

State of New Jersey

NEXT GENERATION 9-1-1 GIS DATA STANDARDS

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1. Overview

Unlike the existing Enhanced 9-1-1 (E9-1-1) system, the Next Generation (NG9-1-1) system will utilize GIS data to route 9-1-1 calls to the correct Public Safety Answering Point (PSAP). This will allow both landline, VoIP, and mobile phone emergency calls to more accurately located and dramatically improve the routing of these calls to the correct PSAP. The existing Master Street Address Guide (MSAG) will be replaced by the GIS Road Centerlines and the Existing Automatic Location Identifier (ALI) will be replaced by the GIS Site/Structure Address Points. Mobile phone locations will be established by the actual coordinate information transmitted by the mobile phone.

The NJ Next Generation 9-1-1 GIS Data Standards (NJ NG9-1-1 GIS Standards) were created to be compliant with the NENA Standard NG9-1-1 GIS Data Model ([NENA-STA-006.1.1-2020](#)) and the requirements of the NJ Statewide GIS Database. The NENA Standard NG9-1-1 GIS Data Model is also compatible with NENA Detailed Functional and Interface Standards for the NENA i3 Solution ([NENA-STA-010.2-2016](#)), Appendix B, Spatial Interface (SI). The Spatial Interface will be used to provision GIS data into a functional element of the NJ Statewide NG9-1-1 system such the Emergency Call Routing Function (ECRF) or the Location Validation Function (LVF).

The NG9-1-1 system will use a location conveyance format known as the Presence of Information Data Format-Location Object (PIDF-LO). The PIDF-LO will represent the location of a device calling 9-1-1 along with civic and geospatial information. The United States version of the PIDF-LO is called the Civic Location Data Exchange Format (CLDXF) Standard ([NENA-STA-004.1.1-2014](#)). The NENA Standard NG9-1-1 GIS Data Model also meets the requirements of the CLDXF.

GIS Data created using these standards will also support legacy E9-1-1 systems and the current MSAG for a locality. This information will utilize the legacy attributes of the NG9-1-1 GIS data to provide the information needed to support existing E9-1-1 implementations until this function is no longer necessary.

The preparation and maintenance of GIS data for the statewide NG9-1-1 system will require a fundamental shift in how 9-1-1 data is handled by 9-1-1 authorities at the local level. No longer will the 9-1-1 data only need to be consistent throughout a given locality. The 9-1-1 data will now have to be consistent throughout the entire state. Ultimately, the 9-1-1 data will even have to be consistent within larger regions of the United States. The local 9-1-1 authorities will need to be willing to adhere to NJ NG9-1-1 GIS Standards, as well as the applicable NENA standards on which it is based. **If local 9-1-1 authorities are not willing to adapt to these standards, emergency calls may not get properly routed to them, neighboring jurisdictions may not be able to assist when needed, and dispatching operations may be adversely affected.**

Properly standardized NG9-1-1 GIS data will enable the following functions within the NG9-1-1 system:

- Enable the proper validation of the NG9-1-1 GIS data with the LVF, before an emergency call is made.
- Enable proper routing of emergency calls to the appropriate PSAP within the ECRF using the NG9-1-1 GIS data.
- Provide information to determine the correct responding agencies.
- Accurate plotting of emergency call locations within the PSAP's Computer-Aided Dispatch (CAD) systems.
- Easier migration of existing GIS data into the NG9-1-1 system.

- Streamline data maintenance.
- Reduce the confusion and ambiguity that may exist in 9-1-1 data.
- Improve the sharing of 9-1-1 data with other agencies.

1.1. Document Terminology

Within this standards document, certain keywords are emphasized as UPPER CASE. Anywhere these keywords are shown as upper case, they have a special significance and are to be interpreted as listed below:

1. **MUST, SHALL, REQUIRED:** These terms are used to indicate an absolute requirement of this standard. At no time is a deviation from that portion of the standard permitted.
2. **MUST NOT, SHALL NOT:** The standards absolutely prohibit what is stated in that portion of the standard.
3. **SHOULD, RECOMMENDED:** There may be a valid reason in particular circumstances to ignore an item in the standards, but all implications **MUST** be understood and carefully weighed before choosing the different course.
4. **SHOULD NOT, NOT RECOMMENDED:** The vast majority of the time, the standard should not be deviated from, but in a particular circumstance it may be acceptable or useful. All implications **SHOULD** be understood and carefully weighed before choosing the different course described by this label.
5. **MAY, OPTIONAL:** Means this portion of the standard is truly optional. This may cause reduced functionality, but it will still work as intended. Interoperability will not be adversely affected.
6. **Data Steward:** The person or persons responsible for supervising GIS data maintenance for a local 9-1-1 authority. The data steward may or may not actually be a staff member of the agency.
7. **Data Maintainer:** The person or persons responsible for performing GIS data maintenance for a local 9-1-1 authority. The data maintainer may or may not actually be a staff member of the agency.
8. **Data Aggregator:** The person or persons responsible for incorporating local 9-1-1 GIS datasets in to the aggregated statewide NG9-1-1 GIS Database. This will be the state or its authorized agent.

2. Unique ID Values

At the present time, the State of New Jersey has not adopted the full NENA Globally Unique IDs (NGUID) method of unique IDs for each record within every layer and table. As part of this Standard, the State of New Jersey is requiring the use of Universally Unique Identifier (UUID) values as the unique ID values in the NJ NG9-1-1 database. A UUID is also known as a Globally Unique Identifier (GUID). A GUID value is 36 character 128-bit hexadecimal unique value (i.e., 2d10b04a-1708-11e3-b5f2-0062151309ff). Any letters will be lower case. They are persistent and will never change during the lifetime of any given database record.

A GUID value must be generated automatically. The local data steward will have to make sure they are created without any interaction by any data editor.

NENA has draft standards for Globally Unique IDs (NGUID) that will consist of concatenated "urn:emergency:uid:gis:[Layer 539 Indicator]:[Local Unique ID]:[Agency Identifier]" where the elements are defined as:

- **urn:emergency:uid:gis** – standardized unique prefix that defines this class of IDs associated with GIS data.
- **Layer Indicator** – the shorter name for the GIS data layer the feature is associated with as defined by the GIS Data Layers Registry in NENA-STA-010 [2]. See section 6.2 in this document for Layer Indicator values.
- **Local Unique ID** – a GIS Data Provider generated “locally assigned ID,” which will be a Universally Unique Identifier (UUID) values, consisting of a 36 character 128-bit hexadecimal unique value, as detailed in the preceding paragraphs.
- **Agency Identifier** – a fully qualified domain name (FQDN) representing the GIS Data Provider, which is an “Agency.” Agency and Agency Identifier are as defined in NENA-STA-010 [2]. The domain name is obtained from any Domain Name System (DNS) registrar.

Each NGUID MUST be unique as an aggregated NGUID following the structure described in this section.

The combination of the Local Unique ID with the rest of the values that construct the NGUID, provides a unique NGUID when multiple GIS Data Provider submissions are aggregated. The NGUID SHOULD be stable for as long as possible, so that it supports the reporting and resolution of errors from a quality control process, including the discrepancy reporting. The consistency of the ID between submissions also assists with managing downstream data sets.

The current NJ NGUIDs consisting only the UUID value will have to be moved to a LGUID field (Local Globally Unique ID) for continued use with the statewide GIS database upon adoption of the proposed draft NENA NGUID standard.

Example NGUID:

urn:emergency:uid:gis:RCL: 2d10b04a-1708-11e3-b5f2-0062151309ff:nortexprpc.org

URN	urn:emergency:uid:gis
Layer Indicator	RCL
Local Unique ID	2d10b04a-1708-11e3-b5f2-0062151309ff
Agency Identifier	nortexprpc.org

3. Horizontal Accuracy and Spatial Reference

3.1. Horizontal Accuracy

The National Spatial Data Infrastructure’s (NSDI) [National Standard for Spatial Data Accuracy](#) at a scale of 1:5000 MUST be met at a minimum. This equates to a Horizontal Accuracy of +/- 13.89 feet with 95% confidence. This is a minimum goal only. All efforts SHOULD be made by the local data steward to achieve the highest accuracy that their funding and resources will allow. There are references elsewhere in this standard to specific layers where a higher degree of accuracy MUST be met. The local data steward MUST follow the accuracy standards for those specific layers where detailed.

3.2. Spatial Reference

The New Jersey statewide NG9-1-1 GIS Database is maintained in NAD 83 NJ State Plane Coordinate System (US Foot). This spatial reference is used to be consistent with the New Jersey GIS Mapping Standard. All GIS data submitted to be included in the statewide NG9-1-1 GIS Database MUST be submitted in this spatial reference.

The LVF and ECRF will use data that is in the World Geodetic System of 1984 (WGS84) coordinate system. The statewide NG9-1-1 GIS data will have to be transformed into WGS 1984 prior to loading into the LVF and ECRF. Elevation in WGS84 is measured as height above the ellipsoid, which varies significantly from height above the geoid (approximately Mean Sea Level). Advice from a geodesist, licensed land surveyor or the spatial interface (SI) provider may be needed to minimize any errors during transformation to WGS84.

4. Data Standardization and Data Format

4.1. Data Standardization

Unlike the present E9-1-1 system, in a NG9-1-1 system data will be aggregated from numerous local 9-1-1 authorities in one statewide GIS database and provisioned into the statewide LVF and ECRF. This requires complete standardization of the data coming in from each local 9-1-1 authority. The standards within this document **MUST** be followed by all local 9-1-1 authorities for the statewide system to function properly.

One method utilized in the NJ NG9-1-1 database to standardize data is the use of [data domains](#) on many of the attribute fields in numerous layers and tables. Within the NJ NG9-1-1 GIS database, there are two types of domains: Coded Domains and Range Domains.

- [Coded domains](#) are a prescribed list of valid values for a field. Only values within this list are allowed in the field.
- [Range domains](#) restricts a value entered into a field to a specified range of values. If a user enters a value that is not within the specified range, the value is not valid.

If the local data steward attempts to use non-standardized values in domain fields, they may be ignored, or NULL values may be inserted in place of the non-standardized value(s). This could lead to issues with location validation, emergency call routing, and interoperability issues between jurisdictions. When a local data steward submits data for inclusion in the statewide NG9-1-1 GIS database, all fields with domains will be validate against acceptable domain values. If non-standardized values are found, they will be flagged as an error. The local data steward will have to correct these errors prior to acceptance of the submitted data into the statewide NG9-1-1 GIS database.

In all layers and tables, each attribute field has one of three ratings: (M) Mandatory, (C) Conditional, or (O) Optional. Each rating is explained below:

- **Mandatory** – The field **MUST** be populated with a valid value for each record. The field cannot be blank or NULL. *As an example, all street segments will have an Address Range Parity value for both sides of the street. The value will be either Odd, Even, Both or Address Range 0-0.*
- **Conditional** – If a valid value exists for a field within a record, then the value **MUST** be provided. If there isn't a valid value in a field for a given record, then the field **SHALL** be left NULL. *As an example, if a street segment is not a highway, then the Highway Shield Number field will be NULL.*
- **Optional** – The local data steward has the option of providing a value in the field for a given record. *As an example, the local data steward may populate a Neighborhood Community value for one or both sides of the street, but they do not have to provide one. If the local data steward decides not to provide a value, then the field **MUST** be NULL.*

4.2. Data Format

While it is not required for a local 9-1-1 authority to maintain their data in the exact format of the NJ NG91-1 GIS Database, the local data steward will have to meet all the NJ NG9-1-1 standards when they export their data for inclusion within the statewide NJ NG9-1-1 GIS Database. This means the data for submission will have to meet at least all the following standards:

- Layer and tables names
- Attribute table field names
- Attribute field data types
- Attribute field size
- Include at least all Mandatory and Conditional fields with values populated where required by this standard.
- Optional field values populated by local data steward.
- Valid values for fields with a domain attached

The State of New Jersey has an NJ NG91-1-1 Esri file geodatabase template available that meets the NJ NG9-1-1 GIS Database standards that can be provided upon request.

The local 9-1-1 authority's data steward can also use the *NJ NG91-1-1 Esri file geodatabase template* to maintain their local data and submit updates manually if that would better meet their needs. The state has provided automation tools within the template that will help with the population of the GIS data.

5. GIS Data Layers and Tables

There are three types of vector GIS data layers that make up the NJ NG9-1-1 GIS database. Layers are distinct data that represent set of features with an attribute table to store information about that set of features. These types are:

- Points – Individual locations like an address, cell phone tower or milepost sign.
- Lines – Linear feature like roads, streams, and railroad lines.
- Polygons – Areas like a PSAP coverage area, state, county, or municipality.

There are also attribute tables only that have no geographic or spatial representation but contain valuable information like street name aliases that are linked to a road centerline segment or Alias landmark names that are linked to an address point.

Unlike the existing E9-1-1 system currently used throughout New Jersey, the NG9-1-1 system will require the creation and maintenance of uniform GIS data by every local 9-1-1 authority. In the current E9-1-1 system, GIS data is usually contained within a specific region. In that case, the GIS data only needs to be consistent within the specific region.

In the NG9-1-1 system, GIS data will be aggregated into the statewide GIS database and the statewide LVF and ECRF for 9-1-1 call routing. Neighboring jurisdictions may also need to access the same information during disaster or overload conditions. This now makes it critical that all NG911 GIS data is standardized for the entire state, not just an individual jurisdiction. **Without standardization, the NG9-1-1 system will fail!** It is also critical to the NG9-1-1 system that the GIS

data is accurate and up to date. If the GIS data is not updated continually, emergency calls may not be properly located and properly routed to the correct PSAP.

Several of the important feature classes and tables (datasets) that will be maintained by the local 9-1-1 authorities are also key portions of the NJ statewide GIS data framework. These datasets not only have to meet all NENA NG911 GIS data standards. They will also have to meet further NJ GIS data standards for these datasets. All the NJ framework GIS Data Standards for these datasets is detailed in this document. The affected feature classes and tables are:

- Road Centerlines
- Address Points
- Street Name Alias Table
- Complete Landmark Alias Table

It is very important that the framework GIS datasets that will be used for NG911 are identical to the statewide GIS database that is used outside of the NG911 process. The framework GIS datasets are also used for many different purposes beyond the needs of the NG911 LVF and ECRF functions. The framework GIS datasets are used by many state agencies, local government agencies, as well as federal government agencies, private companies, and the public at large. It is very important the State is only aggregating and producing one identical set of the statewide framework GIS datasets that will be used for all purposes to reduce overall costs, eliminate data redundancy, and issues from different representation of what is supposed to be the same information.

Similar to many states that have implemented NG9-1-1 GIS data standards, the State has included attribute fields within the NJ NG9-1-1 GIS database that are required for the proper functionality of the statewide GIS database’s framework data. These fields are detailed within the section on each dataset. Many of these attribute fields also improve the functionality of the GIS data’s use for 9-1-1 purposes.

Extensive validation checks will be run on all the submitted GIS data, and the GIS data will corrected if it does not pass these validation checks. See Appendix XX for an explanation of the validation checks that will be used to validate the submitted data.

REQUIRED and STRONGLY RECOMMENDED layers and tables are utilized by the LVF and ECRF. They can also be used for other functions like call taking operations, dispatch operations and public safety mapping.

RECOMMENDED layers are not provisioned into the LVF or ECRF. They are still a very valuable to the call taking operations, dispatch operations and public safety mapping.

Required GIS Layers and Tables

Description	Name	Responsibility	Use
Road Centerlines*	RoadCenterlines	Local 9-1-1 Authority	LVF, ECRF, call taking and dispatch operations
Site/Structure Address Points*	AddressPoints	Local 9-1-1 Authority	LVF, ECRF, call taking and dispatch operations

Description	Name	Responsibility	Use
PSAP Boundary	PSAP_Boundaries	Local 9-1-1 Authority	LVF, ECRF, call taking and dispatch operations
Emergency Service Boundary – Law	Law	Local 9-1-1 Authority	LVF, ECRF, call taking and dispatch operations
Emergency Service Boundary – Fire	Fire	Local 9-1-1 Authority	LVF, ECRF, call taking and dispatch operations
Emergency Service Boundary – EMS	EMS	Local 9-1-1 Authority	LVF, ECRF, call taking and dispatch operations
Provisioning Boundary	ProvisioningBoundary	State in cooperation with Local 9-1-1 Authority	LVF & ECRF
State Boundaries	States	State	LVF, ECRF, call taking and dispatch operations
County Boundaries	Counties	State	LVF, ECRF, call taking and dispatch operations
Municipal Boundaries	IncorpMunicipality	State	LVF, ECRF, call taking and dispatch operations
Administrative Boundary Lines	NJAdmin_BoundaryLines	State	Topology Only
Street Name Alias Table*	StreetNameAlias	Local 9-1-1 Authority and State	LVF, ECRF, call taking and dispatch operations

Strongly Recommended GIS Layers and Tables

Description	Name	Responsibility	Use
Complete Landmark Name Alias Table*	LandmarkNameAlias	Local 9-1-1 Authority	LVF, ECRF, call taking and dispatch operations
**Landmark Part Table	LandmarkNamePart	Local 9-1-1 Authority	LVF, ECRF, call taking and dispatch operations
Unincorporated Community Boundaries	UnincComm	Local 9-1-1 Authority	LVF, ECRF, call taking and dispatch operations
Neighborhood Community Boundaries	NeighbdComm	Local 9-1-1 Authority	LVF, ECRF, call taking and dispatch operations

*Statewide Framework GIS Dataset

**The State of New Jersey has not currently implemented this table. It is included in the NJ GIS Data Model, but the state has strong reservations about its use. The state will revisit the use of this table after further guidance from NENA.

Recommended GIS Layers and Tables

Description	Name	Responsibility	Use
Railroad Centerlines	RailroadCenterlines	State	Call taking and dispatch operations
Railroad Crossings (Future)	RailroadCrossings	State	Call taking and dispatch operations
Hydrology Lines (Streams)	HydroLine	State	Call taking and dispatch operations
Hydrology Polygons (Bodies of Water)	HydroPolygon	State	Call taking and dispatch operations
Cell Site Location	CellSite	State	Call taking and dispatch operations
Mile Marker Location	MileMarker	State	Call taking and dispatch operations

6. Road Centerlines Layer (Statewide Framework GIS Dataset)

(NENA-STA-006.1.1-2020, Section 3.1)

Road centerlines are a representation of a real-world roadway. Attribute data for road centerlines contains information consisting of street names, address ranges, jurisdictional boundaries, postal information, direction of travel, surface type, and jurisdiction/maintenance responsibilities.

Examples of uses for road centerlines in public safety and beyond include:

- Querying and geocoding of civic addresses based on left/right address ranges and street names.
- Tactical map display
- Map and attribute viewing
- Map production
- Location and driving directions
- Vehicle routing and drive time analysis
- Advanced applications including public safety, asset management, planning, utilities, and public works.

Road Centerlines represent public and private roads, as well as hiking trails, bike paths, bridle paths, boardwalks, or any other linear features that are needed within the Emergency Call Routing Function (ECRF), Computer Dispatch System (CAD), and the statewide GIS database. Only public or private named and addressed road centerlines will be provisioned into the ECRF. However, all road centerlines can be submitted for inclusion into the statewide GIS database. All road centerlines should be drawn neatly and as accurately as possible. The latest NJ Orthophotography or more accurate base data should be used to properly locate and delineate road centerlines.

Each local 9-1-1 authority SHALL only submit road centerlines that are contained within their jurisdiction and their provisioning boundary. Road centerlines that lie outside of their jurisdiction and their provisioning boundary will have to be removed prior the data’s aggregation into the LVF/ECRF and statewide GIS database.

Road Centerline Attribute Table (Table 5.1.a)						
Description	Field Name	M/C /O	Data Type	Field Width	Domain	Comments
SubType Field	SubType	M	Long Integer		SubType	Type of roadway
Discrepancy Agency ID	DiscrpAgID	M	Text	75		Agency responsible for correcting any data discrepancies.
Source of Data	Source	M	Text (Title Case)	75		Entity that supplied the data.
Date Updated	DateUpdate	M	Date/Time			Date and time the record was created or last updated.
Last Data Editor	Editor	M	Text	50		User who last updated the record.
Effective Date	Effective	O	Date/Time			The date and time that the record is scheduled to take effect.
Expiration Date	Expire	O	Date/Time			The date and time when the information in the record is no longer considered valid.
Road Centerline Globally Unique ID	RCL_NGUID	M	Text (Lower Case)	254		36-character GUID value that is the unique ID value for the record.
Left Address Number Prefix	AdNumPre_L	C	Text (Upper Case)	15		An extension of the Address Number that precedes it and further identifies a location along a thoroughfare or within a defined area (left side of road).
Right Address Number Prefix	AdNumPre_R	C	Text (Upper Case)	15		An extension of the Address Number that precedes it and further identifies a location along a thoroughfare or within a defined area (right side of road).

Road Centerline Attribute Table (Table 5.1.a)						
Description	Field Name	M/C /O	Data Type	Field Width	Domain	Comments
Left FROM Address	FromAddr_L	C	Long Integer		NG911_FromTo Ranges	The Left FROM address is the address number on the left side of the road segment relative to the left FROM Node.
Left TO Address	ToAddr_L	C	Long Integer		NG911_FromTo Ranges	The Left TO address is the address number on the left side of the road segment relative to the left TO Node.
Right FROM Address	FromAddr_R	C	Long Integer		NG911_FromTo Ranges	The Right FROM address number is the address number on the right side of the road segment relative to the right FROM Node.
Right TO Address	ToAddr_R	C	Long Integer		NG911_FromTo Ranges	The Right TO address number is the address number on the right side of the road segment relative to the right TO Node.
Parity Left	Parity_L	M	Text	1	NJNG911_Parity	The even or odd property of the address number range on the left side of the road segment relative to the FROM Node.
Parity Right	Parity_R	M	Text	1	NJNG911_Parity	The even or odd property of the address number range on the right side of the road segment relative to the FROM Node.
Street Name Type	StNameType	M	Text	1	NJNG911_StreetNameType	Shows if a street name is a local name, highway name or unnamed.

Road Centerline Attribute Table (Table 5.1.a)						
Description	Field Name	M/C /O	Data Type	Field Width	Domain	Comments
Street Name Pre-Modifier	St_PreMod	C	Text (Title Case)	15		A word or phrase that precedes and modifies the Street Name element but is separated from it by a Street Name Pre-Type or a Street Name Pre-Directional or both, as assigned by the local addressing authority.
Street Name Pre-Directional	St_PreDir	C	Text	9	NJNG911 StNameDirectional	A word that precedes the Street Name element that indicates the direction taken by the road from an arbitrary starting point or line, or the sector where it is located, as assigned by the local addressing authority.
Street Name Pre-Type	St_PreTyp	C	Text	50	NJNG911 StNameType	A word or phrase that precedes the Street Name element and identifies a type of thoroughfare in a complete street name, as assigned by the local addressing authority.
Street Name Pre-Type Separator	St_PreSep	C	Text	20	NJNG911 PreTypeSeparator	A preposition or prepositional phrase between the Street Name Pre-Type and the Street Name, as assigned by the local addressing authority.

Road Centerline Attribute Table (Table 5.1.a)						
Description	Field Name	M/C /O	Data Type	Field Width	Domain	Comments
Street Name	St_Name	C	Text (Title Case)	60		The official name of the road usually defined by the lowest jurisdictional authority (e.g., city). The street name does not include any street types, directionals, or modifiers.
Street Name Post Type	St_PosTyp	C	Text	50	NJNG911 StNameType	A word or phrase that follows the Street Name element and identifies a type of thoroughfare in a complete street name, as assigned by the local addressing authority.
Street Name Post Directional	St_PosDir	C	Text	9	NJNG911 StNameDirectional	A word following the Street Name element that indicates the direction taken by the road from an arbitrary starting point or line, or the sector where it is located, as assigned by the local addressing authority.
Street Name Post Modifier	St_PosMod	C	Text (Title Case)	25		A word or phrase that follows and modifies the Street Name element but is separated from it by a Street Name Post Type or a Street Name Post Directional or both, as assigned by the local addressing authority.

Road Centerline Attribute Table (Table 5.1.a)						
Description	Field Name	M/C /O	Data Type	Field Width	Domain	Comments
Highway Shield Type	Shld_Type	M	Text	1	NJNG911_Shld_Type	For road segments that are a part of a highway route, Highway Shield Type designates the type of highway.
Highway Shield Sub-Type	ShldSubTyp	M	Text	1	NJNG911_ShldSubTyp	For road segments that are a part of a highway route, Highway Shield Sub-Type further designates the type of highway into sub-types
Highway Shield Name or Number	Shld_Num	C	Text	5		For road segments that are a part of a highway route, Highway Shield Number contains the highway route designation.
Complete Street Name	PrimeName	C	Text (Title Case)	245		The full street name of a road segment generated by concatenating all of the parsed-out street name part fields that are populated for a given road segment.
Legacy Street Name Pre-Directional*	LSt_PreDir	C	Text (Upper Case)	2	NJNG911_LegacyStNameDirectional	The leading street direction prefix as it would appear in the MSAG, as assigned by the local addressing authority.
Legacy Street Name*	LSt_Name	C	Text (Upper Case)	75		The street name field as it would appear in the MSAG, as assigned by the local addressing authority.
Legacy Street Name Type*	LSt_Type	C	Text (Upper Case)	4	NJNG911_LegacyStNameType	The valid street type abbreviation as it would appear

Road Centerline Attribute Table (Table 5.1.a)						
Description	Field Name	M/C /O	Data Type	Field Width	Domain	Comments
						in the MSAG, as assigned by the local addressing authority.
Legacy Street Name Post Directional*	LStPosDir	C	Text (Upper Case)	2	NJNG911 LegacyStNameDirectional	The trailing street direction suffix as it would appear in the MSAG, as assigned by the local addressing authority.
Complete Legacy Street Name*	LSt_PName	C	Text (Upper Case)	121		Full Legacy Street Name of a road segment generated by concatenating all of the parsed out legacy street name part fields that are populated for the road segment, as assigned by the local addressing authority.
ESN Left*	ESN_L	C	Text	5		The Emergency Service Number (ESN) on the left side of the road segment relative to the FROM Node.
ESN Right*	ESN_R	C	Text	5		The Emergency Service Number (ESN) on the right side of the road segment relative to the FROM Node.
MSAG Community Name Left*	MSAGComm_L	C	Text (Upper Case)	30		The existing MSAG Community Name on the left side of the road segment relative to the FROM Node, as listed in the latest MSAG.
MSAG Community Name Right*	MSAGComm_R	C	Text (Upper Case)	30		The existing MSAG Community Name on the right side of the road segment relative to the

Road Centerline Attribute Table (Table 5.1.a)						
Description	Field Name	M/C /O	Data Type	Field Width	Domain	Comments
						FROM Node, as listed in the latest MSAG.
Country Left	Country_L	M	Text	2	NJNG911 Country	The name of the Country on the left side of the road segment relative to the FROM Node.
Country Right	Country_R	M	Text (Upper Case)	2	NJNG911 Country	The name of the Country on the right side of the road segment relative to the FROM Node.
State Left	State_L	M	Text (Upper Case)	2	NJNG911 State	The name of a state or state equivalent on the left side of the road segment relative to the FROM Node.
State Right	State_R	M	Text (Upper Case)	2	NJNG911 State	The name of a state or state equivalent on the right side of the road segment relative to the FROM Node.
County Left	County_L	M	Text	40	NJNG911 County	The name of a County or County-equivalent on the left side of the road segment relative to the FROM Node.
County Right	County_R	M	Text	40	NJNG911 County	The name of a County or County-equivalent on the right side of the road segment relative to the FROM Node.
Incorporated Municipality Left	IncMuni_L	M	Text	100	NJNG911 IncMunic	The name of the Incorporated Municipality, on the left side of the road segment relative to the FROM Node.

Road Centerline Attribute Table (Table 5.1.a)						
Description	Field Name	M/C /O	Data Type	Field Width	Domain	Comments
Incorporated Municipality Right	IncMuni_R	M	Text	100	NJNG911_IncMunic	The name of the Incorporated Municipality, on the right side of the road segment relative to the FROM Node.
Unincorporated Community Left	UnincCom_L	O	Text (Title Case)	100		The name of an Unincorporated Community, either within an incorporated municipality or in an unincorporated portion of a county or both on the left side of the road segment relative to the FROM Node.
Unincorporated Community Right	UnincCom_R	O	Text (Title Case)	100		The name of an Unincorporated Community either within an incorporated municipality or in an unincorporated portion of a county or both on the right side of the road segment relative to the FROM Node.
Neighborhood Community Left	NbrhdCom_L	O	Text (Title Case)	100		The name of an unincorporated neighborhood, subdivision, or area, either within an incorporated municipality or in an unincorporated portion of a county or both on the left side of the road segment relative to the FROM Node.
Neighborhood Community Right	NbrhdCom_R	O	Text (Title Case)	100		The name of an unincorporated neighborhood, subdivision, or

Road Centerline Attribute Table (Table 5.1.a)						
Description	Field Name	M/C /O	Data Type	Field Width	Domain	Comments
						area, either within an incorporated municipality or in an unincorporated portion of a county or both on the right side of the road segment relative to the FROM Node.
Postal Code Left	PostCode_L	M	Text	7		A system of 5-digit (US) or 7-character codes (Canada) that identify the individual USPS or Canadian Post Office or metropolitan area delivery station associated with an address, on the left side of the road segment relative to the FROM Node.
Postal Code Right	PostCode_R	M	Text	7		A system of 5-digit (US) or 7-character codes (Canada) that identify the individual USPS or Canadian Post Office or metropolitan area delivery station associated with an address, on the right side of the road segment relative to the FROM Node.
Postal Community Name Left	PostComm_L	M	Text (Title Case)	40		A city name for the ZIP Code of an address, as given in the USPS City State file, on the left side of the road segment relative to the FROM Node.

Road Centerline Attribute Table (Table 5.1.a)						
Description	Field Name	M/C /O	Data Type	Field Width	Domain	Comments
Postal Community Name Right	PostComm_R	M	Text (Title Case)	40		A city name for the ZIP Code of an address, as given in the USPS City State file, on the right side of the road segment relative to the FROM Node.
Road Class	RoadClass	O	Text	15	NJNG911 Road Class	The general description of the type of road.
One-Way	OneWay	M	Text	2	NJNG911 One Way	The direction of traffic movement along a road in relation to the FROM node and TO node of the line segment representing the road in the GIS data.
Speed Limit	SpeedLimit	O	Long Integer		NJNG911 SpeedLmt	Posted Speed Limit in MPH. Value must be between 1-999.
Segment Travel Time	SpeedLimit	O	Double			Time to travel segment in minutes.
Road Jurisdiction	Jurisdiction	M	Text	3	NJNG911 JurisType	Responsible entity for the road segment. This may not always be the owner of the road.
Elevation Type From	ElevTyp_F	M	Text	1	NJNG911 ElevType	Elevation of the start node of the segment with relation to intersecting road features.
Elevation Type To	ElevTyp_T	M	Text	1	NJNG911 ElevType	Elevation of the end node of the segment with relation to intersecting road features.
Access Type	AccessType	M	Text	3	NJNG911 AccessType	Details if the segment is freely accessed with no known restrictions

Road Centerline Attribute Table (Table 5.1.a)						
Description	Field Name	M/C /O	Data Type	Field Width	Domain	Comments
						or if there is some type of access restriction on the road segment.
Status Type	StatusTyp	M	Text	3	NJNG911 StatusType	Shows the current status of the road segment.
Surface Type	SurfaceTyp	M	Text	3	NJNG911 SurfaceType	Basic road surface description.
Standard Route Identifier	SRI	C	Text	20		The link between the statewide NG9-1-1 road segments and the NJDOT Rodway Network. These values are created and maintained by the NJDOT.
Editor Comments	Comments	C	Text	255		Comments about the feature, primarily used for communication between the local Data Maintainer and the Data Aggregator.
Validation Left	Valid_L	O	Text	1	NJNG911 Flag	Indicates if the address range on the left side of the road segment should be used for civic location validation.
Validation Right	Valid_R	O	Text	1	NJNG911 Flag	Indicates if the address range on the right side of the road segment should be used for civic location validation.

*Used in legacy systems and is not used in a full NG9-1-1 implementation.

6.1. Road Centerline Attributes

All road centerline attributes must be completely and accurately populated as required by this document, the NENA Standard for NG9-1-1 GIS Data Model ([NENA-STA-006.1.1-2020](#) or latest update), and NENA Next Generation 9-1-1 (NG9-1-1) United States Civic Location Data Exchange Format (CLDXF) Standard ([NENA-STA-004.1.1-2014](#) or latest update):

1. Abbreviations are only allowed in the legacy attribute fields, unless specifically allowed within this document.
2. Upper Case text is only allowed in the legacy attribute fields.
3. Legacy fields SHALL correspond to the information within the current MSAG for each jurisdiction.
4. Attribute values SHALL be standardized so there are no cases where two different values are used to represent the same exact value. Domains are used throughout the NJ NG911 database template to help prevent this issue.

6.1.1. Subtypes

Subtypes support the State of New Jersey roadway classifications. This classification system was developed jointly between the NJ Office of Information Technology-Office of GIS and the NJ Department of Transportation for the previous NJ Road Centerlines, and it is still utilized by multiple agencies statewide for many purposes.

Subtypes do allow more flexibility in data creation and maintenance. Each subtype can have different default values for various fields. This allows the data model to be setup to automatically populate the correct values in these fields based on the segments subtype. A couple of examples are:

1. Highway Authority Routes, Interstates and all ramps are setup to automatically populate all the address ranges fields with 0 and populate the parity fields as Address Range 0-0. They are also all setup to have a travel direction of One-Way Start to End, since these types of segments do not allow two-travel.
2. Below is a list of the subtypes and a brief explanation of each one.
 - a. **100 – Highway Authority Route:** Any highway under the control of one of the several highway authorities in NJ.
 - b. **108 – Highway Authority Ramp:** Any highway ramp under the control of one of the several highway authorities in NJ.
 - c. **200 – Interstate Highway:** Highway that is part of the US Interstate Highway System.
 - d. **208 – Interstate Highway Ramp:** Highway ramp that is part of the US Interstate Highway System.
 - e. **300 – US Highway:** Highway that is part of the US Highway System.
 - f. **308 – United State Highway Ramp:** Highway that is part of the US Highway System.
 - g. **400 – State Highway:** Highway that is part of the State of NJ Highway System.
 - h. **408 – State Highway Ramp:** Highway ramp that is part of the State of NJ Highway System.
 - i. **500 – County 500 Route:** A 500 level county highway.
 - j. **508 – County 500 Ramp:** Ramp for a 500-level county highway.
 - k. **600 – Other County Route:** Any other county highway. This would include 600-level, 700-level, and two-digit numbered county highways. These type of county highways are generally shorter county highways.
 - l. **608 – Other County Ramp:** Ramp for any other level county highways.
 - m. **700 – Local Road:** Local roads that generally are part of the municipality’s Traffic Circulation Plan. These roads will be named, and in most cases will have addresses assigned to them. They can either be public or private roads. They will include but are not limited to the following:

- i. Municipal major collector roads
- ii. Municipal minor collector roads
- iii. Municipal roads that service neighborhoods
- iv. Named roads within parks
- v. Named roads within apartment, condominium, and townhouse complexes
- vi. Named roads within office and industrial complexes
- vii. Named roads within shopping malls
- viii. Boardwalks and promenades with addressed structures
- n. **708 – Local Ramp:** Any ramp that serves a local road.
- o. **800 – Other:** Any linear feature that needs to be mapped as a road centerline but is not captured by any other listed subtype. They will include but are not limited to the following:
 - i. Unnamed access roads
 - ii. Emergency access lanes
 - iii. Parking lots
 - iv. Driveways
 - v. Bike Paths/Trails
 - vi. Hiking Trails
 - vii. Bridal Paths
- p. **900 – Alleys:** Alleyways generally found in more urban areas.

6.1.2. Editing and Discrepancy Tracking Fields

These fields track information relating to the responsibility for correcting data discrepancies, data source, data editor, when a record was last updated, when the record becomes effective, and when the record is no longer needed. Per the ([NENA-STA-006.1.1-2020, Section 3](#)) all the date time fields SHALL be tracked in local database time with a precision of at least 1 second. Below is a brief explanation for each field:

1. Discrepancy Agency ID (DiscrpAgID) – The agency that is responsible for correcting any discrepancy in the data and would receive any discrepancy reports. This is usually the local 911 authority but may not always be true. This agency will also be responsible for resubmitting the data to the State of New Jersey after corrections are made. The value stored in this field SHALL be the domain of the Discrepancy Agency (i.e., somerset.co.nj.us).
2. Source of Data (Source) – The agency that supplied the information to create or update the record. This will generally be the local data steward. If the local data steward received the information from another entity (i.e., county 911 agency that is relying on information provided by a municipality), they may choose to list the other entity as the source. If a local data steward has contracted with an outside entity to create or update the data, the local data steward SHALL list themselves as the source, not the contractor.
3. Date Updated (DateUpdate) – The date the record was last updated. This field should be setup to be automatically populated by the GIS software, so this field is always properly updated.
4. Last Data Editor (Editor) – The proper name or username of the last editor to update the record. This field should be setup to be automatically populated by the GIS software, so this field is always properly updated.
5. Effective Date (Effective) – The date the information within the record becomes valid and the statewide GIS database and the LVF/ECRF should begin to use this

information. This field will allow the local data steward to submit updated data to the statewide GIS database well in advance of when it will need to be used by the statewide GIS database and the LVF/ECRF.

6. Expiration Date (Expire) – The date the information within a record is no longer considered to be valid and the statewide GIS database and the LVF/ECRF should no longer use this information. This field can be used in conjunction with the Effective date. It allows an existing record to have the same date and time as it's replacement record. When that and time is reached the existing record will be ignored and the updated record will replace it.

6.1.3. Road Centerline NENA Globally Unique ID Field

The unique ID value is the primary key for the road centerline. This is the value that makes the record unique within the statewide GIS database. This field SHALL be setup to be automatically populated by the GIS software when a new record is created. The value SHALL not be altered once it is created. If a road centerline is split or merged the value must be automatically updated by the GIS software.

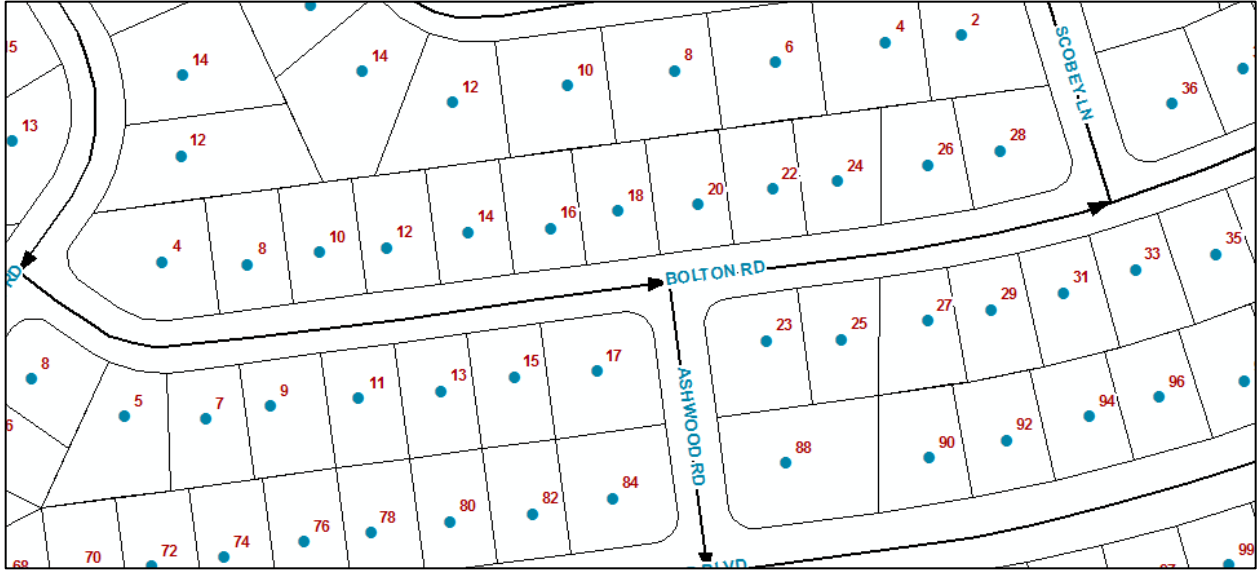
The local data steward SHALL verify there are no duplicated unique ids within their data before it is submitted to the statewide GIS database. If the local data steward discovers any duplicated unique ids, they SHALL correct them prior to submission to the statewide GIS database.

6.1.4. Address Range Fields

1. The address range fields for the street segments SHALL only be used for populating the address ranges with valid addresses. These fields SHALL NOT be used for attempting to establish the ranges of mileposts that exists along a segment. Mileposts are modeled using either the Site/Structure Address Points or Mileposts layers as established elsewhere in this standard. Only named roads can have valid address ranges. Unnamed road SHALL have address values of 0 for all four address range fields.
2. The address ranges for each road segment SHALL include all known addresses that correspond to the individual segment.
3. Address ranges SHOULD be established using actual address ranges, not potential or theoretical address ranges (*NENA Information Document for Synchronizing Geographic Information System databases with MSAG & ALI [NENA 71-501, Version 1, May 26, 2009](#), Section 3.1.2 GIS Data Standardization and Quality Control*).
4. Actual address ranges provide more accurate address locations during geocoding processes. Actual address ranges represent the actual addresses that have been assigned to structures located along the road segment. In [Figure 6.1.4a](#) below, the address ranges for Bolton Road would be as follows:
 - a. First segment would have right side range of 1 to 17 and a left side range of 4 to 18 (Potential range would be right side 1 to 21 and left side 2 to 18).
 - b. Second segment would have right side range of 23 to 31 and a left side range of 20 to 28 (Potential range would be right side 23 to 31 and left side 20 to 34).
 - c. Gaps in address ranges between segments are acceptable to model the actual addresses.

5. Potential address ranges start with the next available address greater than the end address of the previous segment, and the address range ends with the last available address below the starting address of the next segment. A large portion of the time, this leads to the geocoding of actual address to all be clustered near the beginning of a segment, instead of near the actual location of the address.
 - a. In [Figure 6.1.4b](#) below the actual address range for Dark Leaf Drive would be right side 31 to 41 and left side 30 to 40. Geocoding would place the addresses of 40 and 41 at the end of the road segment. The potential range in many cases would be right side 31 to 99 and left side 28 to 98. In geocoding, the addresses of 40 and 41 would display a point between 34 and 36 and 35 and 37 respectively.
 - b. In some cases, during actual address range population, padding may need to be added due to situations like corner structures that are addressed on an intersecting street. In [Figure 6.1.4a](#) below, the right-side address range for the beginning segment of Bolton Road would start with 1, since the house at the corner is addressed on the intersecting street.
6. If there is a possibility that a road could be extended in the future to service parcels that contain unbuilt structures, it is acceptable to add a reasonable potential address to the end of the range. This would enable the road segment to accommodate an emergency call even if the GIS data has not been updated. The potential end of the address range should only be extended as much as is reasonably needed to accommodate the possible future need. In [figure 6.1.4c](#) below, the range of the last segment of Bearbranch Road could have ending address range values up to 29 for the right side and 28 for the left side. It would not be acceptable to make the ending address range values of 99 for the right side and 98 for the left side.
7. If a jurisdiction has interval-based address ranges, they may be used in place of actual address ranges. In an interval-based address range system, addresses are based on a certain distance from the beginning of the road. Common intervals used include every 25 LF or 50 LF. The first interval distance would be assigned #1 and #2, the second interval would be assigned #3 and #4... This would continue for the entire length of the road. The address assigned to a structure would be based on the closest interval to the structure along the road (i.e., if the structure is located 3 intervals from the beginning of the road on the odd side, the address would be #5). The address range for each segment should reflect the potential address values based on the address intervals, since the range would be accurately based on the length of the segment.

Actual Address Range Example Figure 6.1.4a



Potential Address Range Example Figure 6.1.4b



Potential Address Range at End of Segment Example Figure 6.1.4c



8. If a segment does not have any valid addresses along the length of the segment, then the left and right-side address beginning, and end values would be 0. Address range fields SHALL not have a value of NULL.
9. If a segment has a valid address on one side of the street, but no valid address values on the other side of the street, then the side with addresses would be populated as normal. The side of the street without addresses SHALL be populated with 0 in both address range fields.
10. If a short segment only has one valid address along the segment, that address can be used for both the starting address range value and the ending address range value.
11. Some municipalities do use addresses with prefix values to establish how many blocks the addresses are away from a certain base street (i.e., 1-31 Smith Street, 1-35 Smith Street.... would be one block away from the base street.). The road centerlines do have address number prefix fields to handles these types of addresses. In the examples listed above, both the number 1 and the hyphen MUST be populated in the prefix field. The [Table 5.1.6a](#) below shows further examples:

Addresses with Prefixes Example Table 5.1.6a

Address Examples	Address Range Prefix	Start Address*	End Address*
1-31 Smith Street	1-	1	49
1-37 Smith Street	1-	1	49
2-12 Maple Avenue	2-	2	36
9-109 George Street	9-	101	141

*The Start Address and End Address values are assumed for these examples.

6.1.5. Parity Fields

1. Each side of the street has a parity field that details what the parity is for the address range on that side of the street. The parity value on each side of the street must correspond with the populated address range values. Some examples are detailed below:

- a. If all the addresses are even, then the parity value would be Even.
 - b. If all the addresses are odd, then the parity value would be Odd.
 - c. If the addresses are odd and even, then the parity would be Both.
 - d. If there are no valid addresses, then the parity would Address Range 0-0.
2. The parity field values MUST also correspond to the address point values along each road segment.

6.1.6. Street Name and Legacy Street Name Fields

At this time, there will be two different sets of street names for each road segment and Street Name Alias table records. The first set are the Next Generation 9-1-1 (NG911) fields, and they are referred to as the primary street name fields. This set of street name fields are the actual street name fields that will be used by the NG911 system to validate data, locate emergency calls, and route emergency calls to the correct PSAP. They meet the requirements of the CLDXF.

The second set of street names are referred to as the legacy street name fields. The legacy street name fields MUST match the street name as it is currently populated in the Master Street Address Guide (MSAG) for each locality. The legacy street name fields will be used in conjunction with ESN and MSAG Community fields to determine the match rate between the road centerlines and the current MSAG. These fields will also be used with legacy 911 systems. The legacy street name fields will be detailed in [Section 5.1.9](#) below.

Both the NG911 street name fields and the legacy street name fields SHALL be the same for both the road segments and any address points that correspond to each segment. Any discrepancies between both feature classes MUST be investigated and corrected by the local data steward before submission of the local data to the State for use in the LVF/ECRF and the statewide GIS database.

Special characters SHALL not be used in any of the street name fields. This includes hyphens (-), periods (.), commas (,), ampersand (&), asterisk (*), number sign (hashtag)(#), at symbol (@), slash (/) or back slash (\). Road names should only consist of text and numeric values.

1. Street Name Fields

- a. There are a total of nine fields that makeup the Next Generation 9-1-1 (NG9-1-1) street name fields. These fields are:
 - Street Name Pre-Modifier (St_PreMod)
 - Street Name Pre-Directional (St_PreDir)
 - Street Name Pre-Type (St_PreTyp)
 - Street Name Pre-Type Separator (St_PreSep)
 - Street Name (St_Name)
 - Street Name Post Type (St_PosTyp)
 - Street Name Post Directional (St_PosDir)
 - Street Name Post Modifier (St_PosMod)
 - Complete Street Name (PrimeName)

- b. The values in these fields SHALL be title case. Upper case values only are not permitted. Abbreviations are not permitted, except as noted below:
 - c. For a street named after a person, title abbreviations are permitted (i.e., Doctor – Dr, Reverend – Rev...).
 - d. For a street named after military personal, title abbreviations are permitted (i.e., General – Gen, Colonel – Col, Major – Maj, Captain – Capt or Cpt, Lieutenant – Lt, Sergeant – Sgt, Corporal – Cpl or Corp, Private – Pvt....).
 - e. Street names with family name prefixes (i.e., Mc or Mac) must be entered in a consistent manor throughout the data. To prevent inconsistencies the State has come up with standardization rules. Names with the Mc prefix MUST be entered as McDonald, McVay.... Names with the Mac prefix MUST be entered as MacDonald, MacDonnell.... Spaces are NOT allowed between the prefix and the rest of the name.
 - f. *Road names with apostrophes will be addressed soon!!!!*
 - g. Road segments that represent a bridge or tunnel SHALL use the commonly used name of the bridge or tunnel as the segment local street name if one exists. Examples include George Washington Bridge, Commodore Barry Bridge, Driscoll Bridge, Holland Tunnel, and Lincoln Tunnel.
2. For fields with a domain, all values in that field SHALL be contained in the appropriate domain. The street name domains are based on corresponding NENA domain registries. Any additions to these domains SHALL be submitted to NENA for inclusion in the corresponding registry. It is recommended that local data stewards coordinate any requests for NENA registry additions with the NJ Office of Information Technology-Office of GIS.
 3. The Street Name (St_Name) field MUST be populated, if there are any values in the parsed street name fields.
 4. The Street Name Pre-Directional or Street Name Post Directional fields SHALL not be used for travel directions on a road or highway. They SHALL only be used to accurately reflect the legal street name of a road or highway.
 5. The Complete Street Name field (PrimeName) is a concatenation of all values within any of the street name fields for each record. The value in the parsed street name fields MUST equal the Complete Street Name field. The Complete Street Name field should always be populated by an automation method that will combine the appropriate parsed street name fields for each record. Manual population is STRONGLY discouraged since it frequently leads to discrepancies between the information in the parsed street name fields and the complete street name.
 6. Street Name Details
 - a. The street name populated in the Road Centerlines attribute table MUST be the legal street name as assigned by the local addressing authority ([NENA-STA-006.1.1-2020](#), Section 3.6 Street Name Alias Methodology and Section 4.124 Street Name). It most cases, the municipality is the local addressing authority. It is the responsibility of the local data steward to coordinate the determination of the legal street name with the local addressing authority.

Alias names are allowed and can be populated in the Street Name Alias table. Alias names MUST still adhere to all NENA standards for street names including parsing, case, domains, and abbreviations listed in items 1 to 5 of this section.

- b. If there is a Local (Proper Name) Rank #1 street name for a road segment, that is the name that SHALL be populated in the Road Centerlines segment attributes (i.e., US Highway Route 1 has a local name of Brunswick Pike).
- c. If the segment is a highway, and there is no local name, the Highway Rank #1 name SHALL be populated in the Road Centerlines segment attributes (i.e., Interstate 295).
- d. The street name that is populated in the Road Centerlines segment attributes SHALL be the same name that is populated in the corresponding Site/Structure Address Points attributes.
- e. The following formats SHALL be used for the Highway Rank #1 name (also see [Table 5.1.1.5a](#) below):
 - i. Highway Authority Route – Highway names SHALL be entered as follows:
 - 1. New Jersey Turnpike – **New Jersey** will be the Street Name and **Turnpike** would be the Street Name Post Type.
 - 2. Garden State Parkway – **Garden State** will be the Street Name and **Parkway** would be the Street Name Post Type.
 - 3. Atlantic City Expressway – **Atlantic City** will be the Street Name and **Expressway** would be the Street Name Post Type.
 - 4. Atlantic City Brigantine Connector – **Atlantic City Brigantine** will be the Street Name and **Connector** would be the Street Name Post Type.
 - 5. Palisades Interstate Parkway – **Palisades Interstate** will be the Street Name and **Parkway** would be the Street Name Post Type.
 - ii. Interstate – Interstate will be the Street Name Pre-Type and the Street Name will be the highway number (i.e., Interstate 95 SHALL be entered as **Interstate** as Street Name Pre-Type and **95** as the street name).
 - iii. United State Highway – US Highway will be the Street Name Pre-Type and the Street Name will be the highway number (i.e., US Highway 206 SHALL be entered as **US Highway** as Street Name Pre-Type and **206** as the street name).
 - iv. State Highway – State Highway will be the Street Name Pre-Type and the Street Name will be the highway number (i.e., State Highway 33 SHALL be entered as **State Highway** as Street Name Pre-Type and **33** as the street name).
 - v. County Highway – County Route will be the Street Name Pre-Type and the Street Name will be the highway number (i.e., County Route 518 SHALL be entered as **County Route** as Street Name Pre-Type and **518** as the street name).
 - vi. If a highway is a Bypass Route, Connector Route or Spur Route, Bypass, Connector or Spur will be entered in the Street Name Post

Type field. For Highway Authority Routes, this information would be entered in the Street Name Post Modifier field since the Street Name Post Type field will already be populated.

- vii. If a highway is an Alternate Route, Business Route, Express Route, or Truck Route, Alternate, Business, Express or Truck will be entered in the Street Name Post Modifier field.
- f. If a segment has multiple highway designations (i.e., US Highway 130 is also State Highway 33), US Highway 130 would be the Highway Rank 1 (H1) name and State Highway 33 would be the Highway Rank 2 (H2) name.
 - i. If the segment has a local name, both highway names would be added to the Street Name Alias table.
 - ii. If the segment does not have a local name, the H1 name would be populated in the segment attributes, and the H2 name would be added to the Street Name Alias table.
- g. Once all official highway name formats for a segment are populated, alias unofficial highway names can then be populated in the Street Name Alias table. These alias highway names MUST still adhere to all NENA standards for street names including parsing, case, domains, and abbreviations listed in items 1 to 5 of this section. Some examples of acceptable unofficial highway names include:
 - i. County Road in place of County Route
 - ii. County Highway in place of County Route
 - iii. Route in Place of US Highway
 - iv. Route in Place of State Highway
 - v. State Route in place of State Highway

Highway Name Parsing Examples Table 5.1.1.5a

Street Name Pre-Modifier	Street Name Pre-Directional	Street Name Pre-Type	Street Name Pre-Type Separator	Street Name	Street Name Post Type	Street Name Post Directional	Street Name Post Modifier	Complete Street Name
				New Jersey	Turnpike			New Jersey Turnpike
				Garden State	Parkway			Garden State Parkway
				New Jersey	Turnpike		Express	New Jersey Turnpike Express
		Interstate		95				Interstate 95
		US Highway		206				US Highway 206
		State Highway		33				State Highway 33
		County Route		518				County Route 518
		US Highway		206	Bypass			US Highway 206 Bypass
		State Highway		33			Business	State Highway 33 Business
		County Route		518			Truck	County Route 518 Truck

7. Ramp Name Details

Highway ramps are considered dispatchable locations for 9-1-1 calls. This will require highway ramps to have street names. The current NJDOT Roadway Network does name highway ramps, and the naming format the NJDOT uses is very similar to the format that NENA is currently proposing which is *Exit <Exit Number> <FROM Street> <travel direction> To <TO Street> <travel direction>*. The entire concatenated ramp name string will be populated in the Street Name (St_Name) and Prime Name (PrimeName) fields.

Due to the current street name field length of 60 characters, ramp names will have to be abbreviated. If the exit information will prevent the ramp name from fitting within the current Street Name field length restrictions, it may be omitted. To stay in conformance with the CLDXF, all non-ramp street name fields will still have to be fully spelled out.

Some examples of acceptable ramp names are:

- EXIT 60 FR I-295 NB to I-195 EB
- EXIT 60 FR I-295 NB to RT 29 NB
- EXIT 1D FR I-195 EB to US 206 SB
- FR US 206 NB to I-195 WB
- EXIT 2 FR I-195 EB to CO 524
- FR RT 29 NB to RT 129 NB
- EXIT 3A FR I-195 EB to YARDVILLE-HAMILTON SQUARE ROAD
- FR YARDVILLE-HAMILTON SQUARE ROAD to I-195 EB
- EXIT 5A FR I-195 EB to US 130 SB

8. Frontage Road

If a frontage road that runs parallel to a limited access highway does not have its own name, the frontage road SHOULD have a name constructed with the highway name and side of the highway runs along (North, South, East, or West):

<limited access highway name> Frontage Road <highway side>

<limited access highway name> would be the street name pre-type & street name, Frontage Road (Needs to be added to the NENA Street Name Pre-Types and Street Name Post Types registry) would be the street name post type, and <highway side> would be the street name post directional.

9. Legacy Street Name Fields

There are a total of nine fields that make up the legacy street name fields.

- Legacy Street Name Pre-Directional (LSt_PreDir)
- Legacy Street Name (LSt_Name)
- Legacy Street Name Type (LSt_Typ)

- Legacy Street Name Post Directional (LSt_PosDir)
- Complete Street Name (LSt_PName)
The values in these field SHALL be all upper case. Appropriate and consistent abbreviations are permitted.

At this time, legacy names for ramps are not expected to be required, but that may change in the future.

- a. For fields with a domain, all values in that field SHALL be contained in the appropriate domain. The street name domains are based the United States Postal Service (USPS), Publication 28, Appendix C1 Street Suffix Abbreviations, and the current New Jersey MSAG values. Legacy Street Name Type abbreviations SHALL be consistent throughout the entire state. Acceptable domain values are listed in Appendix B.
- b. The Legacy Street Name (LSt_Name) field MUST be populated, if there are any values in the parsed street name fields. The street name SHALL be entered to match all properly formatted NJ MSAG street name values.
- c. The Legacy Street Name Pre-Directional (LSt_PreDir) and Legacy Street Name Post Directional (LSt_PosDir) fields SHALL only be populated to reflect proper directional values in the current NJ MSAG.
- d. The Complete Legacy Street Name field (LSt_PName) is a concatenation of all values within any of the street name fields for each record. The value in the parsed legacy street name fields MUST equal the Complete Legacy Street Name field. The Complete Legacy Street Name field should always be populated by an automation method that will combine the appropriate parsed street name fields for each record. Manual population is STRONGLY discouraged since it frequently leads to discrepancies between the information in the parsed legacy street name fields and the complete legacy street name.
- e. The legacy street name fields SHALL always be the corresponding legacy version of the NG911 street name fields. It MUST not be used to store a different street name.
- f. The street name that is populated in the Road Centerlines segment legacy attributes SHALL be the same name that is populated in the corresponding Site/Structure Address Points legacy attributes.

6.1.7. Highway Shield Fields

There three fields for tracking highway shield information. This information is required to properly generated symbology for the statewide base maps.

- Highway Shield Type (Shld_Type)
- Highway Shield Sub-Type (ShldSubTyp)
- Highway Shield Number (Shld_Num)

The two shield type fields are domain fields that are restricted to certain values for each field. The shield number field contains the designated highway number.

6.1.8. ESN and MSAG Community Fields

There are four fields that track the legacy ESN and MSAG Community information for each side of the road. These fields correspond to information in the NJ MSAG for each road segment. These fields are necessary until the NG911 migration is completed. These fields along with the address range fields and legacy street name fields will replicate the information currently in the MSAG for each road segment. If data exists for these fields, then they MUST be populated.

- ESN Left (ESN_L)
- ESN Right (ESN_R)
- MSAG Community Name Left (MSAGComm_L)
- MSAG Community Name Right (MSAGComm_R)

6.1.9. Government Boundary Fields

There are eight fields that track the government boundaries information for both sides of the road. These fields are mandatory and must be populated for all records. There are domains that restrict the allowable values for each field. In New Jersey, unlike most states, all land area is part of an incorporated municipality.

The official government boundaries are maintained outside of the NG911 project by the NJOGIS working in conjunction with local government agencies and neighboring states. The versions used in the NG911 project are only copies of the boundaries. These feature classes are not intended to be revised by any local 911 agencies. Any updates provided by local 911 agencies will not be aggregated into the statewide NG911 database.

- Country Left (Country_L) – Value for all records will be US (United States of America).
- Country Right (Country_R) – Value for all records will be US (United States of America).
- State Left (State_L) – Most values will be NJ (New Jersey) except areas along state boundary where there may be some roads from neighboring state(s).
- State Right (State_R) – Most values will be NJ (New Jersey) except areas along state boundary where there may be some roads from neighboring state(s).

- County Left (County_L)
- County Right (County_R)
- Incorporated Municipality Left (IncMuni_L)
- Incorporated Municipality Right (IncMuni_R)

6.1.10. Unofficial Boundary Fields

There are four fields that track unofficial boundary areas for both side of the road. These areas are called unincorporated communities and neighborhood communities.

Even though NJ does not have land areas outside of an incorporated municipality, unincorporated communities can be used to track well known areas within an incorporated municipality. Some examples of this would include Yardville, Mercerville, and Hamilton Square within Hamilton Township, Mercer County and Mays Landing within Hamilton Township, Atlantic County.

Neighborhood communities can be used to track areas like a well-known subdivisions, condominium and townhouse developments, apartment complexes, shopping centers, universities, and office complexes with many addresses located within them. They are not required to be populated for a 911 call to be located. If the local data steward feels the unincorporated or neighborhood community information will be helpful for dispatching emergency responders, then the fields should be populated as needed.

- Unincorporated Community Left (UnincCom_L)
- Unincorporated Community Right (UnincCom_R)
- Neighborhood Community Left (NbrhdCom_L)
- Neighborhood Community Right (NbrhdCom_R)

6.1.11. United States Postal Service (USPS) Fields

There are four fields that track USPS zip code and postal community names on each side of the road. Only valid USPS zip codes and corresponding acceptable postal community names SHALL be populated in these fields. The statewide NG911 GIS database has a table that contains the current valid USPS zip code and postal community name information for NJ.

- Postal Code Left (PostCode_L)
- Postal Code Right (PostCode_R)
- Postal Community Name Left (PostComm_L)
- Postal Community Name Right (PostComm_R)

For roads that are located outside of USPS delivery areas, a value of -9999 SHALL be populate where appropriate in one or both postal code fields, and a value of “Not in Postal Delivery Area” SHALL be populated where appropriate in one or both postal community fields.

6.1.12. Other NENA Fields

The other NENA GIS data model fields included for NJ consist of the following:

- Road Class (RoadClass) – Domain field that uses the [US Census Bureau’s MAF-TIGER Feature Classification \(MTFCC\)](#) S-series code values for the appropriate classification for each road segment.
- One-Way (OneWay) – Domain field used to track the travel direction of each road segment. Field is used for routing purposes. See [Section 6.2.6 One-Way Streets](#) below for more details on the use of this field.
- Speed Limit – Numeric field for tracking the speed limit for most of the segment. Field is used for routing purposes along with the NJ field Segment Travel Time (TravelTime).
- Validation Left (Valid_L) – Yes/No domain field that is used to determine if the address range on the left side of the road and street name info can be used to locate addresses along each segment.
- Validation Right (Valid_R) – Yes/No domain field that is used to determine if the address range on the right side of the road and street name info can be used to locate addresses along each segment.

6.1.13. Additional NJ Specific Fields

There are nine remaining additional fields that are required for the functionality of the overall NJ statewide road centerlines. Several of these fields also improve the functionality of the NG911 roads data in regard to dispatching and emergency vehicle routing.

- Segment Travel Time (TravelTime) – Working in conjunction with the speed limit field, this field tracks the calculated time in minutes to travel each segment with the speed limit field populated. This field is a crucial field for routing purposes, since it will determine the fastest route to a given location.
- Road Jurisdiction (Jurisdictn) – Used in the statewide road centerlines to track who is responsible for each road segment. This information is important to most users of the statewide road centerlines.
- Elevation Type From (ElevTyp_F) and Elevation Type To (ElevTyp_T) – The statewide road centerlines require that all road segments are broken at every location where one road segment intersects another road segment. This required so that there is topological consistency with intersecting road segments throughout the state. This requirement also applies to any road data that is aggregated as part of NG911. The elevation type fields allow a routing system to model whether turns are allowed at each intersection of road segments. This prevents vehicles from being incorrectly routed at overpasses or underpasses. See [Section 6.2.8 Overpasses and Underpasses](#) below for more details on the use of this field.

6.2. Road Centerline Creation and Updating

Road Centerlines geometry SHALL be created and updated using the information in the following subsections of Section 6.2 in this standard. The road centerlines SHALL be continually updated as new roads are constructed, road alignment changes, or attribute revisions become necessary.

6.2.1. Road Centerline Segmentation

Road centerlines are represented as segments. Segments SHALL be broken and snapped to the endpoint of all adjoining segments as prescribed below:

- When intersecting another road centerline, even if there is not a real-world intersection at that location (i.e., a highway overpass/underpass).
- All state, county, and municipal boundaries. A road centerline segment can only exist within one municipality. This important for the LVF and ECRF to perform properly.
- All PSAP boundaries. A road centerline segment can only exist within one PSAP area. This important for the LVF and ECRF to perform properly.
- All emergency service boundaries. A road centerline segment can only exist within one emergency service area. This important for the LVF and ECRF to perform properly.
- All Provisioning boundaries. A road centerline segment can only exist within one provisioning boundary area.
- All Unincorporated Community and Neighborhood Community boundaries. A road centerline can only exist in one unincorporated or neighborhood community.
- Street segment name change.
- Zip code change
- Surface type change.
- Jurisdiction change.
- Subtype change.
- Road classification change.
- Access type change.
- One-way (travel direction) type change.
- Road status change.
- Address range parity change (i.e., Island cul-de-sacs are a possible case).

Segments SHALL NOT be broken for any other reason that is not listed above. The data aggregator will merge any segments that are broken for any other reasons, using an automated process completed during the review of submitted data.

If the local data steward populates the speed limit field, they SHOULD use the speed limit that applies to most of a segment. This field is only for travel time analysis. It is not for tracking the legal speed limit of a segment.

6.2.2. Road Centerline Snapping (Topology)

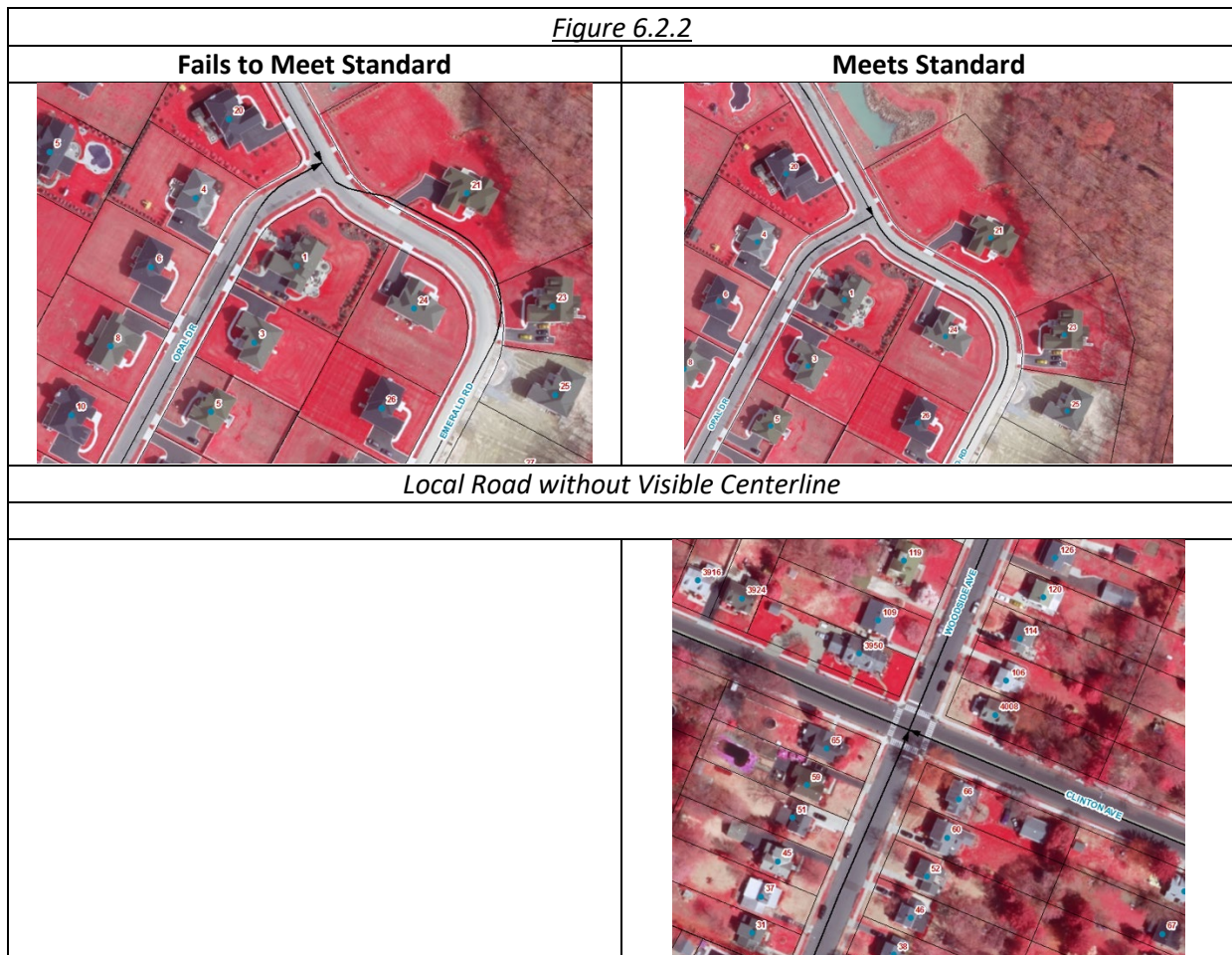
For road centerlines to function properly for NG911 and all other uses, it is important that all segments are properly snapped together at the start or end point of the adjacent segment.



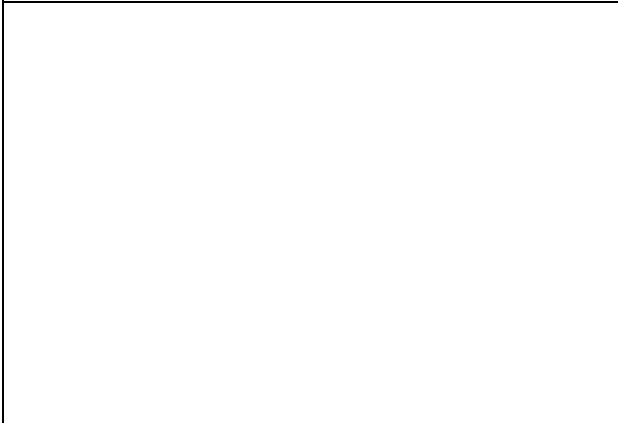

6.2.3. Road Centerline Placement for Single Centerline Roads

Road centerlines SHALL be placed to lie within the visible road surface using the latest Orthoimagery published by the NJ Office of Information Technology–Office of GIS (OGIS) or other available orthoimagery that is more current and the same or higher accuracy. The road centerline placement SHALL be as close as possible to the center of the visible road surface. ([See Figure 6.2.2, Local Road without Visible Centerline](#) below)

Below are some additional factors for placing the road centerline:

- If the road has the same number of lanes in each direction and has a visible physical centerline, the road centerline SHALL be placed on the physical centerline. ([See Figure 6.2.2, Road with Visible Road Centerline](#) below)
- If the road does not have the same number of lanes in each direction and has a visible physical centerline, the road centerline SHALL be placed at the center of the road surface, not the physical centerline. ([See Figure 6.2.2, Road with Visible Centerline and Unbalanced Number of Lanes](#) below)
- If the road has the same number of lanes in each direction and has a visible continuous bi-directional turning lane in the center of the road, the road centerline SHALL be placed at the center of the turning lane. Dual road centerlines SHALL NOT be used since this would prevent proper turning movements. ([See Figure 6.2.2, Road with Visible Bi-Directional Turning Lane](#) below)



<i>Figure 6.2.2</i>	
Fails to Meet Standard	Meets Standard
<i>Road with Visible Road Centerline</i>	
	
<i>Road with Visible Centerline and Unbalanced Number of Lanes</i>	
	
<i>Road with Visible Bi-Directional Turning Lane</i>	

6.2.4. Road Centerline Delineation

Roads SHALL be drawn so they resemble an actual road centerline. Even though creating curves as true curves is an easier and more accurate way to construct a road centerline, it is highly recommended that all true curves be converted to densified curves after the edits have been completed. Most software does not handle true curves very well. In Esri's ArcGIS software, the best way to accomplish this is to use the Densify tool. The Offset method should be used with default offset distance applied:

- Straight-line portions SHALL NOT contain any angle point vertices or other unnecessary vertices. There SHALL NOT be any spikes or kickbacks within the straight-line portions.
- If the data steward is using true curves, they MUST be tangent with the straight-line portions of the segment.
- If the data steward is using generalized or densified curves, they should appear like a tangent curve to the greatest extent possible. There SHALL NOT be any

abrupt or unnatural angles within the generalized curve or at the start and end points of the curve.

- If the local data steward obtains road centerlines by using vehicle mounted GPS units, they MUST clean up their road centerlines to meet the requirements of this standard before submitting the data for inclusion to the statewide GIS database.
- For single centerline roads, the road should always be delineated so it runs in the direction of addresses from low to high, unless directed otherwise in another section of this standard. If a road does not have any valid addresses for its entire length (i.e., Interstate Highway), then the road SHALL be delineated so it runs in the direction of vehicular travel.
- If two side streets are offset but intersect the same street within twenty-five feet (25') of each other, the data steward SHOULD look to see if both side streets can be adjusted to intersect the street at the same point. This will reduce the amount of extremely small segments that are created. If this can not be done without making the road alignments look very awkward, then the road should be left to intersect at their natural location.
- The local data steward SHOULD make every effort be made to minimize the creation of unnecessary short segments. This can be accomplished by careful planning of the delineation of road segments at intersections, ramps and jughandles.

6.2.5. Cul-de-Sac Delineation

Cul-de-sacs are a turn around that is located generally at the end of a road. They can either be complete road surface covered circle, or they have an island in the middle. Cul-de-sacs that do not lie at the end of a road SHOULD not be delineated. Below is information on how to represent each type:

- Cul-de-sacs without an island are represented by extending the road centerline through the center point of the visible cul-de-sac surface to the curb line or visible road surface edge at the back of the cul-de-sac (Lollipop Cul-de-sac) ([See Figure 6.2.4, Lollipop Cul-de-sac](#) below). If the center point of the cul-de-sac is offset to one side of the other (Teardrop Cul-de-sac), the road centerline will have to have a curve added to allow the centerline to run through the center point. ([See Figure 6.2.4, Teardrop Cul-de-sac](#) below)
- Cul-de-sacs with islands MUST be represented by using a circle or oval to represent the portion of the road that encircles the island. *This is necessary to meet the requirements of the existing NJ road centerlines.* The circle or oval SHALL be placed so the road centerline is as close as possible to the center of the road surface that runs around the island and is delineated in a counterclockwise direction, regardless of address direction. Sometimes the circle or oval will have to be segmented due to address ranges. The One-Way field should be populated as Both, unless there are traffic regulations that restrict the travel direction around the cul-de-sac. ([See Figure 6.2.4, Island Lollipop Cul-de-sac](#) below)
- Island cul-de-sacs also come in both Lollipop and Teardrop styles. In the teardrop style, the road centerline around may be more oval shaped. In any teardrop style island cul-de-sac, the road centerline SHALL be represented in a manner that represents that when a vehicle is exiting the cul-de-sac, it could either go right and

leave the cul-de-sac or go left and continue to travel around the island. ([See Figure 6.2.4, Island Teardrop Cul-de-sac](#) below)

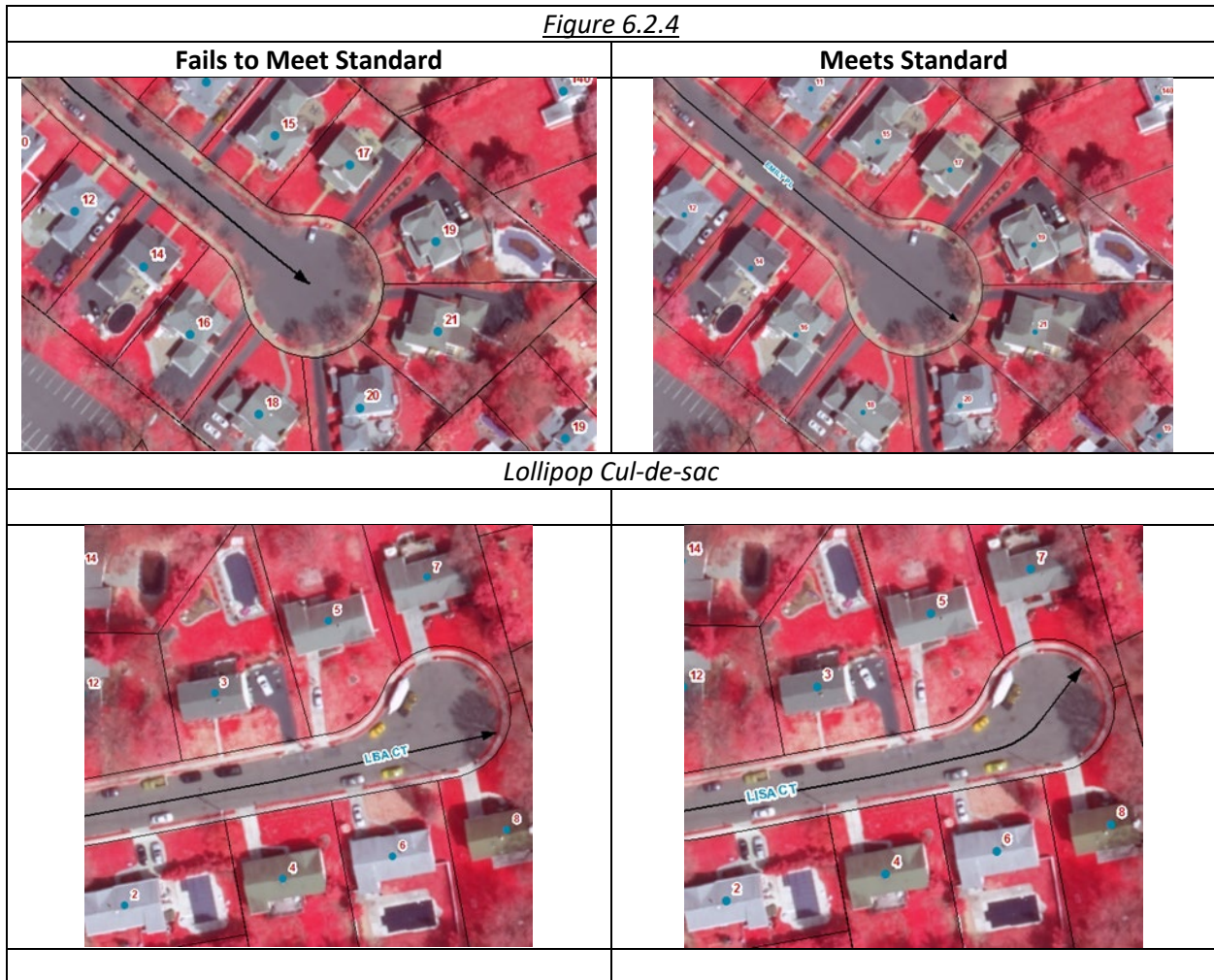


Figure 6.2.4

Fails to Meet Standard	Meets Standard
	
<i>Teardrop Cul-de-sac</i>	
	
<i>Island Lollipop Cul-de-sac</i>	
	
<i>Island Teardrop Cul-de-sac</i>	

6.2.6. One-Way Streets

Single centerline one-way streets SHALL be drawn following the ascending direction of the addresses, not the direction of vehicular travel, unless specified differently elsewhere in this standard (i.e., [dual centerline roads](#)).

- If travel in both directions is allowed, the One-Way field will be populated with a value of B - Travel in both directions allowed.
- If the one-way travel only is allowed and the address direction and the direction of vehicular travel are the same, the One-Way field will be populated with the value of FT - One-way traveling from START node to END node.
- If the one-way travel only is allowed and the address direction is the opposite of the vehicular travel direction, the One-Way field will be populated with the value of TF - One-way traveling from END node to START node.


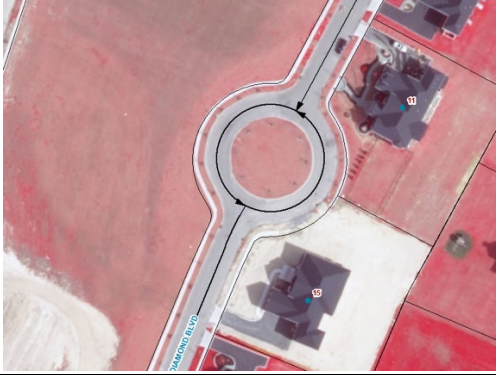

6.2.7. Traffic Circles and Roundabouts Delineation

Traffic circle and roundabouts (hereby referred to as circle) are circular traffic control devices used on many roads throughout the state. Generally, a traffic circle is a large diameter circular device on high volume highways. Roundabouts are smaller diameter circular devices used on smaller volume highways and local roads. Both types have an island type median in the middle of the circle.

- Traffic circles SHALL be represented as a geometric circle if the data steward is using true curves or closely resembling a circle if the data steward is using generalized or densified curves.
- The circle SHALL be segmented at every intersection with roads segments entering or exiting the circle.
- Unless the roads entering the circle are dual centerline roads or have a well-defined median, each road SHOULD only be represented by a single road centerline.
- The data steward MAY represent a single centerline road as dual centerlines as it enters/exits a circle if it has a well-defined median or painted island, and the local data steward determines the local needs require the use of the dual centerlines. Very small medians or painted islands SHOULD NOT require the use of dual road centerlines.

Road naming requirements for a circle are described below:

- If the circle has a well-known name (i.e., Red Lion Circle, Brunswick Circle, Lakehurst Circle, Manasquan Circle, Pennington Circle...), the name of the circle SHALL be the primary name on the road segments within the circle.
- The names of all roads that intersect with the circle and continue through the circle SHALL be at least alias names of the road segments within the circle.
- The names of all roads that intersect with and terminate at a circle SHALL NOT have their names listed as an alias name of the circle.

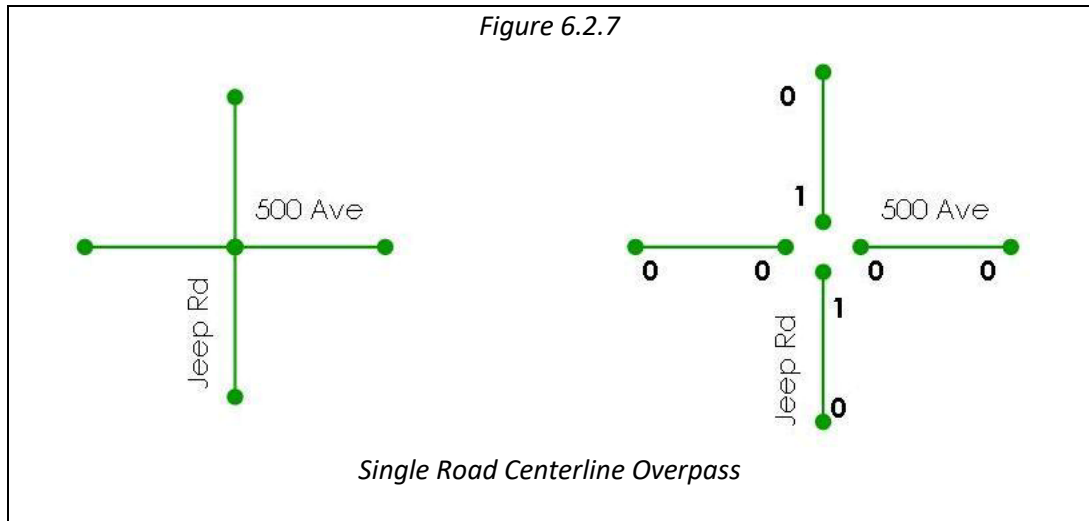
<i>Figure 6.2.6</i>	
Does not Meet Standard	Meets Standard
	
<i>Circle with no Median for Entering Roads</i>	
	
<i>Circle with Medians for Entering Roads</i>	

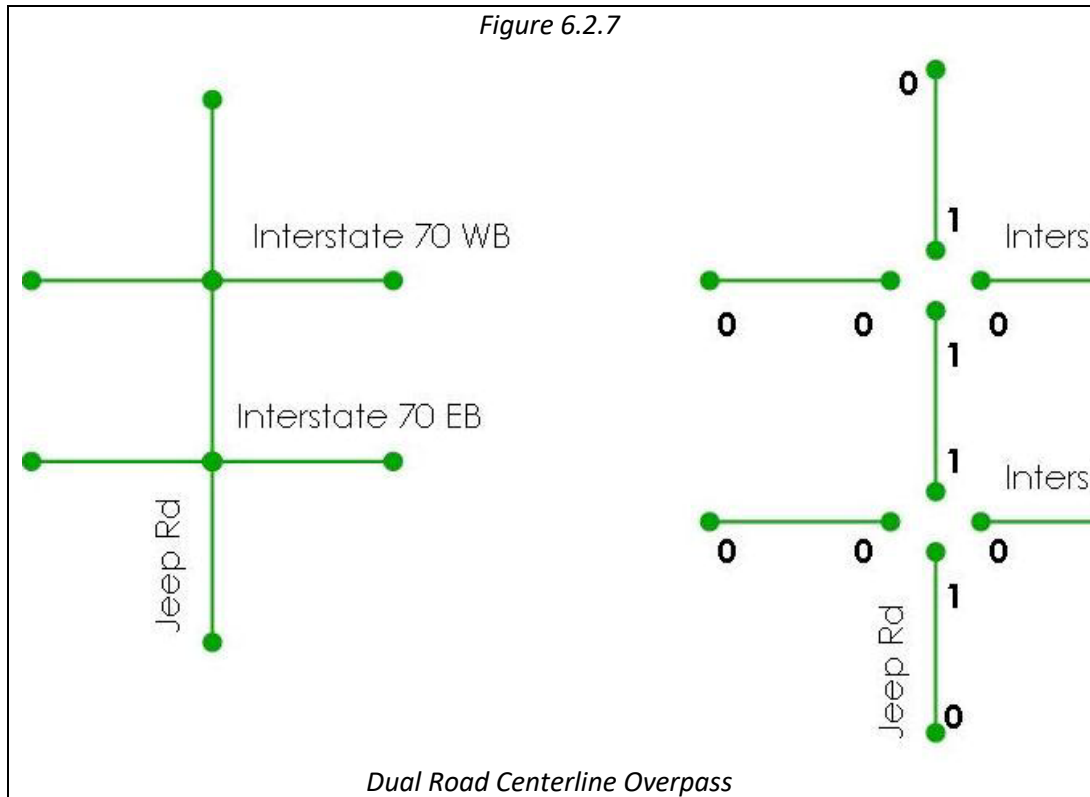
6.2.8. Overpasses and Underpasses

All road segments **MUST** be broken at the intersection with any other road segment. This includes locations that are not a real-world street intersection such as overpasses and underpasses. *This is necessary to meet the requirements of the existing NJ road centerlines.* To prevent network routing from trying to use road segment intersections at overpasses and underpasses for turning maneuvers, the Elevation to and Elevation From fields are utilized. If the elevation values for all the nodes of intersecting road segments are the same, then a turn would be allowed. If some of the nodes have a different value, then all or some turning movements would not be allowed ([See Figure 6.2.7](#) below).

The elevation values are relative for the intersection point. They are not absolute values. If four elevated road segments intersect, they would still be 0 – At Grade, since there are no segments at the intersection that are above or below them. Some examples are listed below:

- Four road segments intersecting at one point all have a value of 0 – At Grade. This would be a full at-grade intersection, and elevation would not restrict any turning movements.
- As shown in [Figure 6.2.7, Single Road Centerline Overpass](#) below, two road segments (500 Ave) have elevation values of 0 – At Grade, and two road segments (Jeep Rd) have elevation values of 1 – Level 1. This indicates that Jeep Rd is on overpass of 500 Ave.
- As shown in [Figure 6.2.7, Dual Road Centerline Overpass](#) below, the road segments of Jeep Rd intersect with Interstate 70 Eastbound and Westbound Road segments. Jeep Rd passes over Interstate 70. This requires all four nodes of Jeep Rd that intersect Interstate 70 to have elevation values of 1 – Level 1. The Jeep Rd segment that is between the two Interstate segments MUST have elevation values of 1 – Level 1 for both the start and end nodes for this to be accomplished.





6.2.9. Dual Road Centerline Roads

If a road has a median or a painted island (4' wide or wider) that is greater than five hundred feet (500') the road centerline SHALL be represented with dual road centerlines with each centerline representing one travel direction.

- The road centerlines SHALL be placed as detailed below:
 - If there are two lanes, the road centerline SHALL coincide with the lane line that is visible in the orthophotography.
 - If there are three lanes, the road centerline SHALL be centered between the two lane lines that are visible in the orthophotography.
 - If there are four lanes, the road centerline SHALL coincide with the middle lane line that is visible in the orthophotography.
 - If there are five or more lanes, the same logic detailed above SHALL be used to keep the road centerline placed near the center of the visible roadway. Shoulders should not be used in determining road centerline placement location.
- The alignment of the road centerline should not be adjusted to account for temporary lanes used for turning, acceleration, or deceleration.
- In no cases SHALL a normal painted road centerline be used as a reason to represent a road as a dual road centerline. Unless there is a median or a painted island that meets the criteria in the above paragraph, a road MUST be represented as a single road centerline.
- Medians and painted islands MAY be represented as dual road centerlines where the local data steward or data aggregator determines it is important to properly

represent traffic flow or other important factors, even if the length of the median or painted island is less than the distance listed above.

- If a median or painted island extends for the entire length of a road segment, then the road SHALL be represented with dual road centerlines, unless the dual centerline would restrict allowable traffic movements.
- If a road divides temporarily for small medians or obstructions, the local data steward SHOULD use a single road centerline.
- When determining where to use dual centerlines to delineate roads with a painted island. The local data steward SHOULD make sure the dual centerlines would not prevent allowable left turns.
- Any visible breaks in the median that allow traffic to flow through the median SHALL be represented when using dual road centerlines.
- All multi-centerline road intersections SHALL be drawn to accurately represent the intersection (See Figure 6.2.7). Pinched intersections are not allowed unless the local data stewards CAD system will only work with pinched intersections. In this case, the local data steward should discuss this with the State prior to the first submission of data that uses pinched intersections. The NJ road centerlines cannot use pinched intersections.

Figure 6.2.8

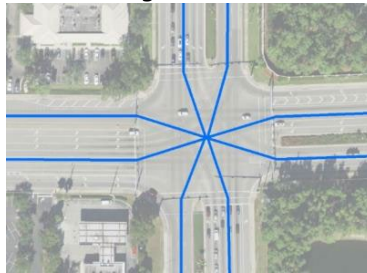


Image of a pinched intersection that is generally not allowed by this standard

- The Street Name Pre-Direction and Street Name Post Direction fields SHALL NOT be used to indicate the travel direction of the primary or secondary road centerline. With limited access highways such as a highway authority route or an interstate highway, the Street Name Post Modifier field MAY be used to indicate travel direction. They MUST be formatted as: northbound, southbound, eastbound, westbound only. ([CLDXF Standard NENA-STA-004.1.1-2014](#), Section 3.3.9)
- With dual road centerlines, one side of the road SHALL be delineated in the direction of ascending addresses and the other side of the road will be in the direction of descending address. Both sides SHALL be delineated in the direction of vehicular travel.
- The road segment address range fields on the median or painted island side of the segment SHALL be 0 and the Parity field SHALL be Address Range 0-0. The address range and Parity fields on the other side of the same segment will be populated with the actual address range based on the available address information.
- There are a few highways in New Jersey (i.e., NJ Turnpike or Garden State Parkway local and express lanes) where there are multiple divided sections of a road that have the same direction of travel.

6.2.10. Roads with Two Legal Names

Sometimes a road that is also a county, incorporated municipal boundary, PSAP or emergency service boundary may have a different legal street name on each side of the road. The most common example is when a road follows the boundary of two adjacent incorporated municipalities. Each municipality may have approved a different street name and may have also have a completely different address range scheme than the other municipality. Currently, the road name difference causes issues with the LVF. The LVF currently cannot use an alias street name to validate a civic location.

NJ is currently strongly recommending the method of using dual centerlines (parallel method) to represent this scenario, even if there is not a median in the center of the road. Each centerline would store the street name information for the municipality in which it is located and contain the correct address range on the side of the road that faces the outside face of the road.

The stacked method for representing road with multiple approved names may cause issues with the routing functions of some software, including CAD systems.

6.2.11. Geocoded Address Location

The road centerlines will be used to locate a specific address if an address point does not exist for that address. The appropriate road centerlines fields should be populated to allow the address to be located within the proper PSAP boundary, as well as the correct emergency services boundaries. The fields that are needed to achieve the proper address locations are:

- Address To Left/Right
- Address To Left/Right
- All street name fields that have a value for each segment.
- Country Left/Right
- State Left/Right
- County Left/Right
- Incorporated Municipality Left/Right
- Postal Code Left/Right (Located in postal delivery area.)
- Postal Community Left/Right (Located in postal delivery area.)
- ESN Left/Right (During the transition of the E-911 system to NG911 system.)
- MSAG Community Left/Right (During the transition of the E-911 system to NG911 system.)

More guidance will be given on this subject once NJ have more information from the NG911 Core Services (NGCS) Provider for NJ.

6.2.12. Road Centerlines that are Coincident with any Jurisdiction Boundaries

In many locations a road centerline is also the boundary between one or more jurisdictions. It is then important the road centerline and the appropriate jurisdiction boundary a completely coincident with each other to prevent topological errors that would cause issues with the location of the address and the jurisdiction polygon. The left and right attributes for the road centerline MUST be populated so they correspond with the appropriate polygons on the left and right side of the road. The road centerline fields that can be affected by this in NJ include:

- State Left/Right
- County Left/Right
- Incorporated Municipality Left/Right
- Postal Code Left/Right (If the road centerline is actually a postal code boundary)
- Postal Community Left/Right (If the road centerline is actually a postal community boundary.)
- ESN Left/Right (During the transition of the E-911 system to NG911 system.)
- MSAG Community Left/Right (During the transition of the E-911 system to NG911 system.)

The Unincorporated Community and Neighborhood Community fields left/right MUST also be properly populated if the road centerline is coincident with the boundary of the polygon.

If a road centerline is coincident with the Provisioning Boundary of a local data steward, only the attributes of the side of the road that faces the provisioning polygon of the local data steward MAY be populated. The attributes for the side of the road that faces the provisioning polygon of the adjacent local data steward will have to be populated by that data steward. Any road centerline attributes populated by the wrong local data steward will be removed before the NG911 data is provisioned into the SI.

6.2.13. Road Centerlines where Addresses may be Contained within Neighboring Boundary Polygon

It is not unusual in NJ for the road centerline to be contained within a different incorporated municipality than the actual addresses that are represented by the road segment address range. One example is incorporated municipal boundaries that follow the right-of-way line (sideline) instead of the road centerline. This situation would place the entire road in one incorporated municipality and the addresses for one side of the road in the adjacent incorporated municipality. [See Figure 6.2.9](#) below to see an example of a road that is in a different jurisdiction than associated addresses. In this case, the road is in a different county than the addresses on the south side of the road.

Figure 6.2.9



Road in Different Jurisdiction then Addresses

State, county, and incorporated municipal boundary (official government boundary) feature classes are maintained by the NJOGIS outside of the NJ NG911 statewide database. The standards used to establish and maintain these boundaries are very stringent, and the boundaries cannot be changed by the local data stewards as part of the NG911 GIS data process. In the case shown above the county and incorporated municipality info for both sides of the Morris Turnpike would be Essex County and Millburn Township.

In the case of PSAP boundaries and emergency response boundaries, the local data stewards for both jurisdictions would be able to work together and adjust all these emergency services boundaries to the road centerline segments of Morris Turnpike. This would enable the boundary polygons, address points, and road centerline information for the south (right) side of the road to correspond with each other. There would not be any type of discrepancy for the routing of the 911 call.

6.2.14. Driveways, Parking Lots, and Other Unnamed Roads

While driveways, parking lots, access roads, and any other unnamed roads maybe very important to many dispatch and emergency responder functions, they cannot be used within the LVF and ECRF. All road centerline data to be provisioned into the LVF and ECRF must meet the mandatory field attribute requirements. This includes the requirement that the street name (St_Name) field is populated. They can be submitted for inclusion in the overall statewide GIS database.

6.2.15. Bike Paths/Trails, Walkways, Hiking Trails, Bridle Paths, and other Linear Features

The NENA GIS Data Model does not have a separate linear feature class for other linear features like trails, pathways, and walkways. It is anticipated that the State would include any of these linear features in the statewide GIS database within the road centerlines feature class if they are submitted by the local data steward. The road classification field domain does include values for walkway, trail, and bridle path. It is not currently known if these features would be utilized in the LVF and ECRF. More information will be provided in the future.

6.2.16. Road Centerline to Master Street Address Guide (MSAG)

Prior to the submission of any road centerline data for use in the LVF/ECRF and statewide GIS database, all the road centerline data for a local 9-1-1 authority's jurisdiction MUST be run through a comparison process with the latest version of their jurisdiction's MSAG. NENA currently states there SHOULD be 98% or greater match between the road centerlines and the MSAG before any road centerline data is used for NG911 purposes. The road centerline to MSAG MUST be done in both directions from the road centerlines to the MSAG and the MSAG to the road centerlines:

- Comparison of road centerlines to MSAG – The MSAG table is the control dataset. Any MSAG records that are not represented in the road centerlines will be flagged. The following fields are used for this comparison:
 - Road centerline's address range fields
 - Road centerline's legacy street name fields
 - Road centerline's ESN left/right side
 - Road centerline's MSAG community left/right side
 - MSAG's low and high address fields
 - MSAG's street name fields
 - MSAG's ESN field
 - MSAG's MSAG community field

The road centerline's legacy street name fields are used, since they are the street name fields that are supposed to match the MSAG street name fields. All MSAG records SHOULD be found in the road centerlines, except for the following:

- 0 – 0 default records for each street name
- Test records
- Any other records that do not actually represent an individual street and address range.

Any missing MSAG records should be investigated. If roads are missing from the road centerlines, they SHOULD be added.

- Comparison of MSAG to road centerlines – Road centerlines are the control dataset. Any named roads with a valid address range that are missing from the current MSAG will be flagged. The same fields are used for this comparison. All flagged results SHOULD be investigated to determine if there are roads missing in the MSAG, or MSAG address range values that need to be revised.

7. Site/Structure Address Points Layer

8. PSAP Boundary Layer

9. Emergency Service Boundaries Layers

9.1. Law Boundary Layer

9.2. Fire Boundary Layer

9.3. EMS Boundary Layer

10. Provisioning Boundary Layer

11. Street Name Alias Table

12. Landmark Name Part Table

13. Complete Landmark Name Alias Table

14. State Boundary Layer

15. County Boundary Layer

16. Incorporated Municipal Boundary Layer

17. Unincorporated Community Boundary Layer

18. Neighborhood Community Boundary Layer

19. Railroad Centerlines Layer

20. Railroad Crossings (Future) Layer

21. Hydrology Lines Layer

22. Hydrology Polygons Layer

23. Cell Sector Location Layer

24. Mile Marker Location Layer

25. Attribute Descriptions and Details

25.1. Additional Data URI

Description: URI(s) for additional data associated with the site/structure address point. This attribute is contained in the Site/Structure Address Points layer and will define the Service URI of additional information about a location, including building information (blueprints, contact info, floor plans, etc.). If more than one URI is provided, each additional URI must be separated by a comma.

Domain: List of one or more URIs

Example: <https://addl68603.example.com>

25.2. Additional Location Information

Attribute Field Requirements: Conditional

Description: A part of a sub-address that is not a Building, Floor, Unit, Room, or Seat.

Domain: None

Example: Pediatric Wing; Loading Dock; Concourse B; Gate B27; Corridor 5; Field, Court; Site; Dock; Slip

25.3. Address Number

PIDF-LO Name: HNO

Attribute Field Requirements: Conditional

Description: The numeric identifier of a location along a thoroughfare or within a defined community.

Domain: Whole numbers from 0 to 999999

Example: “100” in “100 Main Street”

Note: The Address Number MUST be a whole number. This element is a conditional element. For more details, please see NENA Next Generation 9-1-1 (NG9-1-1) United States Civic Location Data Exchange Format (CLDXF) Standard ([NENA-STA-004](#)).

25.4. Address Number Prefix

PIDF-LO Name: HNP

Attribute Field Requirements: Conditional

Description: An extension of the Address Number that precedes it and further identifies a location along a thoroughfare or within a defined area.

Domain: None

Example: “75-” in “75-108 Smith Street”; “3W2N-” in “3W2N-4551”

Note: The Address Number Prefix contains any alphanumeric characters, punctuation, and spaces preceding the Address Number. This element is a conditional element. For more details, please see NENA Next Generation 9-1-1 (NG9-1-1) United States Civic Location Data Exchange Format (CLDXF) Standard ([NENA-STA-004](#)).

25.5. Address Number Suffix

PIDF-LO Name: HNS

Attribute Field Requirements: Conditional

Description: An extension of the Address Number that precedes it and further identifies a location along a thoroughfare or within a defined area.

Domain: None

Example: “B” in “223B Jay Avenue” or “1/2” in “119 ½ Elm Street”

Note: This element is a conditional element. For more details, please see NENA Next Generation 9-1-1 (NG9-1-1) United States Civic Location Data Exchange Format (CLDXF) Standard ([NENA-STA-004](#)).

25.6. Agency ID

PIDF-LO Name: None

Attribute Field Requirements: Mandatory

Description: A Domain Name System (DNS) domain name which is used to uniquely identify an agency. An agency is represented by a domain name as defined in RFC 1034. Each agency MUST use one domain name consistently in order to correlate actions across a wide range of calls and incidents. Any domain name in the public DNS is acceptable so long as each distinct agency uses a different domain name. This ensures that each agency ID is globally unique.

Domain: MUST be a registered DNS domain name.

Example: somerset.co.nj.us

Note: The Agency ID is a field in the PSAP Boundary and an Emergency Service Boundary which identifies the agency the boundary defines. It is also used in the Emergency Incident Data Document, the Service/Agency Locator.

25.7. Agency vCard URI

PIDF-LO Name: None

Attribute Field Requirements: Mandatory

Description: A vCard is a file format standard for electronic business cards. The Agency vCard URI is the internet address of an eXtensible Markup Language (XML) data structure which contains contact information (Name of Agency, Contact phone numbers, etc.) in the form of a vCard (RFC 6350). vCard files may be exported from most email programs or created with a text editor. The vCard URI is used in the service boundary layers to provide contact information for that agency. The Agency Locator (see STA-010) will provide these URIs for Agencies listed in it.

Example: <https://vcard.psap.allegheny.pa.us>; <https://vcard.houstontx.gov/fire>

25.8. Alias Complete Landmark Name

PIDF-LO Name: None

Attribute Field Requirements: Mandatory

Description: An alias or alternate name by which a prominent site/structure is publicly known.

Domain: None

Example: JFK Library; SUNY Buffalo; Veterans Hospital; VA Hospital; USF Sun Dome, Sun Dome

Note: Landmarks may or may not be associated with a civic address.

25.9. Alias Complete Landmark Name NENA Globally Unique ID

PIDF-LO Name: None

Attribute Field Requirements: Mandatory

Description: The NENA Globally Unique ID for each Alias Complete Landmark Name. Each record in the Complete Landmark Name Alias Table MUST have a globally unique ID. When coalescing data from other local 9-1-1 Authorities into the ECRF and LVF, this unique ID MUST continue to have only one occurrence. Currently, the State of New Jersey is using GUID values for all unique IDs in the statewide NJ NG9-1-1 GIS database.

Domain: None

Example:

25.10. Alias Legacy Street Name

PIDF-LO Name: None

Attribute Field Requirements: Mandatory

Description: An alternate name of the street in the legacy name format that will work with the Master Street Address Guide.

Domain: None

Example: "MAIN" in "MAIN ST"; "BROADWAY" in "N BROADWAY BLVD"

Appendix B – Subtypes and Attribute Domain Values

Subtypes

<u>Road Centerline Subtypes</u>		<u>Site/Structure Address Points Subtypes</u>	
Code	Description	Code	Description
100	Highway Authority Route	1210	Address
108	Highway Authority	1220	Subaddress
200	Interstate	1230	Property Access
208	Interstate Ramp	1240	Building Access
300	US Highway	1250	Mile Marker
308	US Highway Ramp		
400	State Highway		
408	State Highway Ramp		
500	County 500 Route		
508	County 500 Ramp		
600	Other County Route		
608	Other County Ramp		
700	Local Road		
708	Local Ramp		
800	Other (Access Road, Service Road, Parking Lot)		
900	Alley		

Domain Values																																																													
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<u>NJNG911 SurfaceType Domain</u>		<u>NJNG911 JurisType Domain</u>	
Code	Description	Code	Description
I	Improved	C	County
U	Unimproved	F	Federal
UNK	Unknown	HA	Highway Authority
		M	Municipal
		O	Other
		P	Private
		S	State
<u>NJNG911_MilePostMeasurement Domain</u>		<u>NJNG911_MilePostIndicator Domain</u>	
Code	Description	Code	Description
Feet	Feet	P	Posted
Miles	Miles	L	Logical/Calculated
Meters	Meters		
Kilometers	Kilometers		
Nautical Miles	Nautical Miles		
<u>NJNG911_MilePostType Domain</u>		<u>NJNG911_OneWay Domain</u>	
Code	Description	Code	Description
Road	Road	B	Travel in both directions allowed
Waterway	Waterway	FT	One-way traveling from START node to END node
Beach	Beach	TF	One-way traveling from END node to START node
Trail	Trail		
<u>NJNG911 Parity Domain</u>		<u>NJNG911 PlacementMethod Domain</u>	
Code	Description	Code	Description
B	Both	Linear Geocode	Linear Geocode
E	Even	Other	Other
O	Odd	Parcel - Centroid	Parcel - Centroid
Z	Address Range 0-0	Parcel - Other	Parcel - Other
		Property Access Point	Property Access Point
		Road Centerline	Road Centerline
		Site Placement	Site Placement
		Structure - Entrance	Structure - Entrance
		Structure - Interior Unit	Structure - Interior Unit
		Structure - Rooftop	Structure - Rooftop
		Unknown	Unknown

NJNG911 PostalSource Domain		NJNG911 RoadClass Domain	
Code	Description	Code	Description
CASS	CASS	S1100	Primary
MODIV	MODIV	S1200	Secondary
NGHBR	Neighborhood	S1400	Local
USER	User Input	S1630	Ramp
OTHER	Other	S1640	Service Drive
		S1500	Vehicular Trail
		S1710	Walkway
		S1720	Stairway
		S1730	Alley
		S1740	Private Road for Service Vehicles
		S1780	Parking Lot
		S1820	Trail
		S1830	Bridle Path
		99999	Other

NJNG911 ShieldType Domain		NJNG911 ShieldSubTyp Domain	
Code	Description	Code	Description
ACE	Atlantic City Expressway	M	Main Route
GSP	Garden State Parkway	A	Alternate Route
TPK	NJ Turnpike	B	Business Route
PIP	Palisades Interstate Parkway	E	Express Route
INT	Interstate	T	Truck Route
USR	US Route	S	Spur Route
STR	State Route	C	Connector Route
COR	County Route	Y	Bypass Route
ACB	Atlantic City Brigantine Connector	N	None
N	None		

NJNG911 StatusType Domain		NJNG911 Status Domain	
Code	Description	Code	Description
A	Active	A	Active
P	Planned	P	Proposed
U	Under Construction	R	Retired
		Z	Potential

<u>NJNG911_StreetNameType Domain</u>		<u>NJNG911_NeighType Domain</u>	
Code	Description	Code	Description
H	Highway	Residential	Residential
L	Local	Business	Business
N	None	Hospital/Medical	Hospital/Medical
		Shopping Center	Shopping Center
		Industrial	Industrial
<u>NJNG911_Alias_StreetNameType Domain</u>		Education	Education
Code	Description	Park	Park
H	Highway	Golf Course	Golf Course
L	Local	Sports Complex	Sports Complex
		Government	Government
		Military	Military
		Campground	Campground
		Marina	Marina
		Public Attraction	Public Attraction
		Resort	Resort
		Other	Other
<u>NJNG911_StNameDir Domain</u>		<u>NJNG911_LegacyStNameDir Domain</u>	
Code	Description	Code	Description
East	East	N	N
North	North	S	S
Northeast	Northeast	E	E
Northwest	Northwest	W	W
South	South	NE	NE
Southeast	Southeast	NW	NW
Southwest	Southwest	SE	SE
West	West	SW	SW

NJNG911 LegacyStNameTyp Domain		NJNG911 PreTypSep Domain	
Code	Description	Code	Description
ALY	ALLEY	of the	of the
ANX	ANNEX	at	at
ARC	ARCADE	de las	de las
AVE	AVENUE	des	des
BYU	BAYOU	in the	in the
BCH	BEACH	to the	to the
BND	BEND	of	of
BLF	BLUFF	on the	on the
BLFS	BLUFFS	to	to
BTM	BOTTOM	de	de
BLVD	BOULEVARD	de la	de la
BR	BRANCH	del	del
BRG	BRIDGE		
BRK	BROOK		
BRKS	BROOKS		
BG	BURG		
BGS	BURGS		
BYP	BYPASS		
CP	CAMP		
CYN	CANYON		
CPE	CAPE		
CSWY	CAUSEWAY		
CTR	CENTER		
CTRS	CENTERS		
CIR	CIRCLE		
CIRS	CIRCLES		
CLF	CLIFF		
CLFS	CLIFFS		
CLB	CLUB		
CMN	COMMON		
CMNS	COMMONS		
COR	CORNER		
CORS	CORNERS		
CRSE	COURSE		
CT	COURT		
CTS	COURTS		
CV	COVE		
CVS	COVES		
CRK	CREEK		
CRES	CRESCENT		
CRST	CREST		
XING	CROSSING		
XRD	CROSSROAD		
XRDS	CROSSROADS		
CURV	CURVE		
DL	DALE		
DM	DAM		
DV	DIVIDE		

NJNG911 StNameTyp Domain
 (See latest [NENA Street Name Pre-Types and Street Name Post Types Registry](#))

DR	DRIVE
DRS	DRIVES
EST	FIELDS
FLT	FLAT
FLTS	FLATS
FRD	FORD
FRDS	FORDS
FRST	FOREST
FRG	FORGE
FRGS	FORGES
FRK	FORK
FRKS	FORKS
FT	FORT
FWY	FREEWAY
GDN	GARDEN
GDNS	GARDENS
GTWY	GATEWAY
GLN	GLEN
GLNS	GLENS
GRN	GREEN
GRNS	GREENS
GRV	GROVE
GRVS	GROVES
HBR	HARBOR
HBRs	HARBORS
HVN	HAVEN
HTS	HEIGHTS
HWY	HIGHWAY
HL	HILL
HLS	HILLS
HOLW	HOLLOW
INLT	INLET
IS	ISLAND
ISS	ISLANDS
ISLE	ISLE
JCT	JUNCTION
JCTS	JUNCTIONS
KY	KEY
KYS	KEYS
KNL	KNOLL
KNLS	KNOLLS
LK	LAKE
LKS	LAKES
LAND	LAND
LNDG	LANDING
LANE	LANE
LGT	LIGHT
LGTS	LIGHTS
LF	LOAF
LCK	LOCK

LCKS	LOCKS
LDG	LODGE
LOOP	LOOP
MALL	MALL
MNR	MANOR
MNRS	MANORS
MDW	MEADOW
MDWS	MEADOWS
MEWS	MEWS
ML	MILL
MLS	MILLS
MSN	MISSION
MTWY	MOTORWAY
MT	MOUNT
MTN	MOUNTAIN
MTNS	MOUNTAINS
NCK	NECK
ORCH	ORCHARD
OVAL	OVAL
OPAS	OVERPASS
PARK	PARK
PARKS	PARKS
PKWY	PARKWAY
PKWYS	PARKWAYS
PASS	PASS
PSGE	PASSAGE
PATH	PATH
PIKE	PIKE
PNE	PINE
PNES	PINES
PL	PLACE
PLN	PLAIN
PLNS	PLAINS
PLZ	PLAZA
PT	POINT
PTS	POINTS
PRT	PORT
PRTS	PORTS
PR	PRAIRIE
RADL	RADIAL
RAMP	RAMP
RNCH	RANCH
RPD	RAPID
RPDS	RAPIDS
RST	REST
RDG	RIDGE
RDGS	RIDGES
RIV	RIVER
ROAD	ROAD
RDS	ROADS

RTE	ROUTE
ROW	ROW
RUE	RUE
RUN	RUN
SHL	SHOAL
SHLS	SHOALS
SHR	SHORE
SHRS	SHORES
SKWY	SKYWAY
SPG	SPRING
SPGS	SPRINGS
SPUR	SPUR
SPURS	SPURS
SQ	SQUARE
SQS	SQUARES
STA	STATION
STRA	STRAVENUE
STRM	STREAM
ST	STREET
STS	STREETS
SMT	SUMMIT
TER	TERRACE
TRWY	THROUGHWAY
TRCE	TRACE
TRAK	TRACK
TRFY	TRAFFICWAY
TRL	TRAIL
TRLR	TRAILER
TUNL	TUNNEL
TPKE	TURNPIKE
UPAS	UNDERPASS
UN	UNION
UNS	UNIONS
VLY	VALLEY
VLYS	VALLEYS
VIA	VIADUCT
VW	VIEW
VWS	VIEWS
VLG	VILLAGE
VLGS	VILLAGES
VL	VILLE
VIS	VISTA
WALK	WALK
WALKS	WALKS
WALL	WALL
WAY	WAY
WAYS	WAYS
WL	WELL
WLS	WELLS

NJNG911 IncMuni Domain		NJNG911 IncMuni Domain	
Code	Description	Code	Description
885134	Atlantic, Absecon	882127	Mercer, Hamilton Township
885142	Atlantic, Atlantic City	885254	Mercer, Hightstown Borough
885171	Atlantic, Brigantine	885260	Mercer, Hopewell Borough
885173	Atlantic, Buena Borough	882129	Mercer, Hopewell Township
882048	Atlantic, Buena Vista Township	882126	Mercer, Lawrence Township
885192	Atlantic, Corbin City	885347	Mercer, Pennington Borough
885204	Atlantic, Egg Harbor City	2743608	Mercer, Princeton
882051	Atlantic, Egg Harbor Township	882122	Mercer, Robbinsville Township
885212	Atlantic, Estell Manor	885421	Mercer, Trenton
885222	Atlantic, Folsom Borough	882124	Mercer, West Windsor Township
882052	Atlantic, Galloway Township	885181	Middlesex, Carteret Borough
882049	Atlantic, Hamilton Township	882160	Middlesex, Cranbury Township
885242	Atlantic, Hammonton	885198	Middlesex, Dunellen Borough
885280	Atlantic, Linwood	882163	Middlesex, East Brunswick Township
885286	Atlantic, Longport Borough	882166	Middlesex, Edison Township
885292	Atlantic, Margate City	885250	Middlesex, Helmetta Borough
882053	Atlantic, Mullica Township	885252	Middlesex, Highland Park Borough
885324	Atlantic, Northfield	885263	Middlesex, Jamesburg Borough
885356	Atlantic, Pleasantville	885298	Middlesex, Metuchen Borough
885397	Atlantic, Somers Point	885299	Middlesex, Middlesex Borough
885426	Atlantic, Ventnor City	885303	Middlesex, Milltown Borough
882050	Atlantic, Weymouth Township	882159	Middlesex, Monroe Township
885135	Bergen, Allendale Borough	885318	Middlesex, New Brunswick
885139	Bergen, Alpine Borough	882164	Middlesex, North Brunswick Township
885157	Bergen, Bergenfield Borough	882158	Middlesex, Old Bridge Township
885163	Bergen, Bogota Borough	885349	Middlesex, Perth Amboy
885180	Bergen, Carlstadt Borough	882167	Middlesex, Piscataway Township
885187	Bergen, Cliffside Park Borough	882161	Middlesex, Plainsboro Township
885190	Bergen, Closter Borough	885386	Middlesex, Sayreville Borough
885193	Bergen, Cresskill Borough	885399	Middlesex, South Amboy
885195	Bergen, Demarest Borough	882162	Middlesex, South Brunswick Township
885197	Bergen, Dumont Borough	885402	Middlesex, South Plainfield Borough
885201	Bergen, East Rutherford Borough	885403	Middlesex, South River Borough
885203	Bergen, Edgewater Borough	885405	Middlesex, Spotswood Borough
885207	Bergen, Elmwood Park Borough	882165	Middlesex, Woodbridge Township
885208	Bergen, Emerson Borough	882121	Monmouth, Aberdeen Township
885209	Bergen, Englewood	885136	Monmouth, Allenhurst Borough
885210	Bergen, Englewood Cliffs Borough	885137	Monmouth, Allentown Borough
885214	Bergen, Fair Lawn Borough	885141	Monmouth, Asbury Park
885215	Bergen, Fairview Borough	885143	Monmouth, Atlantic Highlands Borough
885223	Bergen, Fort Lee Borough	885147	Monmouth, Avon-By-The-Sea Borough
885225	Bergen, Franklin Lakes Borough	885155	Monmouth, Belmar Borough
885228	Bergen, Garfield	885167	Monmouth, Bradley Beach Borough
885233	Bergen, Glen Rock Borough	885170	Monmouth, Brielle Borough
885236	Bergen, Hackensack	882602	Monmouth, Colts Neck Township
885244	Bergen, Harrington Park Borough		
885247	Bergen, Hasbrouck Heights Borough		
885248	Bergen, Haworth Borough		
885255	Bergen, Hillsdale Borough		
885258	Bergen, Ho-Ho-Kus Borough		

885276	Bergen, Leonia Borough	885194	Monmouth, Deal Borough
885281	Bergen, Little Ferry Borough	885202	Monmouth, Eatontown Borough
885284	Bergen, Lodi Borough	885211	Monmouth, Englishtown Borough
882225	Bergen, Lyndhurst Township	885213	Monmouth, Fair Haven Borough
882312	Bergen, Mahwah Township	885218	Monmouth, Farmingdale Borough
885294	Bergen, Maywood Borough	885226	Monmouth, Freehold Borough
885300	Bergen, Midland Park Borough	882116	Monmouth, Freehold Township
885306	Bergen, Montvale Borough	882120	Monmouth, Hazlet Township
885307	Bergen, Moonachie Borough	885253	Monmouth, Highlands Borough
885320	Bergen, New Milford Borough	882119	Monmouth, Holmdel Township
885323	Bergen, North Arlington Borough	882113	Monmouth, Howell Township
885327	Bergen, Northvale Borough	885261	Monmouth, Interlaken Borough
885329	Bergen, Norwood Borough	885265	Monmouth, Keansburg Borough
885330	Bergen, Oakland Borough	885268	Monmouth, Keyport Borough
885336	Bergen, Old Tappan Borough	885400	Monmouth, Lake Como Borough
885337	Bergen, Oradell Borough	885282	Monmouth, Little Silver Borough
885338	Bergen, Palisades Park Borough	885283	Monmouth, Loch Arbour Village
885340	Bergen, Paramus Borough	885285	Monmouth, Long Branch
885341	Bergen, Park Ridge Borough	882117	Monmouth, Manalapan Township
885364	Bergen, Ramsey Borough	885289	Monmouth, Manasquan Borough
885367	Bergen, Ridgefield Borough	882118	Monmouth, Marlboro Township
885368	Bergen, Ridgefield Park Village	885293	Monmouth, Matawan Borough
885369	Bergen, Ridgewood Village	882604	Monmouth, Middletown Township
885372	Bergen, River Edge Borough	882115	Monmouth, Millstone Township
882310	Bergen, River Vale Township	885305	Monmouth, Monmouth Beach Borough
882307	Bergen, Rochelle Park Township	885315	Monmouth, Neptune City Borough
885375	Bergen, Rockleigh Borough	882111	Monmouth, Neptune Township
885383	Bergen, Rutherford Borough	882601	Monmouth, Ocean Township
882308	Bergen, Saddle Brook Township	885334	Monmouth, Oceanport Borough
885384	Bergen, Saddle River Borough	885366	Monmouth, Red Bank Borough
882226	Bergen, South Hackensack Township	885377	Monmouth, Roosevelt Borough
882227	Bergen, Teaneck Township	885381	Monmouth, Rumson Borough
885417	Bergen, Tenafly Borough	885387	Monmouth, Sea Bright Borough
885418	Bergen, Teterboro Borough	885388	Monmouth, Sea Girt Borough
885425	Bergen, Upper Saddle River Borough	885395	Monmouth, Shrewsbury Borough
885429	Bergen, Waldwick Borough	882603	Monmouth, Shrewsbury Township
885430	Bergen, Wallington Borough	885406	Monmouth, Spring Lake Borough
882311	Bergen, Washington Township	885407	Monmouth, Spring Lake Heights Borough
885442	Bergen, Westwood Borough	885419	Monmouth, Tinton Falls Borough
885451	Bergen, Wood-Ridge Borough	885423	Monmouth, Union Beach Borough
885449	Bergen, Woodcliff Lake Borough	882114	Monmouth, Upper Freehold Township
882309	Bergen, Wyckoff Township	882112	Monmouth, Wall Township
882086	Burlington, Bass River Township	885437	Monmouth, West Long Branch Borough
885160	Burlington, Beverly	885164	Morris, Boonton
885165	Burlington, Bordentown	882205	Morris, Boonton Township
882110	Burlington, Bordentown Township	885175	Morris, Butler Borough
885174	Burlington, Burlington	885182	Morris, Chatham Borough
882102	Burlington, Burlington Township	885182	Morris, Chatham Borough
882109	Burlington, Chesterfield Township	882194	Morris, Chatham Township
882096	Burlington, Cinnaminson Township	885184	Morris, Chester Borough
882100	Burlington, Delanco Township	882199	Morris, Chester Township

882097	Burlington, Delran Township	882204	Morris, Denville Township
882105	Burlington, Eastampton Township	885196	Morris, Dover
882101	Burlington, Edgewater Park Township	882192	Morris, East Hanover Township
882082	Burlington, Evesham Township	885221	Morris, Florham Park Borough
885219	Burlington, Fieldsboro Borough	882187	Morris, Hanover Township
882107	Burlington, Florence Township	882195	Morris, Harding Township
882092	Burlington, Hainesport Township	882210	Morris, Jefferson Township
882091	Burlington, Lumberton Township	885269	Morris, Kinnelon Borough
882108	Burlington, Mansfield Township	885277	Morris, Lincoln Park Borough
882094	Burlington, Maple Shade Township	882196	Morris, Long Hill Township
885295	Burlington, Medford Lakes Borough	885287	Morris, Madison Borough
882083	Burlington, Medford Township	885296	Morris, Mendham Borough
882095	Burlington, Moorestown Township	882200	Morris, Mendham Township
882104	Burlington, Mount Holly Township	882202	Morris, Mine Hill Township
882093	Burlington, Mount Laurel Township	882207	Morris, Montville Township
882088	Burlington, New Hanover Township	885308	Morris, Morris Plains Borough
882087	Burlington, North Hanover Township	882193	Morris, Morris Township
885339	Burlington, Palmyra Borough	885309	Morris, Morristown
885346	Burlington, Pemberton Borough	885312	Morris, Mount Arlington Borough
882089	Burlington, Pemberton Township	882197	Morris, Mount Olive Township
882098	Burlington, Riverside Township	885310	Morris, Mountain Lakes Borough
885373	Burlington, Riverton Borough	885316	Morris, Netcong Borough
882084	Burlington, Shamong Township	882206	Morris, Parsippany-Troy Hills Township
882090	Burlington, Southampton Township	882208	Morris, Pequannock Township
882106	Burlington, Springfield Township	882201	Morris, Randolph Township
882081	Burlington, Tabernacle Township	885371	Morris, Riverdale Borough
882085	Burlington, Washington Township	885374	Morris, Rockaway Borough
882103	Burlington, Westampton Township	882209	Morris, Rockaway Township
882099	Burlington, Willingboro Township	882203	Morris, Roxbury Township
882080	Burlington, Woodland Township	885427	Morris, Victory Gardens Borough
885453	Burlington, Wrightstown Borough	882198	Morris, Washington Township
885144	Camden, Audubon Borough	885443	Morris, Wharton Borough
885145	Camden, Audubon Park Borough	885148	Ocean, Barnegat Light Borough
885149	Camden, Barrington Borough	882070	Ocean, Barnegat Township
885154	Camden, Bellmawr Borough	885150	Ocean, Bay Head Borough
885158	Camden, Berlin Borough	885152	Ocean, Beach Haven Borough
882152	Camden, Berlin Township	885153	Ocean, Beachwood Borough
885172	Camden, Brooklawn Borough	882073	Ocean, Berkeley Township
885177	Camden, Camden	882075	Ocean, Brick Township
882155	Camden, Cherry Hill Township	882068	Ocean, Eagleswood Township
885183	Camden, Chesilhurst Borough	885246	Ocean, Harvey Cedars Borough
885186	Camden, Clementon Borough	885262	Ocean, Island Heights Borough
885191	Camden, Collingswood Borough	882079	Ocean, Jackson Township
885230	Camden, Gibbsboro Borough	882072	Ocean, Lacey Township
885234	Camden, Gloucester City	885270	Ocean, Lakehurst Borough
882154	Camden, Gloucester Township	882076	Ocean, Lakewood Township
885239	Camden, Haddon Heights Borough	885273	Ocean, Lavallette Borough
		882067	Ocean, Little Egg Harbor Township
		882066	Ocean, Long Beach Township
		882077	Ocean, Manchester Township
		885290	Ocean, Mantoloking Borough

882156	Camden, Haddon Township	885333	Ocean, Ocean Gate Borough
885238	Camden, Haddonfield Borough	882071	Ocean, Ocean Township
885256	Camden, Hi-Nella Borough	885351	Ocean, Pine Beach Borough
885272	Camden, Laurel Springs Borough	882078	Ocean, Plumsted Township
885274	Camden, Lawnside Borough	885358	Ocean, Point Pleasant Beach Borough
885279	Camden, Lindenwold Borough	885357	Ocean, Point Pleasant Borough
885288	Camden, Magnolia Borough	885390	Ocean, Seaside Heights Borough
885297	Camden, Merchantville Borough	885391	Ocean, Seaside Park Borough
885313	Camden, Mount Ephraim Borough	885394	Ocean, Ship Bottom Borough
885331	Camden, Oaklyn Borough	885404	Ocean, South Toms River Borough
882157	Camden, Pennsauken Township	882069	Ocean, Stafford Township
885352	Camden, Pine Hill Borough	885413	Ocean, Surf City Borough
885382	Camden, Runnemede Borough	882074	Ocean, Toms River Township
885396	Camden, Somerdale Borough	885422	Ocean, Tuckerton Borough
885411	Camden, Stratford Borough	885161	Passaic, Bloomingdale Borough
885416	Camden, Tavistock Borough	885188	Passaic, Clifton
882153	Camden, Voorhees Township	885240	Passaic, Haledon Borough
882151	Camden, Waterford Township	885249	Passaic, Hawthorne Borough
882150	Camden, Winslow Township	882313	Passaic, Little Falls Township
885450	Camden, Woodlynne Borough	885325	Passaic, North Haledon Borough
885146	Cape May, Avalon Borough	885342	Passaic, Passaic
885178	Cape May, Cape May	885343	Passaic, Paterson
885179	Cape May, Cape May Point Borough	885359	Passaic, Pompton Lakes Borough
882046	Cape May, Dennis Township	885362	Passaic, Prospect Park Borough
882044	Cape May, Lower Township	885370	Passaic, Ringwood Borough
882045	Cape May, Middle Township	885420	Passaic, Totowa Borough
885328	Cape May, North Wildwood	885431	Passaic, Wanaque Borough
885332	Cape May, Ocean City	882314	Passaic, Wayne Township
885389	Cape May, Sea Isle City	882315	Passaic, West Milford Township
885410	Cape May, Stone Harbor Borough	885439	Passaic, Woodland Park Borough
882047	Cape May, Upper Township	882131	Salem, Alloway Township
885435	Cape May, West Cape May Borough	882135	Salem, Carneys Point Township
885441	Cape May, West Wildwood Borough	885206	Salem, Elmer Borough
885444	Cape May, Wildwood	882064	Salem, Elsinboro Township
885445	Cape May, Wildwood Crest Borough	882065	Salem, Lower Alloways Creek Township
885446	Cape May, Woodbine Borough	882133	Salem, Mannington Township
885169	Cumberland, Bridgeton	882136	Salem, Oldmans Township
882062	Cumberland, Commercial Township	885348	Salem, Penns Grove Borough
882054	Cumberland, Deerfield Township	882134	Salem, Pennsville Township
882061	Cumberland, Downe Township	882132	Salem, Pilesgrove Township
882059	Cumberland, Fairfield Township	1729723	Salem, Pittsgrove Township
882058	Cumberland, Greenwich Township	882130	Salem, Quinton Township
882056	Cumberland, Hopewell Township	885385	Salem, Salem
882060	Cumberland, Lawrence Township	1723212	Salem, Upper Pittsgrove Township
882063	Cumberland, Maurice River Township	885452	Salem, Woodstown Borough
885304	Cumberland, Millville	882176	Somerset, Bedminster Township
885393	Cumberland, Shiloh Borough	882174	Somerset, Bernards Township
		885159	Somerset, Bernardsville Borough
		885166	Somerset, Bound Brook Borough
		882175	Somerset, Branchburg Township
		882171	Somerset, Bridgewater Township

882057	Cumberland, Stow Creek Township	885217	Somerset, Far Hills Borough
882055	Cumberland, Upper Deerfield Township	882170	Somerset, Franklin Township
885428	Cumberland, Vineland	882172	Somerset, Green Brook Township
1729713	Essex, Belleville Township	882169	Somerset, Hillsborough Township
1729714	Essex, Bloomfield Township	885291	Somerset, Manville Borough
2381010	Essex, Caldwell Borough	885302	Somerset, Millstone Borough
882222	Essex, Cedar Grove Township	882168	Somerset, Montgomery Township
1729742	Essex, City Of Orange Township	885326	Somerset, North Plainfield Borough
885200	Essex, East Orange	885345	Somerset, Peapack-Gladstone Borough
2390558	Essex, Essex Fells Borough	885365	Somerset, Raritan Borough
1729722	Essex, Fairfield Township	885376	Somerset, Rocky Hill Borough
2390559	Essex, Glen Ridge Borough	885398	Somerset, Somerville Borough
877363	Essex, Irvington Township	885401	Somerset, South Bound Brook Borough
882219	Essex, Livingston Township	882173	Somerset, Warren Township
882220	Essex, Maplewood Township	885433	Somerset, Watchung Borough
882221	Essex, Millburn Township	885140	Sussex, Andover Borough
1729720	Essex, Montclair Township	882266	Sussex, Andover Township
885317	Essex, Newark	885168	Sussex, Branchville Borough
878839	Essex, North Caldwell Borough	882263	Sussex, Byram Township
1729715	Essex, Nutley Township	882267	Sussex, Frankford Township
885378	Essex, Roseland Borough	885224	Sussex, Franklin Borough
880741	Essex, South Orange Village Township	882268	Sussex, Fredon Township
1729716	Essex, Verona Township	882264	Sussex, Green Township
1729717	Essex, West Caldwell Township	885241	Sussex, Hamburg Borough
1729718	Essex, West Orange Township	882261	Sussex, Hampton Township
885185	Gloucester, Clayton Borough	882269	Sussex, Hardyston Township
882149	Gloucester, Deptford Township	885259	Sussex, Hopatcong Borough
882141	Gloucester, East Greenwich Township	882260	Sussex, Lafayette Township
882139	Gloucester, Elk Township	882256	Sussex, Montague Township
882138	Gloucester, Franklin Township	885322	Sussex, Newton
885231	Gloucester, Glassboro Borough	885335	Sussex, Ogdensburg Borough
882142	Gloucester, Greenwich Township	882255	Sussex, Sandyston Township
882146	Gloucester, Harrison Township	882265	Sussex, Sparta Township
882143	Gloucester, Logan Township	885408	Sussex, Stanhope Borough
882147	Gloucester, Mantua Township	882262	Sussex, Stillwater Township
882137	Gloucester, Monroe Township	885414	Sussex, Sussex Borough
885314	Gloucester, National Park Borough	882258	Sussex, Vernon Township
885319	Gloucester, Newfield Borough	882259	Sussex, Walpack Township
885344	Gloucester, Paulsboro Borough	882257	Sussex, Wantage Township
885354	Gloucester, Pitman Borough	882218	Union, Berkeley Heights Township
882145	Gloucester, South Harrison Township	882216	Union, Clark Township
885415	Gloucester, Swedesboro Borough	882214	Union, Cranford Township
882140	Gloucester, Washington Township	885205	Union, Elizabeth
885434	Gloucester, Wenonah Borough	885216	Union, Fanwood Borough
882148	Gloucester, West Deptford Township	885229	Union, Garwood Borough
885440	Gloucester, Westville Borough	882211	Union, Hillside Township
885447	Gloucester, Woodbury	885267	Union, Kenilworth Borough
		885278	Union, Linden
		885311	Union, Mountainside Borough
		885321	Union, New Providence Borough
		885355	Union, Plainfield

885448	Gloucester, Woodbury Heights Borough	885363	Union, Rahway
885151	Hudson, Bayonne	885379	Union, Roselle Borough
885199	Hudson, East Newark Borough	885380	Union, Roselle Park Borough
885235	Hudson, Guttenberg	882217	Union, Scotch Plains Township
885245	Hudson, Harrison	882213	Union, Springfield Township
885257	Hudson, Hoboken	882212	Union, Union Township
885264	Hudson, Jersey City	885436	Union, Westfield
885266	Hudson, Kearny	882215	Union, Winfield Township
882223	Hudson, North Bergen Township	882243	Warren, Allamuchy Township
885392	Hudson, Secaucus	885138	Warren, Alpha Borough
885424	Hudson, Union City	885156	Warren, Belvidere
882224	Hudson, Weehawken Township	882317	Warren, Blairstown Township
885438	Hudson, West New York	882251	Warren, Franklin Township
882186	Hunterdon, Alexandria Township	882240	Warren, Frelinghuysen Township
882189	Hunterdon, Bethlehem Township	882253	Warren, Greenwich Township
885162	Hunterdon, Bloomsbury Borough	885237	Warren, Hackettstown
885176	Hunterdon, Califon Borough	882239	Warren, Hardwick Township
885189	Hunterdon, Clinton	882248	Warren, Harmony Township
882177	Hunterdon, Clinton Township	882242	Warren, Hope Township
882182	Hunterdon, Delaware Township	882244	Warren, Independence Township
882180	Hunterdon, East Amwell Township	882241	Warren, Knowlton Township
885220	Hunterdon, Flemington Borough	882245	Warren, Liberty Township
882184	Hunterdon, Franklin Township	882252	Warren, Lopatcong Township
885227	Hunterdon, Frenchtown Borough	882249	Warren, Mansfield Township
885232	Hunterdon, Glen Gardner Borough	882247	Warren, Oxford Township
885243	Hunterdon, Hampton Borough	885350	Warren, Phillipsburg
885251	Hunterdon, High Bridge Borough	882254	Warren, Pohatcong Township
882185	Hunterdon, Holland Township	885432	Warren, Washington Borough
882183	Hunterdon, Kingwood Township	882250	Warren, Washington Township
885271	Hunterdon, Lambertville	882246	Warren, White Township
885275	Hunterdon, Lebanon Borough		
882191	Hunterdon, Lebanon Township		
885301	Hunterdon, Milford Borough		
882179	Hunterdon, Raritan Township		
885409	Hunterdon, Stockton Borough		
882190	Hunterdon, Tewksbury Township		
882188	Hunterdon, Union Township		
882181	Hunterdon, West Amwell Township		
882123	Mercer, East Windsor Township		
882128	Mercer, Ewing Township		
Range Domain Values			
<u>NJNG911 FromToRanges Domain</u>		<u>NJNG911 SpeedLmt Domain</u>	
Minimum Value	0	Minimum Value	0
Maximum Value	9999999	Maximum Value	999