



# Traffic Engineering, Operations & Safety Manual

## Chapter 11 Lighting/Electrical/Electronic Systems

### Section 14 Electrical Inventory Numbering

#### 11-14-1 Electrical Inventory Numbering System Guidelines

January 2009

#### GENERAL INFORMATION

In light of recent inventory tools & new methods of tracking existing equipment, the following outlines the use of installation ID numbers for *state-maintained &/or state-maintained electrical equipment* installed in the field & serviced by WisDOT staff. There are multiple reasons installation numbers are used to track installations internally: plan development, signal timing plan development, management of asset inventories, utility service tracking, service reporting, providing locates, etc.

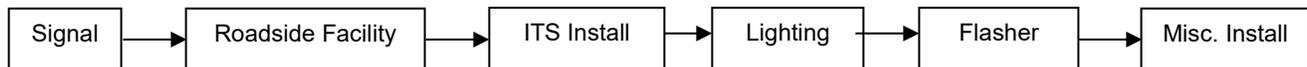
All electrical installations need to be identified by the appropriate alphanumeric codes. The correct format is indicated in [brackets] & is described for each installation described by this memo. If being viewed electronically, clicking on the specific installation indicated below will direct you to the corresponding section of this memo.

<a href="#">Installation ID's for Traffic Operations</a>	<a href="#">Installation ID's for ITS</a>	<a href="#">Installation ID's for Roadside Facilities</a>
1) <a href="#">Signal ("S") Numbers</a>	10) <a href="#">Closed Circuit TV ("CCTV") Numbers</a>	19) <a href="#">Rest Area ("R") Numbers</a>
2) <a href="#">WisDOT Maint Temp Signal ("T") Numbers</a>	11) <a href="#">Dynamic Message Sign ("DMS") Numbers</a>	20) <a href="#">Seasonal Wayside ("W") Numbers</a>
3) <a href="#">Contractor Maint Temp Signal ("TC") Numbers</a>	12) <a href="#">Portable Changeable Msg Sign ("PCMS") Numbers</a>	21) <a href="#">Safety &amp; Weight Enfrmt ("SWEF") Numbers</a>
4) <a href="#">Underground Signal Facility ("U") Numbers</a>	13) <a href="#">Traffic Gate ("GATE") Numbers</a>	22) <a href="#">Miscellaneous Roadside Facilities ("MRSF") Numbers</a>
5) <a href="#">Signal System ("SS") Numbers</a>	14) <a href="#">Ramp Meter ("RM") Numbers</a>	<a href="#">Other Installations</a>
6) <a href="#">Lighting ("L") Numbers</a>	15) <a href="#">Highway Advisory Radio ("HAR") Numbers</a>	
7) <a href="#">Flashing Beacon ("F") Numbers</a>	16) <a href="#">System Detector Station ("SDS") Numbers</a>	
8) <a href="#">Navigation Lighting ("NB") Numbers</a>	17) <a href="#">Vehicle Classification Site ("VC") Numbers</a>	
9) <a href="#">Portable Bridge Signal ("PBS") Numbers</a>	18) <a href="#">Road Weather Info Sign ("RWIS") Numbers</a>	

Questions regarding information contained within this policy can be directed to the Bureau of Traffic Operations State Traffic Signal Systems Engineer, (608) 261-5845.

#### ASSIGNMENT & TRACKING

*Installation ID's will be assigned for each electrical device that requires utility service. A hierarchy based on the primary function of the cabinet is also used. The assigned installation hierarchy from left (highest) to right (lowest) is:*



For example, if a signal cabinet provides service for the associated intersection lighting & an advanced warning flasher, they will all be tracked under the same "S" number. In the example above, the advance flasher & intersection lighting are essentially incidental to the traffic signal.

Unless noted otherwise below, the State Electrical Shop in BTO – Electrical creates & assigns all relevant information regarding installation numbers.

#### INSTALLATION ID's FOR TRAFFIC OPERATIONS

The electrical devices described in this section are considered to be fundamental for traffic control (in addition to signing & marking) on the STH system. The following installations are tracked, designed, operated & maintained by WisDOT BTO & Regional staff.

- 1) **"S" (Permanent Signal) Numbers** – "S" numbers are used for all permanent traffic control signals.

The format for “S” numbers is...[S0000]. The numbering system, represented here by “0000”, applies statewide & is sequential in the order the Regional staff request them of BTO – State Traffic Signal Systems Engineer.

- 2) **“T” (WisDOT Maintained Temporary Signal) Numbers** – “T” numbers *may* be applied to state-maintained installations that typically are not associated with a construction project (i.e. an interim improvement until a grade-separation can be constructed). “T” numbers will provide a tracking mechanism for WisDOT facilities that *may* need field-located or for utility charging.

The format for “T” numbers is...[T0000]. The numbering system, represented here by “0000”, applies statewide & sequential in the order the Regional staff request them of BTO – State Traffic Signal Systems Engineer.

- 3) **“TC” (Contractor Maintained Temporary Signal) Numbers** – “TC” numbers are applied to contractor-maintained installations that typically are associated with a construction project *on the STH system only* (i.e. as interim intersection traffic control along a detour). “TC” numbers will provide an ID for information to be tracked, specifically related to the appropriate maintenance authority for incident response purposes.

The format for “TC” numbers is...[TC-00-9999]. The first two-digit number, represented by “00”, is given based on the appropriate county code. The second four-digit number, represented by “9999”, is applies countywide & is sequential in the order Regional staff assign them.

- 4) **“U” (Underground Signal Equipment) Numbers** – “U” numbers *should* be used when intersections have been constructed with underground equipment such as conduit & pull boxes for future signalization. “U” numbers will provide an ID for WisDOT facilities when responding/referring to locate requests by Diggers Hotline, etc.

The format for “U” numbers is...[U0000]. The numbering system, represented here by “0000”, applies statewide & is sequential in the order the Regional staff request them of BTO – State Traffic Signal Systems Engineer.

- 5) **“SS” (Signal System) Numbers** – “SS” numbers are used to track coordinated signal systems. To do so, individual “S” numbers that comprise the system are related to a unique “SS” number. These ID’s are assigned to internally track the quantity & types of coordinated systems, as well as streamlining service reports. For example, if time clocks are checked at five time-based controllers, only a single service report will need to be completed.

The format for “SS” numbers is...[SS0000]. The numbering system, represented here by “0000”, applies statewide & is sequential in the order the Regional staff request them of BTO – Electrical.

- 6) **“L” (Lighting) Numbers** – Historically, the convention for lighting numbers has been established differently between Regional offices. Some offices tracked lighting for Park & Ride lots as “L” numbers; others were tracked under a “PR” ID. Tracking of high mast & highway system lighting installations created some additional differences.

Any stand-alone highway lighting installations are tracked as “L” numbers. Highway lighting associated with other facilities/installations are tracked under the ID of the primary installation based on the installation [hierarchy](#) described above. Examples of this logic include:

- System highway lighting – tracked by “L” number,
- Isolated intersection lighting – tracked by “L” number,
- High mast lighting – tracked by “L” number,
- Roundabout lighting – tracked by “L” number,
- Park & Ride lot lighting – tracked by “L” number,
- Rest Area lighting – tracked by “R” number,
- Signalized intersection lighting (out of same cabinet) – tracked by “S” number,
- Signalized intersection lighting (out of separate cabinet) – tracked by “L” number,

The format for “L” numbers is...[L0000]. The numbering system, represented here by “0000”, applies statewide & is sequential in the order the Regional staff request them of BTO – Electrical. Intersection lighting installed under permit to the local city, town or village are not tracked.

NOTE: Existing “HL” & “HML” (that represented high mast & highway lighting in some Districts) numbers will be converted to “L” numbers in continued sequential order as described.

- 7) **“F” (Flashing Beacon) Numbers** – “F” numbers are used for all installations of flashing beacons (typically single section signal heads). *Flashing beacons do not include signs with incorporated LED’s (i.e. Blinker STOPS).*

The format for “F” numbers is...[F0000]. The numbering system, represented here by “0000”, applies statewide & is sequential in the order the Regional staff request them of BTO – Electrical.

NOTE: “MF” numbers had been tracked separately due to historic signal maintenance reasons in Milwaukee County (old Transportation District 9). *In the future, flashers in Milwaukee Co. will be tracked as “F” numbers & as described above. Existing “MF” numbers will be converted to “F” numbers in continued sequential order as described.*

- 8) **“NB” (Navigation Beacon) Numbers** – “NB” numbers are used for all marine & aerial navigation lighting. Typically, this lighting is attached to bridge structures.

The format for “NB” numbers is...[NB0000]. The numbering system, represented here by “0000”, applies statewide & is sequential in the order the Regional staff request them of BTO – Electrical.

- 9) **“PBS” (Portable Bridge Signal) Numbers** – “PBS” numbers are used for state-owned, trailer mounted, two-way bridge signals.

The format for “PBS” numbers is...[PBS00]. The numbering system, represented here by “00”, applies statewide & is assigned & tracked by BTO – Electrical.

### INSTALLATION ID’s FOR ITS

The primary responsibility for WisDOT electrical staff related to ITS facilities are for emergency response only. ID’s for ITS facilities are assigned & maintained by the Traffic Management Center (TMC). Work performed by WisDOT electrical staff at these locations is tracked based on the installation type, as described:

- 10) **“CCTV” (Closed Circuit Television) Numbers** – “CCTV” numbers are used to track closed circuit TV installations used for highway surveillance.
- 11) **“DMS” (Dynamic Message Sign) Numbers** – “DMS” numbers are used to track permanent dynamic message signs installations. These installations are not the same as PCMS devices listed below.
- 12) **“PCMS” (Portable Changeable Message Sign) Numbers** – “PCMS” numbers are used to track individual portable change message signs (trailer mounted) that are owned by WisDOT & *may* be deployed by State or County crews. These devices are not the same as DMS installations listed above.
- 13) **“GATE” (Traffic Gate) Numbers** – “GATE” numbers are used to track traffic gates used to perform freeway ramp closures.
- 14) **“RM” (Ramp Meter) Numbers** – “RM” numbers are used to track individual ramp signal installations at freeway entrance points.
- 15) **“HAR” (Highway Advisory Radio) Numbers** – “HAR” numbers are used to track equipment related to highway advisory radio functionality. Such equipment *may* include flashing beacon installations (associated with static information signs) or radio transmitters.
- 16) **“SDS” (System Detector Station) Numbers** – “SDS” numbers are used to track equipment used to collect system traffic data. Such equipment *may* include microwave, video imaging or inductive loops.
- 17) **“VC” (Vehicle Classification Site) Numbers** – “VC” numbers are used to track equipment used to collect vehicle classification data. Such equipment *may* include overhead microwave detectors or inductive loops.
- 18) **“RWIS” (Road Weather Information Station) Numbers** – “RWIS” numbers are used to track equipment used to collect & transmit road weather data.

### INSTALLATION ID’s FOR ROADSIDE FACILITIES

BHM – Maintenance contracts for much of the maintenance activities at roadside locations since they are not critical to highway safety.

The primary responsibility for WisDOT electrical staff at these locations is lighting maintenance only. ID's for roadside facilities are assigned & maintained by BHM – Maintenance. Lighting & any other electrical maintenance performed at roadside facilities are tracked under the following ID's:

- 19) **“R” (Rest Area) Numbers** – “R” numbers (formerly “RA”) are used to track rest area facilities, generally located along freeway routes.
- 20) **“W” (Seasonal Wayside) Numbers** – “W” numbers (formerly “RSP”) are used to track wayside facilities, generally located along conventional highway routes.
- 21) **“SWEF” (Safety & Weight Enforcement Facilities) Numbers** – “SWEF” numbers (formerly “WS”) are used to track weigh scale facilities, generally located along IH routes.
- 22) **“MRSF” (Miscellaneous Roadside Facility) Numbers** – “MRSF” numbers are used to track work performed by WisDOT electrical staff on other roadside facilities. Examples of these installations include: Welcome Signs, Scenic Overlooks, Tourist Information Centers, etc.

The format for “MRSF” numbers is...[MRSF-XXX]. The letters, represented here by “XXX”, correspond to the regional ID as indicated for **“MITS”** numbers above. For example, EAU represents the Eau Claire Regional office.

### RELEVANT INFORMATION

Relevant information for the various installations described above is collected & tracked in WisDOT database systems. This information will generally include the following data fields:

Installation type	RP Number & offset
Owner/Maintainer (State, County, Local)	Regional Office ID
Date unique ID was requested	Intersection/Location
Unique Installation ID	Municipality
Project ID	County

### NON-CONFORMING INSTALLATION ID'S

Existing installation ID's that do not conform the definitions described above will be allowed to remain until that installation is reconstructed or removed from service. These ID's will be included as an alias ID in WisDOT inventory management systems for the purpose of tracking historical information.

### INSTALLATION TYPES

To further aggregate an installation by type, WisDOT electrical inventory systems will have a data field to describe the basic device & function, if needed. For example, L0854 *may* be associated with a roundabout installation on the STH system. In that case the Installation Type will be “Lighting – Roundabout”. The following installation types are used to further clarify the application of the various installation ID's described above.