Idaho Technology Authority (ITA)

ENTERPRISE STANDARDS – S4000 – INFORMATION AND DATA

Category: S4271– Road Centerlines

CONTENTS:

I. DEFINITIONS

See ITA Guideline G105 (ITA Glossary of Terms) for definitions.

II. RATIONALE

Data standards are essential for development of statewide geospatial datasets (Framework), in accordance with The Idaho Map vision and plans. More specifically, statewide road centerlines are required to support Next Generation 911 (NG9-1-1).

The NG9-1-1 Road Centerlines GIS data model provides a statewide standard and guidance in order to support NENA Next Generation 9-1-1 (NG9-1-1) Core Services (NGCS) of location validation and routing, both geospatial call routing or to the appropriate agency for emergency communications and public safety.

III. APPROVED STANDARD(S)

1. See Attachment

IV. APPROVED PRODUCTS

All GIS software used in Idaho are capable of generating and using the specified file format.

V. JUSTIFICATION

Evolving public safety needs, among others, require statewide authoritative spatial data, this drives NG9-1-1 and public safety agency GIS needs.

VI. TECHNICAL AND IMPLEMENTATION CONSIDERATIONS

This standard is required to provide the necessary data for NG9-1-1 road centerline use and implementation. The data will enable emergency communication centers to provide location information and correct agency response for emergency calls for 911 service.

VII. EMERGING TRENDS AND ARCHITECTURAL DIRECTIONS

Traditional implementation of 911 capability is changing significantly from equipment intensive and telephone provider reliance to Internet-based telecommunications and spatial data. NG9-1-1 requires regional and statewide spatial data. This new approach requires accurate and current spatial data.

VIII. PROCEDURE REFERENCE

The format and content of this standard is specified in ITA P5030 - Framework Standards Development Policy.

IX. REVIEW CYCLE

Review will occur at least annually.

X. CONTACT INFORMATION

For more information, contact the ITA Staff at (208) 605-4064.

XI. REVISION HISTORY

09/15/2022 - Standard approved by the IGC-EC

08/24/2022 - Draft standard approved by the Idaho Public Safety Technical Working Group

Effective date: September 15, 2022

STATE OF IDAHO

Idaho NG9-1-1 Road Centerline Standard

Part of the Public Safety Theme

Version 1
Effective September 15, 2022

Developed by the Public Safety Technical Working Group

Revision History
Established by Public Safety Technical Working Group

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CONTENTS

1. Introduction to the Road Centerline (RCL) Standard

A statewide NG9-1-1 Road Centerline Framework Dataset is a critical source of information that is used by the Location Validation Function (LVF) and Emergency Call Routing Function (ECRF) of the Next Generation 9-1-1 system (NG9-1-1) allowing appropriate response by emergency communication centers and public safety responders.

The RCL Standard is intended to facilitate integration and sharing of up-to-date RCL data and enhance the dissemination and use of RCL information. This standard does not instruct on how RCL databases should be designed for internal use.

This standard was developed by the Public Safety Technical Working Group, a subgroup of the Idaho Geospatial Council – Executive Committee (IGC-EC). This Standard will be reviewed on a regular basis and updated as needed.

This Framework data standard requires that polylines are created to represent real world transportation networks such as freeways, highways, roads, streets, trails, and other transportation representations that are used for addressing and/or accessibility. The RCL should allow for all addresses in a jurisdiction to be geocoded to the address's relative location in the real world.

1.1. Mission and Goals of the Standard

The RCL Standard supports a statewide dataset that is consistent with applicable state and national standards. It establishes the minimum attributes and geospatial database schema for the RCL Framework. The standard will communicate with and may have similar attributes to other Idaho Framework data standards. It encourages all Idaho-based agencies with geospatial RCL data to contribute to the RCL Framework.

The RCL Framework will be appropriately shared and beneficial to all. The fields in the RCL Data Exchange Standard will be general enough to incorporate basic information without requiring major changes to internal data models. This standard allows for expansion to a more complex data structure and schema.

The RCL Standard must support the NG9-1-1 systems implementation and operation in Idaho and is therefore closely aligned with the 2022 National Emergency Number Association Standard (NENA-STA-006.2-2022).

The proposed standard:

- Provides the data for querying and geocoding of civic addresses based on dual

(left/right) address ranges.
- Promotes the creation of high-quality GIS data in a consistent format for use within NG9-1-1 systems.
- Enables spatially related applications including those focused on public safety, asset management, planning, utilities and public works.

1.2. **Relationship to Existing Standards**

This RCL Standard relates to existing standards as follows:

- The RCL Standard described is based on the 2022 National Emergency Number Association Standard (NENA-STA-006.2-2022).
- The RCL boundaries are related to GIS datasets describing County and City roads and streets and a spatial representation of the traditional 911 Master Street Addressing Guide.
- This RCL Standard relates to the Site/Structure Address Point, Emergency Service Boundary, Public Safety Answering Point (PSAP) and Provisioning Boundary standards developed by the Idaho Public Safety Technical Working Group.

1.3. **Description of the Standard**

This standard describes the vision and geospatial data structure of an RCL Framework in the state of Idaho. This standard is devised to be:

- Simple, easy to understand, and logical
- Uniformly applicable, whenever possible
- Flexible and capable of accommodating future expansions
- Dynamic in terms of continuous review
- Consistent with the requirements of NG9-1-1 systems and implementation

1.4. **Applicability and Intended Uses**

This standard applies to the RCL element of the Public Safety theme of The Idaho Map (TIM).

When implemented, it will enable access to geometry and attribute information about Idaho RCLs. It will increase interoperability between automated geographic information systems and enable sharing and efficient transfer of information for aggregation. Furthermore, it will encourage partnerships between government, the private sector, and the public in order to avoid duplication of effort and ensure effective management of information resources. It will help improve RCL data quality as errors are identified and resolved.

This standard does not consider data sharing agreements, contracts, transactions, privacy concerns, or any other issues relating to the acquisition and dissemination of RCL data.

1.5. **Standard Development Process**

The Public Safety Technical Workgroup (TWG), a subgroup of the Idaho Geospatial Council Executive Committee (IGC-EC), is a voluntary group of private, city, county, tribal, state, and federal representatives. In 2021, the Public Safety TWG reviewed the NENA Standard, 911 Geospatial Industry standards, and RCL standards implemented in Kansas, Tennessee, Minnesota, Washington, and Wisconsin to begin developing the RCL Standard described in this document. The first draft was generated using the standard development automation tools developed by the IGC-EC. This standard was then reviewed by members of the Public Safety TWG. The resulting draft was further shared with the IGC-EC for comments and approval in accordance with the review and approval process described in ITA's Framework Standards Development Policy (P5030).

The standard was presented to the IGC-EC in September 15 and approved by the IGC-EC on September 15, 2022.

1.6. **Maintenance of the Standard**

This standard will be revised as needed in accordance with the ITA P5030 - Framework Standards Development Policy.

2. **Body of the Standard**

2.1. **Scope and Content**

The scope of the RCL Standard is to describe a statewide layer which identifies the Road Centerlines (RCLs) in Idaho for service agencies like Fire, Medical Emergency, Law Enforcement that will be called upon during a NG9-1-1 call.

At a minimum the RCL Framework Dataset should include a unique ID, Street name information, left and right road ranges and community information. The RCL may also include other information in order to represent the information now residing in the Master Street Address Guide (MSAG) and other pertinent addressing information databases.

2.2. **Need**

RCLs are a key dataset needed for emergency response in Idaho. They are used by the Location Validation Function (LVF) and Emergency Call Routing Function (ECRF) of NG9-1-1 systems to determine and validate addresses, location and routing information to route Fire, Law Enforcement, Medical Emergency, and other public safety responders to an incident. The standard will help streamline emergency response, thereby benefitting public emergency responders, cities, counties, system service providers, and the public in general. This standard provides a foundation for data stewardship and aggregation of RCL data for centralized access.

2.3. **Participation in the Standard Development**

The development of the RCL Standard adheres to the ITA's Framework Standards Development Policy (P5030). The Public Safety TWG members tasked with developing this standard represent private, county, state, and federal organizations. As the standard is reviewed in accordance with Policy P5030 requirements, there will be opportunity for broad participation and input by stakeholders. The process will be equally broad regarding input on updates and enhancements to the standard. As with all Idaho Framework standards, public review, and comment on the RCL Data Exchange Standard is encouraged.

2.4. **Integration with Other Standards**

The RCL Standard follows the same format as other Idaho geospatial framework data standards as well as NENA Standards. The RCL Standard may contain some of the same attributes as other framework standards and may adopt the field name, definition, and domain from other standards to promote consistency and strengthen interoperability.

2.5. **Technical and Operation Context**

2.5.1. **Data Environment**

The data environment is a digital vector polyline with a specific, standardized set of attributes pertinent to the RCL Framework. RCL data shared under this standard must be in a format supporting vector polylines.

2.5.2. **Reference Systems**

The Emergency Call Routing Function in a NG9-1-1 system requires the use of the World Geodetic System of 1984 (WGS1984). The number assigned to this reference system by the European Petroleum Survey Group (EPSG) is 4326.

2.5.3. **Global Positioning Systems (GPS)**

Some data provided might contain geometry from GPS methods. The provided metadata should describe the geometry, if applicable. However, geometry from a GPS is not required to meet this standard.

2.5.4. **Interdependence of Themes**

RCL geometry may be coincident with other framework data, such as City limits, County Boundaries, Emergency Service Zone boundaries, and Parcels. Currently, there is no enforcement of coincidence or topology relationships between RCL Framework and other Idaho Framework elements.

2.5.5. **Encoding**

When data is imported into and exported from the RCL Framework, encoding will take place to convert data formats and attributes.

2.5.6. **Resolution**

No specific requirements for resolution are specified in this standard. Resolution will be documented in the metadata.

2.5.7. **Accuracy**

The horizontal accuracy of GIS layers used for NG9-1-1 must meet the National Spatial Data Infrastructure's (NSDI) accuracy at a scale of 1:5000 which equates to ± 13.89 feet at 95% confidence.

2.5.8. **Edge Matching**

Road Centerlines synchronization with boundary issues must be resolved using emergency service zones, civic boundaries, other related boundaries, or snap-to-point datasets. Clean RCL edges will ensure that GIS emergency service zones, civic boundaries, and/or address points will be accurately associated with RCL's address ranges. Edges and road ranges must be agreed upon by adjacent agencies that are provisioning the RCL data.

2.5.9. **Unique Identifiers**

The Discrepancy Agency is the entity responsible for resolving discrepancies in the RCL data or topology. This entity must be defined by the 9-1-1 Authority and uniquely identified within the RCL framework. The Road Centerlines NENA Globally Unique ID is unique for all of the United States.

2.5.10. **Attributes**

Attributes for public and intergovernmental distribution are described in Section 3 of this standard.

2.5.11. **Stewardship**

Perpetual maintenance and other aspects of lifecycle management are essential to RCL Framework. Details of stewards, their roles and responsibilities, best practices, and processes are not included in this document and may be specified in a separate related document.

2.5.12. **Records Management and Archiving**

This dataset is managed at different levels. Data is developed and edited by GIS Data Providers of City and County governments, aggregated at the State Level and distributed via secured REST services using ArcGIS Enterprise. Tools related to REST Services, such as Open Data, will allow users to download RCL data in a variety of formats, including a shapefile and a feature class in a file geodatabase.

2.5.13. **Metadata**

The RCL Framework metadata will describe the methods used to update and aggregate the individual RCL data contributions, processes or crosswalks performed, definition of attributes, and other required information. This metadata will conform to the metadata standards as set out in S4220 – GEOSPATIAL METADATA.

3. **Data Characteristics**

The "Field Name" column gives the standardized GIS data field name that MUST be used. While local entities MAY use their own field names for internal processes, utilization of GIS data within and between the NG9-1-1 system functional elements MUST conform to this standard structure.

The "Required" column specifies whether an attribute is required or conditional. Requirement terms are defined as follows (NENA 01-002):

- "Yes" means the data element is required to be present in all records. It will appear as required in the database schema.
- "No" means that the data field is optional in a record. It will not appear as required in the database schema.
- "Conditional" means that the data field is conditional. This value alerts the reader that a business rule is specified that controls the presence of a value in the data field. It will not appear as required in the database schema. The prevailing business rule for all conditional attributes is that if an attribute value exists (e.g., if a Street Name Pre Directional such as "West" is part of the valid street name), it MUST be provided. If no value exists for the attribute (e.g., there is no Street Name Pre Directional as part of the valid street name), the data field is left unpopulated. All attributes that are governed by CLDXF PIDF-LO structure MUST follow the business rules identified in the CLDXF Standard, NENA-STA-004 [3],CLDXF . If no business rule is identified, the prevailing rule will apply.

Locally maintained GIS data layers are REQUIRED to include all data fields specified as "Yes" within this GIS Data Model but are NOT REQUIRED to include data fields that are not specified as "Yes" if no data exists to be populated within the data fields. If there are no records in the entire database for a specific non-required data field, then the data field itself is NOT REQUIRED. Local policy may dictate that all data fields be included in the structure regardless of whether data exists.

"Type" column indicates the type of data used within the data field and attributes.

- **P** – Printable ASCII characters (decimal codes 32 to 126). Case is not important, except in legacy fields which require upper case as per NENA 02-010, NENA Standard for Data Formats for 9-1-1 Data Exchange & GIS Mapping
- **E** – UTF-8 restricted to character sets designated by the 9-1-1 Authority, but not including pictographic characters.
- **U** – A Uniform Resource Identifier (URI)
- **D** – Date and Time
- **F** – Floating (numbers that have a decimal place).
- **N** – Non-negative integer

The "Field Width" column refers to the maximum number of characters a field may contain.

The "Descriptive Name" is provided to clarify the intent of the information contained in the "Field Name."

- **DOM** - Domain. Attributes with domains are noted in the "Descriptive Name" column. Domain names and their values will be identified in a Public Safety GIS best practices document.

3.1. **Minimum Graphic Data Elements**

The geometry of the features in RCL Framework is vector polyline.

3.2. **Optional Graphic Data Elements**

Not applicable.

3.3. **Standard Attribute Schema**

FIELD NAME	REQUIRED	TYPE	FIELD WIDTH	DESCRIPTION
DiscrpAgID	Yes	P	100	Discrepancy Agency ID - Agency that receives discrepancy report and ensures resolution.
DateUpdate	Yes	D	-	The date and time that the record was created or last modified. This value MUST be populated upon modifications to attributes, geometry, or both.
DateEffective	No	D	-	The date and time that the record is scheduled to take effect.
DateExpire	No	D	-	The date and time when the information in the record is no longer considered valid.

RCL_NGUID	Yes	P	254	The NENA Globally Unique ID for each Road Centerline. Each record in the Road Centerlines layer 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. One way to accomplish this is to append the 9-1-1 Authority's domain to the end of the "locally unique ID"
AdNumPre_L	Conditional	P	15	Left Address Number Prefix - Contains any alphanumeric characters, punctuation, and spaces preceding the Left FROM Address and Left TO Address.
AdNumPre_R	Conditional	P	15	Right Address Number prefix - Contains any alphanumeric characters, punctuation, and spaces preceding the Right FROM Address and Right TO Address.
FromAddr_L	Yes	N	6	The Left FROM address is the address number on the Left side of the road segment relative to the Left FROM Node
ToAddr_L	Yes	N	6	The Left TO address is the address number on the Left side of the road segment relative to the Left TO Node.
FromAddr_R	Yes	N	6	The Right FROM address is the address number on the Right side of the road segment relative to the Right FROM Node
ToAddr_R	Yes	N	6	The Right TO address is the address number on the Right side of the road segment relative to the Right TO Node.
Parity_L	Yes	P	1	The even or odd property of the address number range on the Left side of the road segment relative to the FROM Node. DOM
Parity_R	Yes	P	1	The even or odd property of the address number range on the Right side of the road segment relative to the FROM Node. DOM
St_PreMod	Conditional	P	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. DOM
St_PreDir	Conditional	P	9	A word preceding 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. DOM
St_PreTyp	Conditional	P	50	A word or phrase that precedes the Street Name element and identifies a type of thoroughfare in a complete street name. DOM
St_PreSep	Conditional	P	20	A preposition or prepositional phrase between the Street Name Pre Type and the Street Name. This element is defined in CLDXF (NENA-STA-004) [3] as a US specific extension of PIDF-LO per RFC 6848. DOM
St_Name	Yes	P	254	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.
St_PosTyp	Conditional	P	50	A word or phrase that follows the Street Name element and identifies a type of thoroughfare in a complete street name. DOM

St_PosDir	Conditional	P	9	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. DOM
St_PosMod	Conditional	P	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. DOM
LSt_PreDir	Conditional	P	2	The leading street direction prefix as it previously existed prior to the adoption of the NG9-1-1 Data Model as assigned by the local addressing authority. DOM
LSt_Name	Conditional	P	75	The street name field as it would appear in the MSAG, as assigned by the local addressing authority.
LSt_Type	Conditional	P	4	The valid street abbreviation as it previously existed prior to the adoption of the NG9-1-1 Data Model as assigned by the local addressing authority DOM
LSt_PosDir	Conditional	P	2	The trailing street direction suffix as it previously existed prior to the adoption of the NG9-1-1 Data Model as assigned by the local addressing authority. DOM
ESN_L	Conditional	P	5	The Emergency Service Number (ESN) on the Left side of the road segment relative to the FROM Node
ESN_R	Conditional	P	5	The Emergency Service Number (ESN) on the Right side of the road segment relative to the FROM Node
MSAGComm_L	Conditional	P	30	The existing MSAG Community Name on the Left side of the road segment relative to the FROM Node.
MSAGComm_R	Conditional	P	30	The existing MSAG Community Name on the Right side of the road segment relative to the FROM Node.
Country_L	Yes	P	2	Country on left side of road segment relative to the FROM node. Represented by two-letter ISO 3166-1 DOM
Country_R	Yes	P	2	Country on right side of road segment relative to the FROM node. Represented by two-letter ISO 3166-1 DOM
State_L	Yes	P	2	The name of a state or state equivalent on the Left side of the road segment relative to the FROM Node, represented by the two-letter abbreviation given in USPS Publication 28 DOM
State_R	Yes	P	2	The name of a state or state equivalent on the Right side of the road segment relative to the FROM Node, represented by the two-letter abbreviation given in USPS Publication 28 DOM
County_L	Yes	P	100	The name of a County or County-equivalent on the Left side of the road segment relative to the FROM Node. A county (or its equivalent) is the primary legal division of a state or territory. DOM
County_R	Yes	P	100	The name of a County or County-equivalent on the Right side of the road segment relative to the FROM Node. A county (or its equivalent) is the primary legal division of a state or territory. DOM
AddCode_L	Conditional	P	6	Additional Code Left: Used in Canada to distinguish 2 communities in provinces without counties.

AddCode_R	Conditional	P	6	Additional Code Right: Used in Canada to distinguish 2 communities in provinces without counties.
IncMuni_L	Yes	P	100	The name of the Incorporated Municipality or other general-purpose local governmental unit (if any), on the Left side of the road segment relative to the FROM Node. DOM
IncMuni_R	Yes	P	100	The name of the Incorporated Municipality or other general-purpose local governmental unit (if any), on the Right side of the road segment relative to the FROM Node DOM
UnincCom_L	No	P	100	The 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.
UnincCom_R	No	P	100	The 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.
NbrhdCom_L	NO	P	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.
NbrhdCom_R	No	P	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 Right side of the road segment relative to the FROM Node.
PostCode_L	No	P	7	The Postal Code on the Left side of the road segment relative to the FROM Node. DOM
PostCode_R	No	P	7	The Postal Code on the Right side of the road segment relative to the FROM Node. DOM
PostComm_L	No	P	40	A city name for the ZIP Code of an address, as given in the USPS City State Product on the Left side of the road segment relative to the FROM Node. DOM
PostComm_R	No	P	40	A city name for the ZIP Code of an address, as given in the USPS City State Product on the Right side of the road segment relative to the FROM Node. DOM
RoadClass	No	P	15	The general description of the type of road. The Road Classifications used in this document are derived from the US Census MAF/TIGER Feature Classification Codes (MTFCC), which is an update to the now deprecated Census Feature Class Codes (CFCC). DOM
OneWay	No	P	2	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. The one-way field has three possible designations: B (Both), FT (From-To) and TF (To-From). DOM
SpeedLimit	No	N	3	Posted Speed Limit in MPH in US or Km/h in Canada

Valid_L	No	P	1	Indicates if the address range on the left side of the road segment should be used for civic location validation. A value of "Y" MAY be entered if any Address Number within the address range on the left side of the road segment should be considered by the LVF to be valid. A value of "N" MAY be entered if the Address Number should only be validated using the Site/Structure Address Points layer. If not present, a value of "Y" is assumed.
Valid_R	No	P	1	Indicates if the address range on the right side of the road segment should be used for civic location validation. A value of "Y" MAY be entered if any Address Number within the address range on the right side of the road segment should be considered by the LVF to be valid. A value of "N" MAY be entered if the Address Number should only be validated using the Site/Structure Address Points layer. If not present, a value of "Y" is assumed.

3.4 **Data Schema (Supplemental Attributes)**

These attributes are recommended for Idaho datasets, but are not a part of the NENA standards and are considered supplemental. The additional attributes may meet local or regional requirements for internal workflows or other 911 mapping systems.

FIELD NAME	REQUIRED	TYPE	FIELD WIDTH	DESCRIPTION
MUID	No	N	16	Statewide Regional Unique segment ID
LUID	No	N	8	Local Unique segment ID
StreetNmID	No	N	8	Unique ID for a unique street name
LSt_Label	No	P	100	Legacy Streetname label (with abbreviations)
From_Add	No	N	8	From Address lowest number of street segment
To_Add	No	N	8	To Address highest number of street segment
Full_StName	No	P	255	Full NG9-1-1 street name
Alias_Name1	No	P	160	Alias name for a street or road
Alias_Name2	No	P	160	Second Alias name for a street or road – recommend that an Alias Names Table is implemented

Block	No	N	8	Street Block in 100s or 1000s
Num_Lanes	No	N	3	Number of lanes a street has
GradeLevel_From	No	N	3	Represents transitions in grade level, such as on/off ramps and over/under passes, bridges
GradeLevel_To	No	N	3	Represents transitions in grade level, such as on/off ramps and over/under passes, bridges
Surface_Type	No	P	10	Surface Type – paved, gravel, dirt, unimproved, etc.
LocationText	No	P	75	County specific location information, sub area, report area
Hwy_Num	No	N	4	Highway shield number for labeling cartographic purposes
Hwy_Shield	No	P	25	Highway shield symbology for cartographic purposes DOM
GIS_Steward	No	P	25	GIS Steward for data set maintenance DOM
Date_Create	No	D	-	Date road segment created
AssetOwner	No	P	75	Agency or entity responsible for road / street maintenance. State, County, City or highway district DOM
Local_RoadID	No	P	75	Local Road Identifier – City/County Road ID, State Road ID, Private Owner, Unknown Owner
Local_RoadClass	No	P	50	Local Road Classification
Local_Restriction	No	P	10	Any local road restrictions: gate, private, etc
	No	P	25	Placement Method – building, parcel, GPS, imagery, etc
Use_Res	No	P	10	Use Restriction on a road, private, public, state agency, locked gate, etc.
FunctionalClass	No	P	10	Functional Classification Description – arterial, collector, urban, rural, etc.
Comments	No	P	254	Comment field
QC_Status	No	P	75	Quality Control Status – complete, review, etc.
QC_Notes	No	P	254	Quality Control Notes – explanation of issue
MUID_FIPS	No	N	16	County specific FIPS code used to calculate MUID

3.5 **Data Quality**

Data quality considerations for RCLs include:

- All RCL, Road Centerlines, and NENA Global IDs need to be unique in all of Idaho.
- The Attributes listed in section 3.3 designate required attribute fields to comply with the NENA NG9-1-1 GIS Standard.) NENA-STA-006.2-2020)
- The Attributes listed in section 3.4 designate supplemental attribute fields that might be required or utilized in other 911 mapping software or add knowledge for public safety personnel.
- The Yes required attributes are the minimum required for NG9-1-1 GIS mapping.
- NENA NG9-1-1 attributes should be spelled out and some may have specific domains. Legacy attributes and label attributes can use abbreviations.
    - NENA Standard requires directional and street types to be spelled out
    - Legacy directional and street type fields use abbreviations
    - St_PreTyp and St_PosTyp - Restricted to values in the "NENA Registry of Street Name Pre Types and Street Name Post Types"
    - St_PreSep - Restricted to values in "NENA Registry of Street Name Pre Type Separators"
    - Postal Codes and Names must match those defined by USPS
    - Inc_Muni, UnincCom, and Postal Names should be spelled out, no abbreviations

Because GIS data provisioned for use in NG9-1-1 system is used in life-or-death situations, quality standards are typically higher than for other datasets and the data should be rigorously validated to for correct names, database integrity, topology issues and correct edge matching.

Appendix A: References

Idaho Technology Authority (ITA). *Information and Data Policy P5000, Category: P5030 Framework Standards Development Policy.* https://ita.idaho.gov/psg/p5030.pdf

Idaho Technology Authority (ITA). *Enterprise Standards S4000 Geographic Information Systems (GIS) Data, Category: S4220 Geospatial Metadata.* https://ita.idaho.gov/psg/s4220.pdf

Federal Communications Commission (FCC).*911 Master RCL Registry.* 911 Master RCL Registry | Federal Communications Commission (fcc.gov)

National Emergency Number Association (NENA) Data Structures Committee, NG9-1-1 GIS Data Model Working Group. *NENA standards for NG9-1-1 GIS Data Model.* NENA-STA-006.2-2022. NG9-1-1 GIS Data Model

National Emergency Number Association. Master Glossary of 9-1-1 Terminology. NENA-ADM-000.24-2021. Arlington, VA: NENA, approved June 22, 2021.

Kansas 911 Coordinating Council. *Kansas NG9-1-1 GIS Data Model V2.0* Kansas NG9-1-1 GIS Data Model (kansas911.org)

T. Berners-Lee, R. Fielding, L. Masinter, Internet Engineering Task Force, *Uniform Resource Identifier (URI) Generic Syntax*, RFC 3986. Exhibit X.

Appendix B: Glossary

See ITA Guideline G105 (ITA Glossary of Terms) for definitions.