreements and release of rights documents needed.

Expansion projects include the same types of work associated with reconstruction projects, but also involve the construction of additional through travel lanes, and may include construction of an entirely new street or highway on new alignment. Utility coordination on these projects is very important and, like reconstruction projects, should be part of the decision making process from the beginning of the project. The impact of utility coordination on highway design becomes increasingly important, both economically and in relation to project scheduling, as the degree of conflicts and the complexity of the highway project increases.

When the highway is being upgraded to a freeway, additional utility coordination efforts are required because of the more restrictive accommodation policy requirements for freeways. This requires additional lead time and some major facility relocations may require review and approval from the Public Service Commission or other outside regulatory agencies.

Bridge Rehabilitation projects include the repair, restoration, widening, or replacement of the components of an existing structure and any ancillary improvements for drainage or bridge approaches. The complexity of utility coordination on these projects will vary. If a utility facility is attached to the structure, coordination efforts could be considerable. The designer must also consider construction equipment operations, such as crane placement and operation with regard to the locations of existing overhead utility lines. Temporary utility line relocations or shutdowns of lines may be necessary during construction operations.

Note: as stated in the WisDOT Guide to Utility Coordination, (<https://wisconsindot.gov/Pages/doing-bus/eng->

<sup>1</sup> See [FDM 12-10-1](#) for descriptions of the three types of compensable utilities.

<sup>2</sup> See [FDM 3-5-2](#) for definitions and additional information.

[consultants/cnslt-rsrcs/util/default.aspx](#)), WisDOT discourages the attachment of utility facilities to highway structures.

Bridge Replacement projects are the building of a new bridge at the location of an existing structure or at a new location. These projects are similar to Bridge Rehabilitation projects with respect to crane operations and attachment of utility facilities on the existing bridge. Additional conflicts are possible when a new location is involved.

Although local rural highways and roads are generally constructed to lower standards than state highways, the level and type of improvement, not the class of highway, should govern the extent of utility coordination performed. There are differences in the utility coordination process between state highway projects and local road and street projects. These differences include who performs specific functions of the utility coordination process, not whether the function needs to be performed.

Note: Designers should remember that s. 84.063 stats, and TRANS 220 apply only to state trunk highways.

Where consulting engineers are employed by local units of government to prepare highway plans, the local highway officials rely heavily on the consultant to take the lead and provide technical expertise and guidance in coordinating their plan development with utility companies. While on state highway projects, whether designed by a consultant or not, the utility parcel negotiation and acquisition process is normally done by WisDOT. On local projects this is the responsibility of local officials.

[Attachment 1.1](#) and [Attachment 1.2](#) show graphically the coordination steps involved in highway project development. [Attachment 1.1](#) shows a flow chart of the general utility coordination process on state trunk highway projects. [Attachment 1.2](#) shows a flow chart of utility coordination on local projects.

## **LIST OF ATTACHMENTS**

<a href="#">Attachment 1.1</a>	General Utility Coordination Process on State Highway Projects
<a href="#">Attachment 1.2</a>	Utility Coordination on Federal/State Funded Local Unit Projects

## **FDM 18-10-5 Annual Utility Conference**

*December 30, 2004*

The first opportunity utility representatives may have to learn about future highway improvement projects is at the Annual Utility Conference conducted by each region. The conference should be viewed as a forum for exchange of ideas and concerns as well as a means of supplying information about future improvement projects. All utility companies operating within the region should be invited. Consulting engineering firms, county and local officials, and interested central office and Federal Highway Administration staff should also be invited.

Region representation ideally should include personnel from all region functional areas so that they may hear of the concerns of the utility representatives and provide answers to their questions.

A highway improvement program booklet should be prepared and distributed to conference attendees. This booklet should contain the following information.

Project location maps -

Project related data -

- Project I.D.
- Type of work
- Anticipated need for new R/W
- When R/W acquisition is expected to begin
- When plans are expected to be available
- When project is expected to be ready to let to contract

Most of this information can be obtained from the region's detailed project development scheduling system. Other good sources of information are the approved Six Year Highway Improvement Program and other federal-aid and state-aid county and local road programs.

A number of projects in the state administered highway program are initiated and sponsored by local units of government. In addition, as a matter of courtesy to the local units of government, local officials should be encouraged to present information on projects funded and administered by their agencies.

Highway program booklets should include information about projects as far out in the program as they can be identified. It is a good idea to include upcoming or ongoing corridor studies and other long-term study areas. An

opportunity for discussion and questions should be provided.

In addition to the highway programs, special topics may be presented. These may include new policies and procedures, special problem areas, or utility company presentations.

Questions and comments by utility representatives should be encouraged in order to improve the spirit of cooperation and in order to clarify, standardize, and streamline utility coordination procedures.

## **FDM 18-10-10 Obtaining General Utility Information**

*February 28, 2007*

### **10.1 Sources for Utility Information**

Each region should develop and maintain a file of information about private and municipal utilities operating in their region. This information is essential to the smooth operation of the utility coordination process. There are many sources available for this file. Some sources can provide general information on an area-wide basis while other sources can provide information on a specific project basis. Information may be in the form of service area maps covering a utility's entire territory or detailed construction maps of a specific segment of the system. Both general and specific information are useful depending on the situation. Computer data bases may be used to organize detail of specific locations of facilities.

#### **10.1.1 Public Service Commission**

The Public Service Commission maintains records on the location of individual utility companies which they regulate, and the extent of their service areas. This may be a source to identify a utility not found by other means.

#### **10.1.2 Statewide Utility Associations**

State associations of gas, electric, telephone, or cable television utilities may be contacted to obtain statewide or regional maps showing service areas or territories by type of utility. The following statewide utility associations are located in the Madison area:

1. Wisconsin Utilities Association, (608) 257-3151
2. Wisconsin State Telephone Association, (608) 833-8866
3. Wisconsin Electric Cooperative Association, (608) 835-9009
4. Wisconsin Cable Communications Association, (608) 256-1683
5. Municipal Electric Utilities of Wisconsin, (608) 837-2263

Please note that not all utility companies belong to the associations.

#### **10.1.3 Local Public Utilities**

Municipalities along a proposed project route may own and operate their own public utilities. Commonly this includes water and sanitary sewer, and sometimes electrical and gas services. There may also be a local independent water or sanitary district established to provide these services. Local officials should be able to provide information on whom to contact.

#### **10.1.4 Records From Utility Permits**

When a utility company applies to the region for a permit to do work on state highway right of way, they identify the type of facility, the specific location of the work using a sketch or detailed plan, and the section, township, range, and county where the work is performed. These permits are kept on file for many years. The information from current and past permits may be reviewed to prepare a list of utility companies in the area.

#### **10.1.5 Field Survey Observations**

As a normal part of the field survey, visible above ground and marked underground utility facilities will be referenced to the survey line. However, the surveyors should be on the watch for unusual features that could give a clue to otherwise unidentified utility lines.

#### **10.1.6 Utility Locating Services**

A One-Call service called DIGGERS HOTLINE has been established through a cooperative effort of a number of utility companies. When a person wishes to have buried utilities in an area marked, they can call DIGGERS HOTLINE. DIGGERS HOTLINE personnel then notify all utility company subscribers of the service who may have facilities in the area. Not all utility companies are subscribers to the service, so it will be necessary to call those who are not. DIGGERS HOTLINE personnel will tell the caller which utility companies they will be notifying.

### 10.1.7 Referrals From Other Utility Companies

Utility companies not only know the boundaries of their territory but also who serves the adjacent territory. Sometimes the wrong utility company is contacted for information. The company contacted will usually provide information about which utility serves the area.

### 10.1.8 Recorded Utility Easements

During the course of conducting title searches for right of way plat preparation, records of utility easements should be found. There may be a separate recorded document or there may be a reference in a property deed, certified survey, or development plat. The boundaries of such easements may be located very precisely or they may be traceable only in general terms. Not all recorded easements are occupied by actual facilities and it may be discovered that an unused easement exists for a utility company that has no facilities elsewhere on the project.

### 10.1.9 TRANS 220 Notification and Required Utility Owner Response

After determining which utility companies may have facilities located within the limits of a state trunk highway improvement project, the utility owner must be notified in accordance with TRANS 220.04. Form [DT1077](#) should be used for this notification (see [Attachment 10.1](#)).

[Attachment 10.2](#), [Attachment 10.3](#), and [Attachment 10.4](#) show sample cover letters that can accompany Form [DT1077](#). Within 60 days of this notification, the utility owner must provide the department with a description and the general location of each utility facility in the vicinity of the improvement.

### 10.2 Request for Utility System Maps

Once the various utility companies are identified, it is important to know the boundaries of their respective service areas. Each utility should provide maps showing the limits of their service area.

As soon as a highway project is authorized for design, all known utility companies should be asked for their maps showing the locations of their facilities near the project. The letter may also request the name of the person who should be contacted at the time facilities need to be field located. This letter may be combined with the invitation to attend the initial kick-off meeting.

### 10.3 Initial Kick-off Meeting

All utility companies who may have facilities in the area of the project should be invited to the initial kick-off meeting. They should be requested to bring along maps showing the location of their facilities along the project if maps have not been received previously. This meeting provides an early opportunity to inform the utilities of the basic concepts being considered for the project. It gives the region an early indication of the types of utilities that may be present. Utility companies have an opportunity to clarify concerns about potentially major conflicts that should be considered when investigating alternate locations or designs for the highway.

Also at this time the region should determine the name and address of the utility representative to be contacted with regard to utility planning, design, acquisition, and construction. Better liaison will be achieved and earlier decisions made if meetings and correspondence are cleared through only one designated contact in the region and in the company.

### 10.4 Use of Utility Company System Maps

From information provided by the utility companies at the initial kick-off meeting, it is recommended that the project designer assemble a composite utility map showing general locations of known utilities along the project. This composite map can be a useful reference as the project is being developed to determine areas of potential conflict. Utility location information shown on the plan must be field located and not based solely on system maps.

The designer should recognize that the accuracy and reliability of utility system maps varies with the type of utility involved. This is especially true for underground facilities.

1. Gas Distribution Mains: Maps generally reference the lines well, with distances shown from the right of way line or existing highway centerline and from side roads.
2. Buried Telephone Cables: Maps generally give only enough detail to indicate if cables are within the project area and whether they are inside or outside the existing highway right of way. There is usually no indication of how far the cable is from the right of way line or the centerline of the highway. Sometimes the drawings are only schematic and do not identify many landmarks that can be related to highway features.
3. Overhead and Underground Electric Facilities: Maps from electric companies are generally drawn to scale and show the location of each pole and underground cable with respect to the right of way line.

Pole maps may have dimensions showing pole spacing and distances from side roads, but generally do not show distances from the right of way line. Underground cables will be shown as either inside or outside the right of way and may be drawn to approximate scale. Some companies have numbering systems for identifying each pole and codes which identify size and capacity of underground cables.

4. Gas and Petroleum Transmission Pipelines: Locations of long distance lines are usually shown only on small scale county maps with about the same accuracy as a highway route is shown. These maps are suitable for spotting the general location on a mosaic or preliminary plan. However, the actual locations are usually well marked in the field.

No matter how accurately the maps locate the horizontal position of a buried utility, they tell little about the depth below the ground surface. Telephone and electric cables and gas mains do not usually have to be laid at a fixed grade or slope like gravity sewers or at a minimum depth below frost penetration to prevent freezing like water pipes. They are usually placed only as deep as safety codes or utility company policies require to provide normal protection from potential damage. The nominal depth is usually 2 ½ to 3 feet. Direct-buried cables can vary widely from nominal depth. Depending on the difficulty of installation, there may be as little as 12 inches of cover over a cable. The only way to know for sure is to have the utility company expose the underground facility and measure its depth.

### **10.5 Utility Coordination Meetings (Preliminary Design Phase)**

Once the project concepts and scope have been determined it is a good idea to invite the affected utility companies to a project meeting. The purpose of the meeting is to exchange information about the proposed highway improvement and how it might affect utility facilities. The utility companies can provide information regarding their facilities that will help the designer to avoid or design around high cost utility facilities and thus minimize the overall project cost. These high cost facilities are design constraints that need to be identified early in the design process. There may be additional scheduling constraints that will affect the improvement project construction schedule. For example, an overhead high voltage electric transmission line may require that pile driving be scheduled in the fall or winter, when electric loads are lower and the transmission line can be temporarily taken out of service.

Notification of the improvement project may affect future utility plans for the area and appropriate design or schedule changes to planned future upgrades can be made to have the highway and utility projects coincide, further reducing costs and inefficiencies. The sharing of information early in the design process is beneficial to both WisDOT and the utility industry.

The activities associated with this meeting can also be part of the Initial Kick-off Meeting. In that case another meeting is not necessary at this time.

### **LIST OF ATTACHMENTS**

<a href="#">Attachment 10.1</a>	Proposed Highway Improvement Notice
<a href="#">Attachment 10.2</a>	Sample Trans 220 Notification Letter
<a href="#">Attachment 10.3</a>	Sample Trans 220 Notification Letter and Invitation to the Initial Kick-off Meeting
<a href="#">Attachment 10.4</a>	Sample Notification for Non-Trans 220 Project

## **FDM 18-10-15 Field Locating and Surveying Utilities**

*December 30, 2004*

### **15.1 Scope of Field Locating**

The extent to which utility facilities need to be field located and surveyed will vary with the scope and complexity of the project. Resurfacing and pavement replacement projects may require utility surveys only at intersections being improved, at storm sewer installations, or where culverts are being replaced or extended. Reconditioning, reconstruction and expansion projects usually require utility surveys the full length of the project. The important consideration is that in all areas where grading or excavation is anticipated, underground utilities should be field located and surveyed. An evaluation of the information provided on the utility company system maps or the composite utility map will be helpful in determining the need for field locating.

It is desirable to collect extra information in areas where upgrading of the scope of the project is possible.

### **15.2 Scheduling Utility Surveys**

Above ground facilities are readily identifiable and easily surveyed. However, surveying underground utilities requires special coordination with utility companies to have utilities marked and surveyed in the most efficient manner.

If utility information will be shown on the plans, it must be field located. A more complete and accurate survey will be obtained if there is little or no snow cover. Scheduling field utility surveys should be done cooperatively by the designer, the Utilities Coordinator, and the Surveys Coordinator. One person should be the contact person for requesting field locating services from the utility companies.

When notified that excavation will begin in an area, utility companies are required by statute to mark all facilities in the required area within three working days. For planning purposes however, where the amount of marking may be quite extensive and where no immediate excavation is expected, utilities are allowed up to two weeks to finish the work. If a more immediate response is needed, direct contact with the utility company representative is advisable.

### 15.3 Standardized Utility Markings

Existing utility lines are marked with color-coded spray paint, lath, ribbons, or flags, as follows:

- Electric--Safety RED
- Sewer--Safety GREEN
- Water--Safety Precaution BLUE
- Communications--Safety Alert ORANGE
- Gas and Oil--High Visibility Safety YELLOW

### 15.4 Surveying Utilities

Utilities may be surveyed by one of two methods; stationing and offset from a marked reference line or angle and distance from control points. Using either method, measurements should be accurate to 0.1 foot. Measurements of this precision are important in order to establish the exact position of the facility with respect to the existing right-of-way boundary and to determine whether the costs to relocate the facility are eligible for reimbursement.

Underground facilities should be measured to the centerline of the cable, conduit or pipeline and associated structures (pedestals, manholes, etc.), with the size of the structure indicated.

When measuring above ground facilities by stationing and offset, their position should be established relative to the existing right-of-way. When measuring by angle and distance from control points, the control points may have no readily apparent relationship with the existing right-of-way. Therefore, measurements should be made to the center of the pole or structure. Computations may then be used to determine the position of the pole or structure with respect to the existing right-of-way line. Poles that appear to be marginally in or out of the existing right-of-way may have to be re-measured from the known location of the existing right-of-way line. Another approach would be to measure to the center of poles and pedestals and add the diameter or cross dimension of the feature in the notes.

Planimetric maps produced from aerial photography often show the locations of utility poles visible in the aerial photography. The aerial mapping process does not provide pole locations sufficiently accurate enough to be used for determining their precise position in relation to existing highway right-of-way boundaries. Symbols representing the pole or pedestal location are centered on the feature and NOT scaled to actual size. Field verification may be needed.

In complex areas and where overhead wires or cables cross the highway, the route of the wires or cables from pole to pole should be shown in the survey notes. There may be a need to determine the elevation of aerial facilities so that existing and future roadway clearances can be checked. (CAUTION: a utility company representative should assist in making the measurements unless indirect measurement methods are used.)

## FDM 18-10-20 Identifying Utility Conflicts

December 30, 2004

It is recommended that all utility data collected on field survey be plotted to scale on a base map which may be used later for plan sheets or right of way plats. This includes all surface structures such as poles, cabinets, pedestals, hydrants, manholes, and valve boxes, as well as underground gas, oil, telephone, electric, cable television, water, sanitary sewer, and storm sewer lines.

Prints of the base map can be used by the designer to see the relationship between the design and the utility facilities, to evaluate possible conflicts, and to help decide how to avoid or resolve the conflicts.

When potential conflicts between utilities and proposed designs are identified, the designer must decide how serious the conflict is and what options are available to resolve the conflict. Sometimes conflicts can be resolved only by relocating the utility facility. However, if conflicts are identified early enough, minor design changes may be sufficient to reduce or eliminate the conflict without any significant increase in project cost or adverse impact on highway function or safety.

Major utility facilities (high voltage electrical transmission lines and poles or towers, large diameter pipelines and long distance communication lines), are very difficult and expensive to move. As long as there are no other constraints, consider designing around them. Similarly, conflicts with less significant utility facilities may be reduced or eliminated entirely by making a minor adjustment to the design along the project.

Some examples of highway/utility conflicts are:

1. Surface and buried utilities in roadway grading areas, ditches, and backslopes.
2. Poles and other above ground facilities within minimum clear zone distances.
3. Buried utility lines around bridge substructure construction.
4. Overhead line clearances where cranes will be used, such as bridge construction or marsh excavation, and minimum required overhead line clearances in fill areas.
5. Buried utility facilities conflicting with new storm sewers and pipe culverts.
6. Location of manhole and valve box castings for paving or resurfacing projects.
7. Driveway reconstruction.

Discuss potential conflicts with utility company representatives to seek input from them on ways to resolve the conflicts. In addition, utility companies will give the designer a rough estimate of possible total utility relocation costs so that the designer can better evaluate the costs of alternatives which involve utilities. The total utility relocation cost should be considered regardless of whether a utility move is compensable or non-compensable.

Through these contacts, the designer will better understand the utility company's problems. The utility company will generally be more receptive to moving their facilities if needed when they have had a part in the plan development. Such a discussion could result in development of a solution that may be advantageous to both parties.

## **FDM 18-10-25 Utility Information on Right-of-way Plat & Plans**

*February 28, 2007*

### **25.1 Title Searches for Utility Easements**

Title searches for land parcels are required to develop a chronological report of encumbrances against a property. All easements on each parcel shall be identified, including utility easements. Utility easements may go as far back as 1920 or before and, since land transfer conveyances do not always include reference to existing easements, title searches for utility easements should go back as far as land records will allow.

Title searches should be made for all land parcels where new right-of-way is anticipated. This should include not only fee title acquisition parcels but also areas of permanent or temporary limited easements or construction permits. Utility companies may have easement rights within all the above areas and a release of rights or Temporary Release of Easement must be obtained from the utility before highway construction may proceed.

See [Chapter 12](#) for additional information on title searches and title reports.

### **25.2 Legal Determination of Existing Right-of-way**

Usually the compensability of a utility relocation will depend on whether or not the existing utility facility is located within the limits of the existing highway right-of-way. Generally the width of existing right-of-way can be established from existing plats or from other records on file. When the exact width of the right-of-way cannot otherwise be defined because no known records exist, s. 80.01(2), stats provides for the presumption that it was initially laid out as four rods wide. This is 66 feet.

In the latter case care should be taken in determining the existing centerline of the right-of-way. It is sometimes difficult to determine that centerline (and the right-of-way boundary) with precision. A small change in the right-of-way centerline may affect the compensability of utilities located near the right-of-way boundary.

### **25.3 Utility Information on Right-of-way Plat**

See [Chapter 12](#) for guidance on how utility information should be shown on right-of-way plats.

Land rights information includes utility purchased easements and other use agreements found in title searches and general utility easements established as part of land platting and certified surveys. The recording information for Utility Easements should be referenced on the plat along with a list of the parcels that are affected by the easement, see [FDM 12-10 Figure 1.8](#). The owner of the land right should be identified.

The above detail on plats is important for successful utility coordination for the following reasons:

1. Utility facilities must be shown with respect to the existing and new right-of-way limits so utility parcels

can be established. This full delineation of utilities makes it easier to determine the proportion of any facility which is within existing right-of-way, within new right-of-way, and outside new right-of-way. This information is needed to establish what part of utility relocation costs are compensable.

2. Because of the sequence of operations in plan development, the plat is the first complete drawing showing proposed alignment and proposed right-of-way in relation to the existing highway. The plat also gives stationing that can be related to the cross-sections. The completed plat and plotted cross-sections provide the basic information the utility company engineers need to start identifying conflicts and determining where they may be able to put relocated or replacement facilities. The timely completion of utility relocation plans makes it essential that utility companies be provided with detailed plans and cross-sections as early as possible. This early start is also important since reimbursable utility agreements on major projects can take a year or more to negotiate.

#### **25.4 Identification of Parcels (Compensable Utility Relocations)**

See [FDM 12-10-1](#) for descriptions of the three types of compensable utilities.

A utility parcel or parcels should be established when information from title searches or other sources indicates that a utility company has an easement, use agreement or other land right or the actual presence of a utility facility within the new right-of-way. The details of identifying and delineating parcel limits on the plat are explained in [Chapter 12](#).

Usually only one parcel is established for each utility company along a highway improvement project. However, there may be situations when more than one parcel will be needed for a utility company. When two adjacent right-of-way plats along the same highway improvement project have compensable facilities owned by the same company, different utility parcels could be used for each right-of-way plat.

If a utility company has two or more types of facilities, such as gas and electric, it is often desirable to assign a parcel number for each type of facility.

If the highway improvement project is divided into a number of highway construction contracts and a utility company's facilities are affected by several of the highway contracts, it may be advantageous to establish multiple parcels for that company with the parcel limits corresponding approximately with the highway contract limits. This way the company and the department can concentrate on reaching agreement on the parcel which is affecting the first highway contract.

#### **25.5 Utility Information on Other Plan Exhibits**

All utility facility type and location information shown the plan sheets shall conform to Quality Level B or Quality Level A as defined in the American Society of Civil Engineers (ASCE) Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data (<http://www.asce.org/bookstore/book.cfm?book=4276>), CI/ASCE 38-02. Briefly, Quality Level B means that all utility location information must be field located. Quality Level A means that horizontal and vertical location as well as facility size and type information must be provided by exposing the structure and collecting the data. See the ASCE Standard Guideline document for additional detailed information regarding data quality levels.

Use Quality Level A whenever underground utility facilities may conflict with highway construction and the utility cannot verify the depth of their facility. Use Quality Level B in all other cases.

See [Chapter 15](#) for guidance on how utility information should be shown on the various types of plan sheets.

### **FDM 18-10-30 Notice and Plan to Utilities**

*February 28, 2007*

At the earliest possible date in the development of a highway project, the region should furnish copies of highway plans to each utility company with facilities on the highway project. These plans should include sufficient detail to allow the utility to evaluate conflicts and determine how they propose to resolve the conflicts. Show the field-located horizontal location of utility facilities on cross sections sent to utility companies. Show vertical locations also, if known.

Stamp the plans "APPROVED FOR DESIGN OF UTILITY ADJUSTMENTS" (rather than "PRELIMINARY" or "PRELIMINARY - NOT APPROVED"), and date. This may reduce concern on the part of utility companies about designing a relocation of their facilities on the basis of these plans.

A cover letter (called "Notice of Potential Conflict"), should outline the basic scope of the project, identify potential conflicts and give dates when the project is scheduled for letting. The utility should be requested to verify the locations and nature of their facilities, make additions or corrections and contact the region to resolve discrepancies. [Attachment 30.1](#) is an example of a Notice of Potential Conflict.



If any utility facilities requiring relocation are eligible for reimbursement, this letter is called a "Notice of Compensable Work". This letter contains the same information as the Notice of Potential Conflict but it should also inform the utility of the extent of their eligibility and the need to prepare appropriate relocation plans and cost estimates. If appropriate they should also be requested to verify the locations of both active and inactive easements and other land interests they hold and, if necessary, provide supporting evidence to substantiate these land interests. The "Notice of Compensable Work" should be written by, or in consultation with the Region Utility Coordinator.

Designers should remember that utility companies that may have to relocate at their own expense should be kept as well informed as the company that may be entitled to reimbursement.

If any of the utility's planned relocation will be on highway right of way, the utility should be advised to submit a permit application as soon as possible.

### **TRANS 220 Project Plan**

For TRANS 220 projects at least one set of the improvement plan suitable for the design of utility facility alterations or relocations must be sent to each utility owner. Use Form [DT1078](#) (see [Attachment 30.2](#)) to transmit the plan. This form should be supplemented with a cover letter such as is shown in [Attachment 30.3](#), [Attachment 30.4](#), or [Attachment 30.5](#). TRANS 220 project plans sent to utility companies shall have the following statement on their title page: "TRANS 220 Project Plan for design of utility facility alterations or relocations."

### **LIST OF ATTACHMENTS**

<a href="#">Attachment 30.1</a>	Notice of Potential Conflict-Non Trans 220 Project
<a href="#">Attachment 30.2</a>	Project Plan Transmittal Form DT 1078
<a href="#">Attachment 30.3</a>	Sample Cover Letter - No Utility Parcel Required
<a href="#">Attachment 30.4</a>	Sample Cover Letter - Parcel But Not Relocation
<a href="#">Attachment 30.5</a>	Sample Cover Letter - Parcel and Compensable Work

## **FDM 18-10-35 Utility Relocation Process**

*December 30, 2004*

### **35.1 Utility Relocation Plan Preparation (Work Plan)**

Although there are differences in the process for compensable and non-compensable utility relocations, there are certain steps that must be taken in either case by the utility company to arrange for relocation of their facilities.

1. The utility staff must determine what must be moved, and how, where, and when it can best be accomplished. This may involve meetings with highway designers, either in the office or at the job site.
2. If a compensable utility relocation is involved, they must prepare and submit to the region the relocation plan and estimate, reimbursement agreement and release of rights documents necessary to execute the agreement.
3. If the relocation is non-compensable, the utility should discuss their relocation plan with the highway designer. Utility relocation plans should be submitted for review if the new facility will be adjacent to or occupy the highway right of way.
4. If portions of any utility relocation are within the highway right of way, the utility must apply for a permit from the region to do the work.
5. For TRANS 220 projects the utility owner must submit a work plan to perform utility facility alteration or relocation work needed to accommodate the highway improvement. The work plan must be returned to the Department within 60 - 150 days depending on the complexity of the project as stated in TRANS 220.05(4). (See [Attachment 35.1](#) for a worksheet that can be used as a work plan.)

### **35.2 Region Review of Utility Relocation Plans**

Region design staff should make a detailed review of utility company relocation plans. The review may include work both within the right of way and outside the right of way, as shown on plans submitted for the parcel agreement and on any plans required for permits.

Examples of items that should be evaluated for any work within the highway right of way or temporary easement areas are as follows:

1. Check the locations of proposed utility facilities against highway plan details to identify potential conflicts that need to be resolved. These details include slope intercept lines, fill heights, private driveways, culvert and sewer installations, structure construction, temporary and permanent stream channel changes, and temporary roads and stage construction.
2. Determine if proposed above ground facilities are within the clear zone established for the project.
3. Determine if new overhead facilities provide adequate aerial clearances in locations where cranes will be working.
4. Determine if above ground facilities are located in areas of intersection vision corners.
5. On freeways and other controlled access highways, determine whether all above ground facilities and access points to underground facilities, are located outside controlled access lines.
6. If the utility plan shows future expansion of their facilities, check the future locations against the highway plans.
7. Jointly with the Region Permits Coordinator evaluate whether the proposed installation complies with the requirements of the department's Utility Accommodation Policy.<sup>3</sup>
8. For TRANS 220 projects, designers must adhere to the process of TRANS 220.05(7) if the owner's work plan is not compatible or reasonable

Conflicts between the highway and proposed utility relocation should be discussed with the utility. The designer should provide any needed assistance to the utility in their redesign.

### 35.3 Utility Coordination Meetings (Final Design Phase)

On some projects it may be appropriate to bring together all utility companies affected by the highway project. The meeting should discuss and plan a workable sequence of utility alterations so that the utility work can be coordinated and, where possible, completed in advance of highway work.

At the meeting the highway designer should explain the improvement project, stressing the areas of potential conflicts. Other WisDOT staff should be involved, as appropriate, to discuss their areas of expertise such as:

- Real estate acquisition progress,
- Unusual items or areas within the project such as sensitive environmental areas, Hazardous material contamination sites,
- Historic sites,
- Any community events that will be occurring during construction and need to be accommodated.

If erosion control or storm water controls are a concern, they should be discussed also. The utility companies should then discuss where their facilities are and what can be done to either accommodate them or to relocate them.

On most reconstruction projects, at least two coordination meetings should be held. The first meeting should be in the preliminary design phase, so that any design constraints caused by utility facilities can be identified. The second meeting should be after the utility companies have received highway project plans and have had enough time to develop their facility relocation plans. By bringing the utility companies together with the highway designer at this stage of the project, proposed relocation plans can be discussed and modifications made to accommodate each other's plans. The coordination meetings can foster joint use or joint trenching among the utility companies, and minor design changes to the highway plans may make the entire project more efficient. The second meeting can help the highway designer understand the intent and sequencing of the utility facility relocations. Any potential conflicts can be identified and resolved before the final work plans are approved.

On large, complex projects additional periodic utility coordination meetings may be required.

### 35.4 Permits

WisDOT has the statutory responsibility to regulate the installation of utility facilities along or across the limits of the State Trunk Highway System (ss 84.08, 86.07(2), 86.16, 182.017). WisDOT issues permits to utilities in accordance with developed policies and procedures. The purpose of the permit is to make clear the conditions under which highway right of way is occupied by a utility and the location at which it is occupied. Information about permit policy and procedure may be obtained from the State Highway Maintenance Manual Chapter 96 "Utility Accommodation Policy", or by contacting the region office.

The Region Operations, Project Development and other affected region sections, should confer on the effects of

<sup>3</sup> NOTE: This policy discourages the placement of utility facilities on highway structures.

proposed utility construction upon the right of way. They should review the application to determine if the location and design of the proposed facility comply with the Utility Accommodation Policy and are compatible with the proposed highway improvement project. Except for the following situations, the region has been given authority by the Bureau of Highway Operations to approve or deny a permit.

Permit applications for utility work which involves freeway or interstate highways, or blasting are forwarded with a recommendation to the Bureau of Highway Operations. They will analyze the permit request and approve the permit as received or as modified.

### 35.5 Early Relocation of Utility Facilities

The goal of the department is to have all utility relocations completed before the highway project is let to contract. For highway projects let during the winter months for work during the next construction season, the utility relocation work should be completed during the prior construction season. The department staff should give the utility companies all the encouragement and assistance possible to accomplish the relocation of their facilities during this prior construction season.

The region staff can encourage early relocation of utilities by:

1. Field staking the highway reference lines and monumenting the new right of way boundaries.
2. Expediting the review and approval of utility permits.
3. Assigning the necessary staff to monitor the installation of new and relocation of existing utilities.

To further encourage utility companies to relocate their facilities in advance of highway project lettings, the department has been authorized by the State Legislature (ss. 84.065) to provide interest-free loans to utility companies to provide "up-front" money for the costs of non-compensable utility relocations. The Region Utility Coordinator or the Design Services Section can provide information and loan application materials to interested parties.

### LIST OF ATTACHMENTS

[Attachment 35.1](#) Utility Worksheet

### **FDM 18-10-40 Utilities Status Report**

August 17, 2020

#### **40.1 Initial Submittal With PS&E**

As part of the documentation to be included with the PS&E submittal to the central office, the region shall prepare a Utilities Status Report (USR) on Form [DT1080](#). A blank copy of the form is available at <https://wisconsindot.gov/Documents/formdocs/dt1080.doc>. The USR is intended to (a) summarize the utilities on the project and (b) report on the status of compensable utility work.

The instructions for completing the USR for state truck highway projects is available at <https://wisconsindot.gov/dtsdManuals/utility/chapter15.pdf>.

On highway projects sponsored by a county, municipality, or other local unit of government, where liaison with utility companies is handled by the local unit of government or by their consultant, the local unit shall be responsible for the timely preparation and submittal of the USR through the region. However, it is still the responsibility of the region to monitor the liaison activities and review the correctness of the information on the USR because the region will be administering the highway construction contract. The instructions for completing the USR for projects sponsored by a county, municipality, or other local unit of government is available at <https://wisconsindot.gov/Documents/doing-bus/eng-consultants/cnslt-rsrcs/util/process-complete-utility-status-report-local.pdf>.

WisDOT uses the USR to certify to FHWA that the project is clear for letting or to defer certification due to the necessary utility coordination arrangements have not been made and/or UTL's or UA's are not yet clear. Where a utility land interest must be acquired, no project will be awarded until the acquisition has been completed.

### 40.1.1 Supporting Documentation Required

The region will need copies of agreements and conveyances or "releases of rights" in order to sign the USR. On state projects, these documents should be in the region files. On local projects, the local unit of government or their consultant must obtain these documents. Copies of these should be sent to the region, either as soon as they are acquired, or with the USR submittal.

### 40.2 Central Office Review

The USR is used by the Acquisition & Services Section to verify that all utility arrangements have been made and that all utility land interests have been acquired. The USR is the basis for certifying to the FHWA that all utility coordination has been completed on projects requiring special review and for proceeding to let all projects.

### 40.3 Revision of Utilities Status Report and Special Provisions

After initial submittal of the USR with the P. S. & E., the region should keep the Acquisition & Services Section informed of any changes in the utility situation that may have an impact on the contractor's plan of operation. A joint evaluation of these changes should be made to determine whether they are significant enough to warrant a change in the USR. If necessary, updated USR information should be provided by a revised form, electronic mail, fax or written memo. A revised utilities special provision should also be provided.

## LIST OF ATTACHMENTS

[Attachment 40.1](#)

[Attachment 40.2](#)

Utilities Status Report

Example - Utilities Status Report

## **FDM 18-10-45 Pre-Construction Activities**

*December 30, 2004*

Utility coordination operations in the region must continue actively between the time the project PS&E is submitted to the central office and the highway construction operations begin. It is recommended that each region assign one person (preferably the Utility Coordinator) the responsibility of monitoring the placement and relocation of utility facilities between submittal of the PS&E and the pre-construction conference.

Activities at this time may include:

- providing additional project information to utility companies
- keeping the Region Construction staff informed of the status of utility relocation activities
- reviewing utility permit applications
- providing copies of and interpreting to construction staff any compensable utility agreements
- arranging for survey crews to mark the highway right of way and reference lines so that utility companies may field locate proposed facilities
- participating in pre-bid meetings, utility coordination meetings, and pre-construction conferences.

## **45.1 Furnishing Final Plans to Utilities**

### **45.1.1 Non-Trans 220 Projects**

When final highway plans are available, the region should send all utility companies complete sets of final plans and draft special provisions that relate to utilities. A cover letter should indicate if there have been plan changes that will affect locations of present or proposed utility facilities. Any such changes must be identified. The utility should be requested to review the draft special provisions and return comments to the region within a specified time period.

### **45.1.2 Trans 220 Projects**

The plans sent to the utilities as part of the [DT1078](#) transmittal should be fairly complete. The utility companies must be notified of any changes to the plans after the DT1078 submittal is sent that may affect their existing or proposed facilities. TRANS 220.05(12) requires that a revised set of plans with the revisions identified be sent to utility companies. Utility companies have 60 days to review the changes and submit a new work plan if necessary. The revised work plan should be reviewed to determine if any changes to the special provisions are

warranted. It should be noted that TRANS 220.06(1) states "*If the department requires additional work to a utility facility after the facility has been relocated or adjusted in accordance with a work plan approved by the department, the department shall bear the reasonable cost of the additional work.*" Failure to notify a utility of changes to the plan could result in the department paying for the adjustment of the utility facility, and a delay to the highway contractor.

When final plans, or revised plans, are sent to the utility the cover memo should include the current scheduled letting date of the proposed highway improvement project. It should also request that any uncompleted utility relocation or adjustment work be scheduled as soon as practicable. If the adjustment is compensable, no utility construction work can be authorized until appropriate agreements are executed between the department and the utility company. They should again be reminded that permits are required for utility work within the highway right of way, and that permit requests should be submitted as soon as possible to avoid a delay in getting approval to begin the work.

#### **45.2 Pre-Bid Meeting**

On complex highway construction projects, a pre-bid meeting may be called to explain to prospective highway bidders the details of the project work. Utility representatives should be invited to the meeting. This will provide an opportunity for them to learn details of the project, including any proposed work-staging requirements that may affect their facility relocation schedules. In addition, they will be available to report on the status of their operations and the extent of their work that will need to be coordinated with the contractor's operations.

#### **45.3 Final Construction Notice to Utilities**

Upon award of a highway project, the region should notify the affected utility companies, and advise them of the name and address of the highway contractor. They should be encouraged to contact the contractor's representative to begin coordinating their activities with those of the contractor and to provide information that may be helpful to the contractor in planning his construction schedules.

#### **45.4 Utility Coordination Meeting (Construction Phase)**

It may be of mutual advantage to meet with all utility companies affected by a highway project. The utilities should discuss and plan a workable sequence of utility removals and construction so that their utility rearrangements can be coordinated with each other and with the contractor's operations.

#### **45.5 Pre-construction Conference**

All utilities on a project should be invited to the pre-construction conference to learn the schedule of the highway project construction and to discuss the status of their proposed relocations. The field contact person for the utility should be encouraged to attend. Attendance at this conference is particularly important for those projects on which the utility cannot work in advance of highway construction but must closely coordinate work operations with the highway contractor. If the utility adjustments on a project are extensive, it may be beneficial to hold a meeting prior to the pre-construction conference attended by the contractor, the utilities and WisDOT. This meeting would be used to discuss in detail the field coordination needed.