Addressing Standards

Guide

Prepared by

State of New Hampshire

Department of Safety

Division of Emergency Services

Bureau of Emergency Communications

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Purpose

A central goal of the New Hampshire Bureau of Emergency Communications (BEC) Mapping Department is to eliminate possible confusion for all emergency personnel when responding to an emergency call.

The intention of this document is to clearly catalogue for all parties involved in the addressing process, the standards used by the BEC when formulating addressing recommendations. Time is a critical factor in the delivery of emergency services, and can mean the difference between life and death. A confusing, misleading or ambiguous addressing system could slow response times, possibly with disastrous consequences. To help ensure that New Hampshire emergency calls receive the fastest emergency response possible, the BEC has developed the following addressing standards, because a clear, rational, and unambiguous addressing system will help minimize both response time and errors.

All of the standards found in this document have been adapted from the addressing standards of the National Emergency Number Association (NENA). Many of these standards have been expanded upon to meet the needs of New Hampshire, with its mixture of urban and rural settings, and its sometimes irregular road network. These standards will not address every situation encountered in a given municipality; instead they are intended to serve as a guide through which Bureau personnel will evaluate both typical and atypical situations.

Recommendations

The recommendations the BEC makes using these standards are not binding upon any municipality. In the State of New Hampshire each city or town is responsible for the naming of the roads and the addressing of the buildings within its jurisdiction (RSA 231:133 and RSA 231:133-a). As the naming and addressing authority, the municipality can adopt any naming or addressing system it chooses that does not conflict with the pertinent RSA's. Because the naming of streets and the addressing of buildings are a municipality's responsibility, the BEC can only make addressing recommendations to the municipality. The municipality can then choose to adopt those recommendations or institute some other system of their own devising

In this reference guide, it is the recommendation of the NHBEC to assign addresses using the Odd/Even number location. Whereas, odd numbers are assigned to the left side of the street and even numbers are assigned to the right; increasing with line direction.

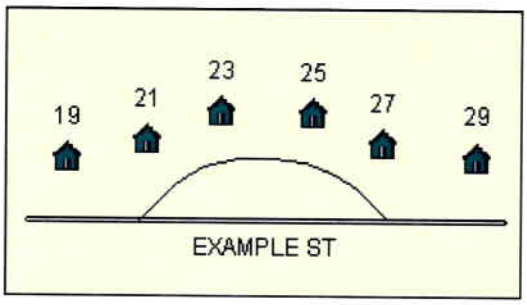
Streets

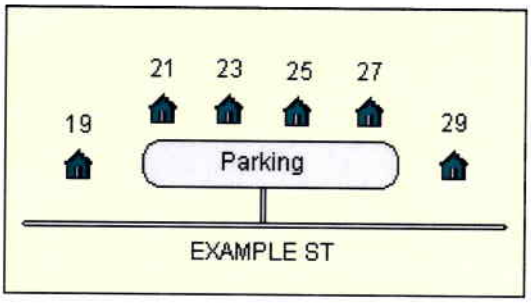
- Roads or road segments that are impassable to vehicular traffic will not be collected and displayed as roads. If a section of road is impassable, creating two separate segments each of which is mutually independent, the BEC recommends that each of these disconnected sections receive its own unique road name

- The BEC recommends that any road, either publicly or privately maintained, which may be traversed by an emergency service vehicle, and provides access to three or more addressable structures, be named and assigned address ranges.

- The BEC recommends that any road which may, through future development, provide access to three or more structures, be named and assigned address ranges.

- Short drives and shared parking areas providing access to three or more structures that are all clearly visible from the main road, and which present no questions regarding the sequence of the structures may be addressed from the main road.





- The BEC recommends that roads within developments that meet the definition discussed above all be named, and that the structures accessed from those roads be addressed on them. Examples of such developments include: industrial parks, condominium developments, apartment complexes, trailer parks, and campgrounds with year round residents.

- In urban areas, driveways providing access to structures that do not have their own road frontage, and which are located behind other addressable structures, should be named and addressed as streets.

- If a road continues through an intersection into diverse directions, the road may only continue in one of these directions. The other road, or potentially roads, would be their own entities requiring separate, unique identifying names.

Street Naming

The BEC recommends that each street within a municipality, meeting the standards discussed previously, be given its own unique road name. If duplicate or confusingly similar street names currently exist in a municipality, the BEC recommends that new names be assigned to prevent confusion on the part of emergency responders.

- Eliminate like sounding, similar sounding, or duplicate road names.

- Avoid family names or individual's names, especially living persons and politicians.

- If the road is continuous, avoid changing names at an intersection or a curve or some other point.

- Do not use the same name with a different suffix (e.g. SMITH RD, SMITH LN).

- A duplicate street name is one in which the main part of the name is shared by more than one street, even if the designators, or directional information is different. Road names can be duplicate even if they are spelled differently when they are phonetically identical. SMITH ST, SMYTH ST, SMITH RD, NORTH SMITH ST, SMITH ST SOUTH, SMITH ST EXT are all duplicate road names.

- A confusingly similar street name is one in which either a large part of the name is shared by more than one street, or the names of more than one street are phonetically similar. OLD COUNTRY RD and COUNTRY LN would be similar sounding road names, as would COUNTRY LN and COUNTY LN and LAUREL AV and LAUREN AV.

- Street names should not contain any special characters such as hyphens, apostrophes, or dashes.

- Street names should not contain any abbreviations. Abbreviations are only appropriate at the end of a street name in the street suffix or designator. RD, ST, and AVE, are examples of acceptable street suffixes or designators. Please refer to the United States Postal Service document entitled *Postal Addressing Standards; Publication 28* for a complete list of NENA approved designators.

- The BEC recommends that continuous streets be assigned only one name for the entire length of the street.

- Avoid the use of directionals and USPS standard suffixes as road/street names (e.g. EAST ST, NORTH BLVD,KEARSARGE MTN RD, COURT ST, AVENUE OF THE PINES).

- All words within the main body of a street name should be spelled out completely and not abbreviated. This includes valid street suffixes and cardinal directions which are part of the main body of the name, rather than modifiers of the street name. Examples of street names which meet this criteria include WEST ALTON MARINA RD (west in this street name refers to the locality of West Alton, rather than the western section of ALTON MARINA RD), FIRE LANE 24 (LANE is not a designator in this situation), KEARSARGE MTN RD (MOUNTAIN should be spelled out).

- Avoid the use of nonstandard street name suffixes which may be confused with subdivisions or commercial developments (e.g. Example Plaza, Example Place).

Address Ranges

Address ranges describe the valid addresses on each side of the street for a given road or segment of road. These are both the addresses which have already been assigned and those which could potentially be assigned in the future. For example, PINE HILL RD has a range of 1 / 2 to 167 / 168. According to this address range the lowest possible addresses are 1 on the left side of the street, and 2 on the right side of the street; the highest possible addresses are 167 on the left side of the street and 168 on the right side of the street. For this range, any numbers between 1 and 168 are valid, but only odd numbers are valid on the left side of the street, and only even numbers are valid on the right side of the street. The side of the street is determined by the direction in which addresses increase (line direction).

Address ranges are a critical component of an addressing system not only because they describe which addresses can exist on a street, but also because they help to form the Master Street Address Guide (MSAG). The MSAG is a data set containing all of the street names in a community, with each street's address range and associated Emergency Service Number (ESN). Accurate and up to date address ranges will help to

ensure that the appropriate emergency service agency is dispatched to a street when the need arises there.

Increment

The BEC recommends that address ranges be created through the use of a distance-based system in which one address is generated on each side of the street for every distance interval (increment). The BEC recommends the use of a fifty (50) foot increment in New Hampshire municipalities.

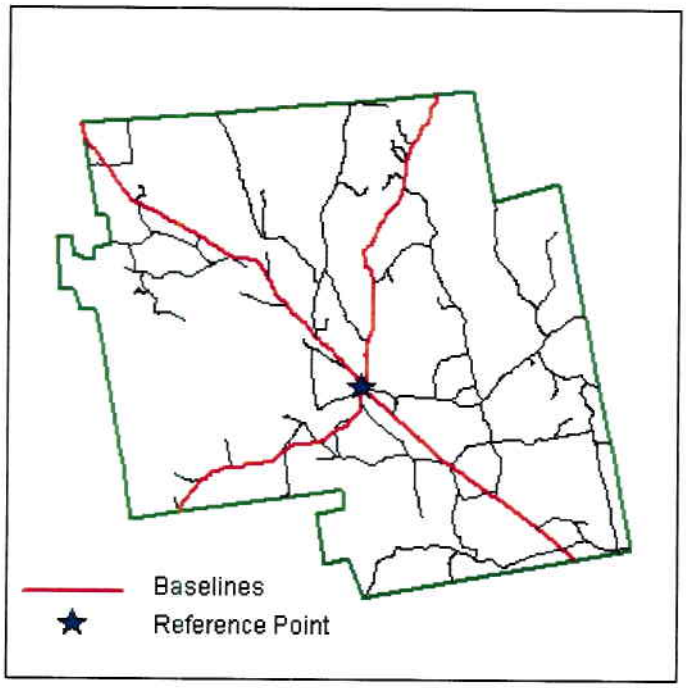
Using a 50-foot increment, a road 4173 feet in length would yield a range of 1 / 2 to 167 / 168. This range was arrived at through a series of simple calculations. First, the length of the road was divided by the increment, 4173 / 50 = 83.46. The quotient arrived at through this calculation describes how many 50 foot increments exist on the road segment. Because there either is another increment or there is not, the quotient, 83.46, must be rounded up to the next whole number, in this case 84. Each increment of road has two sides, an even side and an odd side. To provide each of these sides with its own address, the number of increments, 84, must be multiplied by 2. The product of this calculation, 84 * 2 = 168, is the total number addresses generated for the road.

- In high-density areas where a fifty (50) foot increment will not generate an adequate number of addresses for the number of structures, the BEC recommends the use of a ten (10) foot increment.

Street Numbering

When possible, addressing will radiate out from the center of town, with numbers increasing on a given street as one approaches the municipality's borders. To determine the line direction of any given street, the following process will be used. First, streets will be selected that will form perpendicular axes, called baselines, from which the line direction of many other streets will be determined. If the baselines are two main thoroughfares which cross from one end of the municipality to the other and intersect in the center of town (at a location referred to as the reference point), the BEC would recommend that each thoroughfare be addressed with numbering starting at one border and continuing straight through town to the opposite border. If four separate streets intersect in the center of town to form the baselines with one street extending off in each cardinal direction, the BEC would recommend that addressing radiate out from the point

of intersection (reference point). Line directions for each of these streets would run from the center of town out to the border in each cardinal direction.



In the process of selecting the baselines, a point of intersection where the baselines meet, referred to as the reference point, will be selected. The reference point should occur at a main intersection in the center of the municipality. This point will help to determine the line direction in complicated situations.

Once baselines and a reference point have been selected, each street in the municipality will be placed into a hierarchy. The baselines, which are called first order streets, are located at the top of the hierarchy. The next level of the hierarchy consists of roads that originate at or intersect with one of the first order streets. These roads are called second order streets. Any street intersecting with a second order street, that is not a first order street or another second order street, is placed into the next level of the hierarchy, third order streets. This process of placing streets in a hierarchy will continue until each road has been placed into an appropriate level of the hierarchy.

Each street in a municipality will then be assigned a single parent street. The parent street is used to determine the line direction of each of its children. Each child street will begin its numbering at the parent street with the addresses 1 / 2; numbering will then increase away from the parent street. If more than one street could be the parent to a road, then the actual parent will be selected based upon distance from the reference point. The potential parent street that intersects closest to the reference point, using a straight-line distance and not a road distance, will be selected as the actual parent

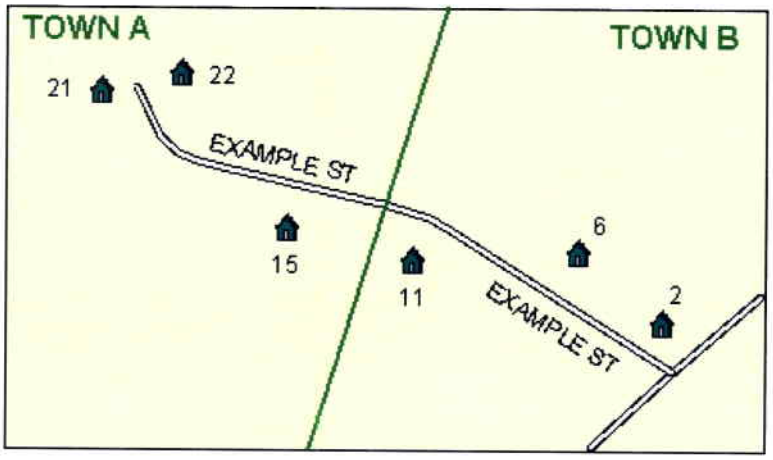
street. However, if one of the potential parents is a US Route or NH Route and the other potential parent is not, then that US or NH Route should be selected as the parent.

Please keep in mind that this process for determining line direction may not be applicable in every town. For example, in some New Hampshire communities the existing network of roads will not support the selection of perpendicular baselines, because most of the roads in the municipality are oriented in only one direction, either north/south or east/west. In situations like these, the process discussed above will be adapted to meet the needs of the community in question.

- Main thoroughfares which cross a municipality will be numbered from one border to another as some baselines are.

- Whenever possible, addressing conflicts will be minimized on roads that continue from one municipality to another, including the continuation of addressing when necessary.

- The BEC recommends that roads beginning in one municipality and terminating in another municipality be named and addressed consistently. The two municipalities should agree upon a single name for the road, and addressing should continue from the municipality where the road originates to the municipality where the road terminates.

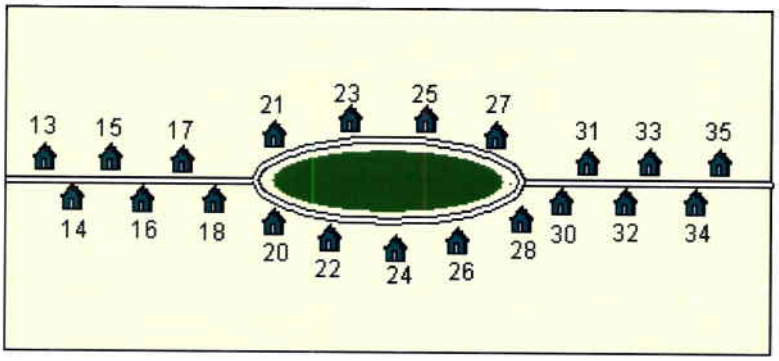


- Streets which form the border between municipalities, or which closely parallel the border will be numbered to prevent the assignment of conflicting or confusing addresses. The street will be addressed as a single unit with the direction of addressing consistent on both sides of the street, one side generating odd addresses, the other side generating even addresses.

- Cul-de-sacs are numbered in a counter clockwise direction.

- Semicircular streets are addressed with numbers increasing in the same direction as numbers on the main street that the semicircular street intersects.

- Roads that split around a central median, park, or common area with traffic traveling in only one direction on either side of park will be numbered and addressed as a single unified road (example: parkway).



Islands

Islands are considered to be land masses that are completely surrounded by water. Each island will be individually drawn and addressed. Addressing for islands can fall into 2 (two) categories:

- If there is only 1 access point to the island the BEC recommends that the main access point to the island be addressed as #2.
- For more 2 or more access points, the BEC recommends that the numbering start at the northern most point and continue counter clock wise around the island in 50 foot increments.

ESN

Emergency Service Numbers are unique three digit codes that identify the dispatch agency or agencies which serve a community. The actual geographic area that an ESN represents is known as an Emergency Service Zone (ESZ). In New Hampshire ESN's do not define which emergency service provider will respond to an emergency; instead the ESN dictates what agency will dispatch calls in a given ESZ. The dispatch agency is then responsible for ensuring that the correct emergency service provider (fire, police, or ambulance service) is sent to an emergency. Because ESZ's and ESN's do not identify the particular emergency service providers responding to an area, they cannot be used to clarify confusing response jurisdictions. It is the responsibility of local dispatch agencies and the municipalities involved to resolve these problems.

Road Classification

The BEC uses its own system of street classification, the purpose of which is to communicate the level of accessibility provided by roads within a municipality. This system does not communicate road maintenance responsibilities.

Driveway	Roads with out either names or ranges displayed solely to clarify access.
Forest	Forest access road.
Interstate	All divided highways regardless of whether they are part of the interstate highway system or not.
Limited	Roads that may be impassable or difficult to access for emergency service vehicles.
NH Route	Any non-divided highway classified as a NH-Route.
US Route	Any non-divided highway classified as a US-Route. If a single road is both a US-Route and NH-Route, it will be classified as a US-Route.
Private	Roads that have been designated as private by a municipality
Public	All roads within a municipality not already designated with another road class
Unclassed	Roads whose classification is unknown, or that have not yet been classified.

Driveways

Driveways are intended solely to communicate the location of addressable structures. Driveways do not have their own address ranges. Structures accessed from driveways must obtain their addresses from the street with which the driveway intersects. If only one structure is accessed from a driveway, that structure will derive its address from the increment where the driveway intersects the street. For each additional structure accessed from a driveway an additional address on the main street will be consumed, either above or below the point of intersection. These addresses will no longer be available for assignment to structures with road frontage. This could result in addressing conflicts between structures accessed from the driveway and structures accessed directly from the road. Because driveways do not have any range, they will not be included in a town's MSAG.

- The BEC recommends that any road, either publicly or privately maintained, which may be traversed by an emergency service vehicle, and provides access to three or more addressable structures, be named and assigned address ranges. Despite the

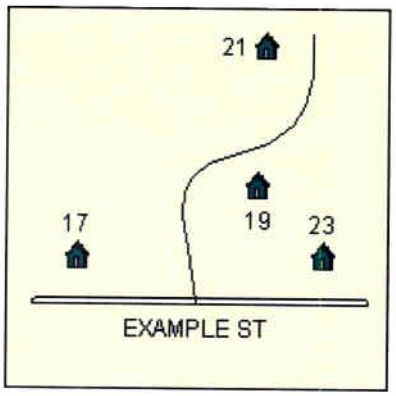
BEC's recommendations, if a municipality chooses not to name a road meeting this standard, the BEC will display this road as driveway and address the structures on it as discussed above.

- If development could occur on a shared driveway in the foreseeable future, bringing the total number of structures on that driveway to three or greater, the BEC recommends that the driveway be named as a road, and that addresses be issued from this newly named road.

- Driveways providing access to either one or two structures will be collected and displayed on the map set at the discretion of the cartographer. Normally these driveways will be collected in confusing areas where access is difficult to determine, or in the case of unusually long driveways.

- When the address range of a road is unable to support the number of structures that are accessed from it due to the presence of driveways with multiple addressable structures, the BEC recommends that the driveways be named and that the structures be addressed from the newly named road.

- Structures accessed from a driveway will be numbered with addresses increasing away from the intersecting street from which the addresses have been derived.



Addressable Structures

Addressable structures are any buildings currently occupied, or which may in the future be occupied, to which emergency services may be dispatched.

- Structures meeting the definition above derive their addresses from the increment where the structure's primary access intersects the road. In most situations, the primary access is the point where the structure's driveway meets the road. In densely populated areas such as town and city centers, the primary access is the front door of the structure being addressed.

- Structures on corner lots that are visible and accessible from two intersecting roads should be addressed from the front door of the building, even when a driveway or side entrance is present on the other intersecting street.

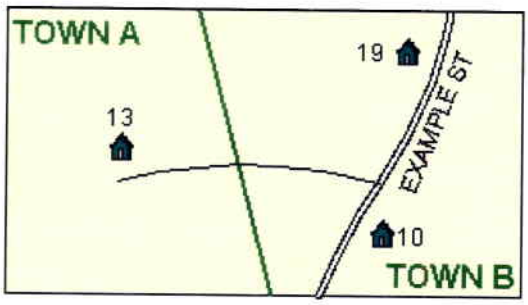
- Structures on corner lots that are visible from only one of the two intersecting roads, but which are accessible from both roads, should be addressed from the road where the structure is visible.

- Structures on corner lots that are not visible from either intersecting road but which can be accessed via driveway from both streets should be addressed from the road higher up the road hierarchy discussed in the roads section of this document.

- Structures accessed from semicircular driveways are addressed at the midpoint between the two driveway accesses, assuming that there are no buildings or build able lots between the structure being addressed and the road.

- Structures are considered to be in the city/town where the building is actually located, even if the access point falls in a neighboring city/town. In these cases, structures geographically located in one municipality but accessed in another neighboring municipality will receive a street address consistent with the addressing system in use where the access point is located. Even though the structure will be addressed using the neighboring town's numbering system, the data for the structure will have the name of the city/town where the structure is located and will receive that municipality's ESN (Emergency Service Number). Even though the street where the building is located lies in a neighboring city/town, a Road segment, a Road Name

record, and an MSAG record must be generated in the city/town where the structure is located for the street providing access.



- Additionally, if the neighboring municipality's road name is duplicate or confusingly similar to a road name in the city/town where the structure is located, we recommend that the driveway be given a road name that is unique to both communities. The structures will then be addressed off the new road name.

- Individual structures within campgrounds, or hotel\motel complexes, will be considered addressable if the structure has a telephone line independent of the main office or building, or the structure is permanently inhabited much like a rental home. If a building within a camp ground, or hotel\motel complex meets one of these criteria, then all individual structures will be collected and addressed using the standards that apply to all addressable structures.

- Addresses should not contain either fractional numbers or letters. The BEC recommends that addresses containing either of these be reassigned a numeric address.

- Types of Addressable Structures

Addressable Structures
Airport
Ambulance
Business
Campground
Cell Tower
Church
Fire
Government
Hospital
Pay Phone
Phone Box
Police
Residence
School

Multi-unit Structures

Structures containing multiple units within one discrete building, regardless of whether the building is residential, commercial, industrial, or governmental, will receive a single address, with each unit within that structure receiving a unit letter designation. Unit letters should increase away from the point of primary access. In large multi-unit structures with more than 5 Apartments, unit designations should be numeric with the first number in the designation indicating the floor of the apartment or at a minimum, some other type of floor designator. For example, in these buildings, apartments on the first floor would receive unit designations between 101 and 199; apartments on the second floor would receive unit designations between 201 and 299.

- Basement floors will receive a floor designation of B with a unit designation between 01 and 99.

- Each discrete building in a townhouse development is treated as a multi-unit structure in which a single address is generated for the building, and each unit receives a unit letter.

- On a case by case exception, row houses, strip malls, or downtown congested store fronts are addressed at the front door of each adjoining unit, and each unit is treated as its own independent building rather than as a part of a multi-unit structure.

- Duplexes are multi-unit structures in which a single address will be generated for the building, and each unit will receive a letter unit designation.

- Within multi-building complexes, each building which meets the definition of an addressable structure should receive its own individual address. The BEC recommends that multiple structures sharing a single address each be reassigned separate addresses (please refer to the next bullet for an exception to this rule).

- Within multi-building complexes, the entire complex will receive a single address when there is a central building or office, upon which all other structures are dependent (hotel with cottages, business with outbuildings). When collecting a complex meeting this description, the cartographer will always collect the main building or office in order to assign a street address. The cartographer may collect the dependent buildings as outbuildings accessed via driveways at the discretion of the cartographer. Collecting

outbuildings is recommended if the dependent buildings are not readily visible or if the route used to access dependent buildings is unclear.

- Each addressable structure should receive a single address. In the event that a single structure has received multiple addresses, the BEC recommends that the structure be reassigned a single address with unit letters issued for each unit within that structure.

- Single discrete structures, which have units that can only be accessed from separate streets with no internal connecting hall, will be treated as though each access is a separate structure receiving its own unique address.

Landmarks

The following features will be collected during the course of field-work. These features will not automatically receive an address by the BEC. They primarily serve to provide a greater context for emergency responders traveling to the scene of an incident.

Features Not Requiring Addresses	Subtypes
Back Country	Campsite, Hut, Shelter, Other
Boat Launch	Private, Public
Boundary	Country, County, State, Town
Bridge	
Cemetery	
Crossover	
Gate	Private, Public
Helipad	
Hydrant	Draft, Dry, Pressure
Intersection	
Mountain Peak	
Outbuilding	Barn, Garage, Workshop, Other
Recreation Area	
Rest Area	Normal, Park & Ride, Scenic
Tower	Cell, Water, Radio, Fire, Other
Trail head	Foot, ORV, Snowmobile

Interstate and Freeway Addressing

Interstates and Freeways, defined as roads that do not have "at-grade interactions", are generally exempt from other addressing standards discussed in this guide.

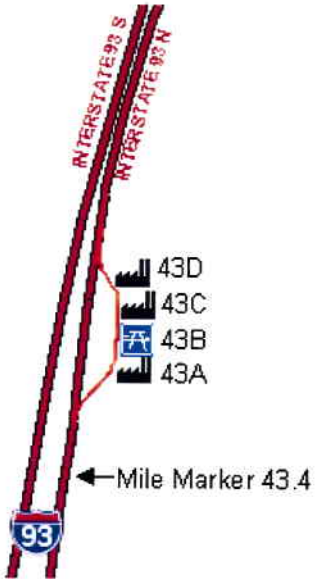
Interstates and Freeways can only be accessed through interchanges, utilizing on-ramps and off-ramps. They cannot be accessed from adjacent properties or cross roads, and under most circumstances have no stoplights or stop signs.

- If an address for a structure is needed, one will be derived from the mile marker at the access point or the start of the off ramp to which the structure is located.

- If there are multiple structures at a location, each structure will share the same address and receive a unique address suffix. The suffix will start with the letter "A" and increment with each additional structure.

- The street name for the address will be the name of the highway followed by the direction.

- The additional location field in the ALI (Automatic Location Identification) record will hold the exact mile marker as well as the highway name and direction.



- Examples of structures needing an address would include rest areas or visitor information centers.

A rest area structure located on I-93 North with an off ramp starting at mile marker 43.4 will have an address of: ***43 Interstate 93 N****.*

If there are multiple structures at this location, they would be addressed as ***43A, 43B, 43C,*** *etc…*

In the example, all four structures would have an Additional Location Field entry of: **I-93 N - Mile Marker 43.4**