

Michigan NG9-1-1 GIS Data Standard

Version 1.0

March 10, 2026



Questions or inquiries about this document can be made to DTMB-NG911GIS@michigan.gov

Developed in conjunction with GeoComm, Inc.

Table of Contents

1	Introduction.....	4
1.1	Background.....	4
1.2	Purpose of the Michigan NG9-1-1 GIS Data Standard.....	4
1.3	Applicability.....	4
1.4	Sources of this Standard.....	5
2	Compliance Notes.....	5
2.1	Spatial Reference.....	5
2.2	Title Case.....	5
2.3	Abbreviations.....	5
2.4	NENA Globally Unique IDs (NGUID).....	6
2.5	Field Type.....	7
2.6	Field Width.....	8
2.7	Inclusion.....	8
2.8	Domains.....	8
3	RoadCenterLine (Road Centerlines) - Summary Table.....	9
3.1	Identification Elements.....	14
3.2	Relate Elements.....	14
3.3	Address Elements.....	14
3.4	Area Elements.....	20
3.5	Functional Elements.....	24
3.6	Management Elements.....	26
3.7	9-1-1 Elements.....	28
4	SiteStructureAddressPoint (Site/Structure Address Point) - Summary Table.....	32
4.1	Identification Elements.....	36
4.2	Relate Elements.....	36
4.3	Primary Address Elements.....	37
4.4	Subaddress Elements.....	42
4.5	Area Elements.....	45
4.6	Functional Elements.....	47
4.7	Management Elements.....	48
4.8	9-1-1 Elements.....	50
5	PsapPolygon (PSAP Boundary) - Summary Table.....	53
5.1	Identification Elements.....	54
5.2	Relate Elements.....	54
5.3	Address Elements.....	54
5.4	Area Elements.....	54
5.5	Functional Elements.....	55
5.6	Management Elements.....	57
5.7	9-1-1 Elements.....	59
6	FirePolygon, PolicePolygon, EmsPolygon (Emergency Service Boundary) - Summary Table.....	60
6.1	Identification Elements.....	62
6.2	Relate Elements.....	62
6.3	Address Elements.....	62
6.4	Area Elements.....	62
6.5	Functional Elements.....	63
6.6	Management Elements.....	65
6.7	9-1-1 Elements.....	67
7	ProvisioningPolygon (Provisioning Boundary) - Summary Table.....	68
7.1	Identification Elements.....	68

7.2	Relate Elements.....	69
7.3	Address Elements.....	69
7.4	Area Elements.....	69
7.5	Functional Elements.....	69
7.6	Management Elements.....	69
7.7	9-1-1 Elements.....	71
8	Future Changes in NENA Standards Impacting this Standard.....	72
9	Items Pending Future Work.....	72
10	Terminology.....	73
11	References.....	75
	Appendix A Change Log.....	77
	Appendix B Street Name Aliases.....	78
	Street Name Alias Methodology.....	78
	StreetNameAliasTable (Street Name Aliases) – Summary Table.....	80
	B.1 Identification Elements.....	82
	B.2 Relate Elements.....	82
	B.3 Address Elements.....	83
	B.4 Area Elements.....	86
	B.5 Functional Elements.....	86
	B.6 Management Elements.....	86
	B.7 9-1-1 Elements.....	88

1 Introduction

In 2025, the State of Michigan, Department of Technology, Management & Budget, Center for Shared Solutions, Geospatial, Web and Data Services Division, in collaboration with the local jurisdictions, continued efforts to prepare the State of Michigan for the implementation of Next Generation 9-1-1 (NG9-1-1). This standard and best practices document is the result of one such effort that focused on GIS data preparation for NG9-1-1. Changes to this Standard occur on a regular basis and a Change Log can be found in [Appendix A](#).

1.1 Background

Accurate and complete GIS data is critical to the operation of an NG9-1-1 system. Locally developed GIS data will be used for routing 9-1-1 calls to the appropriate Public Safety Answering Point (PSAP) and to support the dispatch of emergency services providers. This requires the GIS data to be standardized for use in NG9-1-1.

The majority of authoritative GIS data in Michigan is created at the county or local level to meet local government needs, including 9-1-1 purposes. In 2012 the Michigan Department of Technology, Management and Budget published the Michigan 9-1-1 GIS Database Standard, Version 1.1. The publication covered GIS data for both E9-1-1 and NG9-1-1. Also, in 2012 Michigan published the Addressing Guide ‘Best Practices’ Document Version 2.0. The Best Practices document included Data Maintenance Policies, Address Ordinance, Sample Forms and Flowcharts.

1.2 Purpose of the Michigan NG9-1-1 GIS Data Standard

The purpose of the Michigan NG9-1-1 GIS Data Standard is to establish a uniform, common data model for the required NG9-1-1 GIS layers in the State of Michigan. The National Emergency Number Association (NENA) sets standards for implementing and managing 911 systems, including the data used in public safety systems to support emergency response, particularly as it relates to NG9-1-1. NENA has identified the following GIS data layers as required for NG9-1-1 call routing and dispatching emergency services:

- Road Centerlines (Section 3)
- Site/Structure Address Points (Section 4)
- PSAP Boundaries (Section 5)
- Service Boundaries (PSAP, law enforcement, fire/rescue, emergency medical services) (Section 6)
- Provisioning Boundaries (Section 7)

Data maintained locally typically follows the Michigan 9-1-1 GIS Database Standards, Version 1.1 published in 2012.

This document also provides recommendations and best practices for creating and maintaining the Road Centerline and Site/Structure Address Point GIS data layers to meet Michigan’s NG9-1-1 GIS data requirements and quality control processes for all of the required NG9-1-1 GIS data layers.

1.3 Applicability

The standard is not intended to replace any data producer’s local schema, internal data capture, or storage specifications. Rather, it is the required GIS data standard for use in NG9-1-1 functional elements and core services such as:

- **Location Validation Function (LVF)** to determine if a civic location is valid for call routing and dispatch before a 911 call is ever made,
- **Emergency Call Routing Function (ECRF)** to identify the location of a 911 call and then perform a geographic query to determine the appropriate PSAP to route the call to,
- **MSAG Conversion Service (MCS)** to create an MSAG record from an NG9-1-1 PIDF-LO record for backwards compatibility or to create a PIDF-LO record from an MSAG record for use in NG9-1-1,
- **Geocode Service (GCS)** to provide geocoding and reverse-geocoding services,
- **Mapping Data Service (MDS)** to display a map to the telecommunicator showing the location of an out-of-area call.

GIS data to be used in NG9-1-1 must be in this format. Some data producers may find benefits from storing their data in this structure, such as reducing incompatibilities and inconsistencies when sharing data or eliminating the need for ETL (Extract, Transform, Load) processes when providing data for NG9-1-1 purposes. However, some may choose to continue storing their data in a structure that fits their local needs.

1.4 Sources of this Standard

The Michigan NG9-1-1 GIS Data Standard is built upon the NENA Standard for NG9-1-1 GIS Data Model [1] and includes all required GIS data layers and their elements. This standard also incorporates some elements and data domains from the previously published Michigan 9-1-1 GIS Database Standards (Version 1.1, 2012).

2 Compliance Notes

The NENA Standard for NG9-1-1 GIS Data Model [1] identifies the GIS data layers necessary for NG9-1-1 and defines their required data schema and associated fields. This Michigan NG9-1-1 GIS Data Standard is fully compliant with the NENA Standard and includes the required Road Centerline, Site/Structure Address Point, Emergency Service Boundaries, and Provisioning Boundary GIS data layers. All fields listed in the NENA standard for these layers are included in this document as well as a few additional fields specific to the State of Michigan's needs. All fields listed in this standard must be included in the GIS data layers, even if data does not exist for a field or a field is classified as Required, No.

2.1 Spatial Reference

Local GIS data shall be maintained in any datum and coordinate system desired. Final GIS data must be transformed into the World Geodetic System of 1984 (WGS 1984) prior to its use in a NGCS and the conversion will be completed through the Michigan NG911 GIS Data Management process. All GIS data in i3 must be in this WGS 1984 format to support interoperability between all systems and all sites across the US, as referenced in NENA STA 010.

- Geodetic parameters for WGS84 are specified by the European Petroleum Survey Group (EPSG) as follows:
 - For 2-dimensional geometries the geodetic parameters are required to follow EPSG::4326
 - For 3-dimensional geometries the geodetic parameters are required to follow EPSG::4979

2.2 Title Case

All systems compliant with this standard that receive, and store data MUST preserve case. Fields using a domain of values MUST adhere to the casing rules of that domain. Legacy fields specified in this standard namely, "Legacy Street Name," "Legacy Street Name Post Directional," "Legacy Street Name Pre Directional," "Legacy Street Name Type," and "MSAG Community Name" (including left and right siblings), MUST be all uppercase. Country and State values MUST also be all uppercase. For all other fields that are not governed by domains, values SHOULD be provided using mixed casing (i.e., combination of uppercase and lowercase letters such as in "MacDonald", "LaCrosse", "O'Reilly", "deHavilland", "Avenue of the Americas", "Bras d'Or") as deemed correct by the authoritative source.

2.3 Abbreviations

NENA NG9-1-1 standards require field values to be fully spelled out to remove confusion and ambiguity. This is important when dealing with street names where abbreviations could have multiple interpretations (e.g., "W Charles Tr" could be West Charles Trail, West Charles Trace, William Charles Trail, William Charles Trace, etc.). It is understood that abbreviations can be widely used for a number of applications and some fields may need to be maintained locally in abbreviated form. The use of non-USPS abbreviations are allowed within the Legacy Street Name Type field to match the existing MSAG and ALI values (e.g., AV, TR, LA, etc.). PSAPs should strive to update the MSAG and ALI for USPS standard types as time allows. The goal in the State of Michigan is to follow the USPS abbreviations for the Legacy Street Name Pre Directional, Legacy Street Name Type and Legacy Street

Name Post Directional; base street name should not be abbreviated. If only abbreviations are maintained locally data must be converted into the fully spelled out values before use in NG9-1-1.

The use of abbreviations in the NG9-1-1 GIS data should not be confused with what telecommunicators see on their screens or what they need to type into their systems. Consult with the NG9-1-1 Core Services Provider regarding the software translation capabilities of the data input interfaces used by the telecommunicators.

2.4 NENA Globally Unique IDs (NGUID)

In this version of the Michigan NG9-1-1 GIS Data Standard, the format of the NENA Globally Unique ID (NGUID) conforms to the NENA NG9-1-1 format found in Version 2 [1]. The changes make the form of these IDs match other similar IDs in i3. Like the changes in i3, this change lets a user see what kind of data the ID is from (GIS data), what layer it is from, and which organization created the data.

A NGUID is required for all GIS data elements. NGUIDs shall be generated and maintained within a GIS database by concatenating "urn:emergency:uid:gis:[Layer 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-010.3e-2021 [12]. See section 2.4.1 in this document for Layer Indicator values.
- Local Unique ID – a GIS Data Provider generated “locally assigned ID,” which can be numeric and/or text. This local ID MUST be unique within the GIS Data Provider’s dataset for all features associated with a specific Agency Identifier. ***It is not recommended to use the ObjectID as the Local Unique ID as the ObjectID can be changed by the software.***
- 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-010.3e-2021 [12]. 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.

Example NGUIDs:

urn:emergency:uid:gis:RCL:{AD873541-F41C-409E-A0BE-1B0C583902A4}:charlevoixcounty.org

URN	urn:emergency:uid:gis
Layer Indicator	RCL
Local Unique ID	{AD873541-F41C-409E-A0BE-1B0C583902A4}
Agency Identifier	charlevoixcounty.org

urn:emergency:uid:gis:SSAP:100373182:eatoncounty.org

URN	urn:emergency:uid:gis
Layer Indicator	SSAP
Local Unique ID	100373182
Agency Identifier	eatoncounty.org

2.4.1 Layer Indicators

Name	Layer Indicator
RoadCenterLine	RCL
SiteStructureAddressPoint	SSAP
PsapPolygon	Psap
PolicePolygon	Pol
FirePolygon	Fire
EmsPolygon	Ems
ProvisioningPolygon	Prov
StreetNameAliasTable	StrNA

2.5 Field Type

For simplicity, this standard identifies five field types (Text, Date, Short, Long, Float) that equate to the following NENA-defined field types:

P [Text] – Printable UTF 8 characters that display recognizable glyphs when printed, plus the space character, (U+0020). This explicitly supports accented characters and does not permit other blank characters such as a non breaking space or control characters such as carriage return, line feed, and escape. Indigenous characters are expressly allowed. It is up to the agency to verify with their 9-1-1 system vendor(s) that their systems support characters or pictographic glyphs for all of the indigenous languages within their service area, or for a service area from which they receive diverted or transferred emergency calls.

U [Text] – A Uniform Resource Identifier (URI) as described in Section 16, Terminology, and defined in RFC 3986 [3], and also conforming to any rules specific to the scheme (e.g., sip:, https:, etc.) of the chosen URI. Consult with the NG9-1-1 Core Services Provider for requirements.

D [Date] – Date and time. Information for a record represented as local time with offset from Coordinated Universal Time (UTC) as defined by the W3C “dateTime” datatype described in XML Schema Part 2: Datatypes Second Edition [4]. Since many GIS applications cannot currently utilize this format, local data may store the date and time in the local database date/time format but time must include seconds and may be recorded to 0.1 seconds. Local data stored in a local database date/time format will be converted to the NENA-required format prior to use in NG9-1-1.

N [Short, Long] – Non-negative Integer, consisting of whole numbers only.

F [Float] – Floating (numbers that have a decimal place). There is no defined field length of a floating number; it is system dependent. These shall be double-precision fields.

2.6 Field Width

This is the maximum number of characters a field may contain. Field width represents guidelines for interoperability. Local implementations MAY use smaller maximum widths, but their emergency call processing systems MUST be capable of managing the listed widths when handling out-of-area calls. A GIS system that allows longer widths must be used with great care as those attributes which exceed these widths may be truncated.

2.7 Inclusion

Inclusion refers to the requirement for a field to be populated in a dataset to comply with the standard. Data fields include a specification of when they may appear in a record. The database systems that are used to store a GIS typically can only support a specification of whether a field is required to be present, or it is optional. The “Required” column provides this specification. Three values may occur in this column:

Yes: The data element is required to be present in all records. It will appear as required in the database schema.

Conditional: 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-004.1.1-2014 [13]. If no business rule is identified, the prevailing rule will apply.

No: The data field is optional in a record. It will not appear as required in the database schema.

2.8 Domains

Data domains must be utilized to ensure that information is not lost when merged with other GIS data and to ensure interoperability across all systems. In some fields, only certain values are accepted; therefore, any data outside of this format MAY be ignored or replaced with a null value. Regardless of how the data is being maintained locally, data SHALL be provided in accordance with this standard when exported. Attribute values other than those within the “domain” of allowed values will not be recognized. Non-standardized attributes will lead to problems with validation, routing, and interoperability.

In the current E9-1-1 system, GIS and MSAG data are usually contained within a jurisdiction or region, and as long as the data is consistent within that region, it does not matter how closely it conforms to a data standard. For example, some jurisdictions keep non-numeric prefix and suffix information in an address number data field.

In NG9-1-1, data may not be confined within a jurisdiction or an area. In disaster or overload conditions, calls may be answered out of area. Data may be consolidated into regional and/or statewide databases. For these reasons, it is essential that ALL jurisdictions define their GIS data layers and attributes as they are specified in this NENA NG9-1-1 GIS Data Model Standard. While this change may mean additional effort for many jurisdictions, it is important that every GIS conform to the GIS Data Model Standard contained in this document, in order to realize the many benefits of interoperable data and systems.

This standard identifies a number of required domain tables (shown in italics in the Summary Tables below), some currently maintained by organizations within Michigan and others limited to values identified in external sources such as NENA and USPS.

If a local value exists but is not included in an identified domain, and has a business purpose for NG9-1-1 GIS, submit the value with supporting documentation to the DTMB GIS Office via email at DTMB-NG911GIS@michigan.gov for consideration of inclusion. The DTMB GIS Office will work with the appropriate organization to add the local values that meet the criteria for inclusion in the domains.

3 RoadCenterLine (Road Centerlines) - Summary Table

Element Number	Element Name	Database Field Name	Field Type	Field Width	Inclusion	Domain	Reference Standard
3.1 Identification Elements							
3.1.1	NENA Globally Unique ID	NGUID	TEXT	254	Yes		NENA
3.2 Relate Elements							
3.3 Address Elements							
3.3.1	Left Address Number Prefix	AdNumPre_L	TEXT	15	Conditional		NENA
3.3.2	Left FROM Address	FromAddr_L	LONG	6	Yes	Whole numbers from 0 to 999999	NENA
3.3.3	Left TO Address	ToAddr_L	LONG	6	Yes	Whole numbers from 0 to 999999	NENA
3.3.4	Right Address Number Prefix	AdNumPre_R	TEXT	15	Conditional		NENA
3.3.5	Right FROM Address	FromAddr_R	LONG	6	Yes	Whole numbers from 0 to 999999	NENA
3.3.6	Right TO Address	ToAddr_R	LONG	6	Yes	Whole numbers from 0 to 999999	NENA
3.3.7	Street Name Pre Modifier	St_PreMod	TEXT	25	Conditional		NENA
3.3.8	Street Name Pre Directional	St_PreDir	TEXT	10	Conditional	North; South; East; West; Northeast; Northwest; Southeast; Southwest; Nord; Sud; Est; Ouest; Nord-Est; Nord-Ouest; Sud-Est; Sud-Ouest; or equivalent words in other languages.	NENA
3.3.9	Street Name Pre Type	St_PreType	TEXT	50	Conditional	NENA <i>Street Name Pre Types and Street Name Post Types Registry</i>	NENA
3.3.10	Street Name Pre Type Separator	St_PreSep	TEXT	20	Conditional	NENA <i>Street Name Pre Type Separators Registry</i>	NENA
3.3.11	Street Name	St_Name	TEXT	254	Yes		NENA
3.3.12	Street Name Post Type	St_PosTyp	TEXT	50	Conditional	NENA <i>Street Name Pre Types and Street Name Post Types Registry</i>	NENA

Element Number	Element Name	Database Field Name	Field Type	Field Width	Inclusion	Domain	Reference Standard
3.3.13	Street Name Post Directional	St_PosDir	TEXT	10	Conditional	North; South; East; West; Northeast; Northwest; Southeast; Southwest; Nord; Sud; Est; Ouest; Nord-Est; Nord-Ouest; Sud-Est; Sud-Ouest; or equivalent words in other languages.	NENA
3.3.14	Street Name Post Modifier	St_PosMod	TEXT	25	Conditional		NENA
3.3.15	Direction of Travel	Dir_Travel	TEXT	10	Conditional	northbound; southbound; eastbound; westbound	NENA (v3)
3.3.16	Full Street Name	FullStNm	TEXT	254	Yes		
3.3.17	Legacy Full Street Name	IgFullStNm	TEXT	175	No		
3.3.18	Legacy Street Name Pre Directional	LSt_PreDir	TEXT	2	Conditional	N; S; E; W; NE; NW; SE; SW; O; NO; SO; or equivalent abbreviations in other languages.	NENA
3.3.19	Legacy Street Name	LSt_Name	TEXT	75	Conditional		NENA
3.3.20	Legacy Street Name Type	LSt_Type	TEXT	4	Conditional	USPS Publication 28, Appendix C1 [5]	NENA
3.3.21	Legacy Street Name Post Directional	LSt_PosDir	TEXT	2	Conditional	N; S; E; W; NE; NW; SE; SW; O; NO; SO; or equivalent abbreviations in other languages.	NENA
3.3.22	Postal Code Left	PostCode_L	TEXT	7	No	The domain of values comes from the USPS City State Product, which is a comprehensive list of Postal Codes with corresponding USPS city and county names.	USPS, NENA
3.3.23	Postal Code Right	PostCode_R	TEXT	7	No	The domain of values comes from the USPS City State Product, which is a comprehensive list of Postal Codes with corresponding USPS city and county names.	USPS, NENA
3.3.24	Postal Community Name Left	PostComm_L	TEXT	40	No	Restricted to city names given in the USPS City State Product for a given ZIP Code.	USPS, NENA

Element Number	Element Name	Database Field Name	Field Type	Field Width	Inclusion	Domain	Reference Standard
3.3.25	Postal Community Name Right	PostComm_R	TEXT	40	No	Restricted to city names given in the USPS City State Product for a given ZIP Code.	USPS, NENA
3.4 Area Elements							
3.4.1	Country Left	Country_L	TEXT	2	Yes	ISO 3166-1 alpha-2 codes	NENA
3.4.2	Country Right	Country_R	TEXT	2	Yes	ISO 3166-1 alpha-2 codes	NENA
3.4.3	State Left (Administrative Level 1)	State_L (A1)	TEXT	2	Yes	ISO 3166-2 includes the same abbreviations as USPS Publication 28 [5], Appendix B, with the exception of the additional one for the nine minor uninhabited islands owned by the US.	US Census, NENA
3.4.4	State Right (Administrative Level 1)	State_R (A1)	TEXT	2	Yes	ISO 3166-2 includes the same abbreviations as USPS Publication 28 [5], Appendix B, with the exception of the additional one for the nine minor uninhabited islands owned by the US.	US Census, NENA
3.4.5	County Left (Administrative Level 2)	County_L (A2)	TEXT	254	Yes	Restricted to the names of counties and county equivalents. For the US, a complete list is maintained by the US Census Bureau as ANSI INCITS 31:2009 [7] (Formerly FIPS 6-4) and the Domain is restricted to the exact listed values as published in ANSI INCITS 31:2009 [7], including casing and use of abbreviations.	US Census, NENA

Element Number	Element Name	Database Field Name	Field Type	Field Width	Inclusion	Domain	Reference Standard
3.4.6	County Right (Administrative Level 2)	County_R (A2)	TEXT	254	Yes	Restricted to the names of counties and county equivalents. For the US, a complete list is maintained by the US Census Bureau as ANSI INCITS 31:2009 [7] (Formerly FIPS 6-4) and the Domain is restricted to the exact listed values as published in ANSI INCITS 31:2009 [7], including casing and use of abbreviations.	US Census, NENA
3.4.7	Incorporated Municipality Left (Administrative Level 3)	IncMuni_L (A3)	TEXT	254	Yes		NENA
3.4.8	Incorporated Municipality Right (Administrative Level 3)	IncMuni_R (A3)	TEXT	254	Yes		NENA
3.4.9	Unincorporated Community Left (Administrative Level 4)	UnincCom_L (A4)	TEXT	254	Conditional		NENA
3.4.10	Unincorporated Community Right (Administrative Level 4)	UnincCom_R (A4)	TEXT	254	Conditional		NENA
3.4.11	Neighborhood Community Left (Administrative Level 5)	NbrhdCom_L (A5)	TEXT	254	Conditional		NENA
3.4.12	Neighborhood Community Right (Administrative Level 5)	NbrhdCom_R (A5)	TEXT	254	Conditional		NENA
3.4.13	Additional Code Left	AddCode_L	TEXT	6	Conditional		NENA
3.4.14	Additional Code Right	AddCode_R	TEXT	6	Conditional		NENA
0 Functional Elements							
3.5.1	One-Way	OneWay	TEXT	2	No	B; FT; TF	NENA
3.5.2	Speed Limit	SpeedLimit	SHORT		No	Whole numbers from 1 to 999	NENA
3.5.3	Road Class	RoadClass	TEXT	24	No	Primary; Secondary; Local; Ramp; Service Drive; Vehicular Trail; Walkway/Pedestrian Trail; Stairway; Alley; Private; Parking Lot; Bike Path or Trail; Bridle Path; Other	NENA
3.6 Management Elements							
3.6.1	Date Updated	DateUpdate	DATE		Yes		NENA
3.6.2	Effective Date	Effective	DATE		No		NENA
3.6.3	Expiration Date	Expire	DATE		No		NENA
3.7 9-1-1 Elements							
3.7.1	Discrepancy Agency ID	DiscrpAgID	TEXT	100	Yes		NENA

Element Number	Element Name	Database Field Name	Field Type	Field Width	Inclusion	Domain	Reference Standard
3.7.2	Parity Left	Parity_L	TEXT	1	Yes	O=Odd; E=Even; B=Both; Z=Address Range 0-0	NENA
3.7.3	Parity Right	Parity_R	TEXT	1	Yes	O=Odd; E=Even; B=Both; Z=Address Range 0-0	NENA
3.7.4	ESN Left	ESN_L	TEXT	5	Conditional	Characters from 000 to 99999	NENA
3.7.5	ESN Right	ESN_R	TEXT	5	Conditional	Characters from 000 to 99999	NENA
3.7.6	MSAG Community Name Left	MSAGComm_L	TEXT	30	Conditional	PSAP MSAG	NENA
3.7.7	MSAG Community Name Right	MSAGComm_R	TEXT	30	Conditional	PSAP MSAG	NENA
3.7.8	Legacy County ID Left	LCntyID_L	TEXT	5	Conditional		NENA (v3)
3.7.9	Legacy County ID Right	LCntyID_R	TEXT	5	Conditional		NENA (v3)
3.7.10	Validation Left	Valid_L	TEXT	1	No	Y; N	NENA
3.7.11	Validation Right	Valid_R	TEXT	1	No	Y; N	NENA
3.7.12	Exception	Exception	TEXT	75	Conditional		GMS; NGCS

RoadCenterLine (Road Centerline) - Data Element Details

3.1 Identification Elements

3.1.1 NENA Globally Unique ID

Database Field Name	NGUID		
Data Type	TEXT	Inclusion	Yes
Width	254	Domain	
Examples	urn:emergency:uid:gis:RCL:{AD873541-F41C-409E-A0BE-1B0C583902A4}:charlevoixcounty.org urn:emergency:uid:gis:RCL:100373182:eatoncounty.org urn:emergency:uid:gis:RCL:55025{AD873541-F41C-409E-A0BE-1B0C583902A4}:calhouncountymi.gov		
Description	The NENA Globally Unique ID (Primary Key) for each record in a GIS data layer. Each record in the GIS data 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. Additional detail on how to construct the NGUID can be found in section 2.4 NENA Globally Unique IDs (NGUID).		

3.2 Relate Elements

Not applicable.

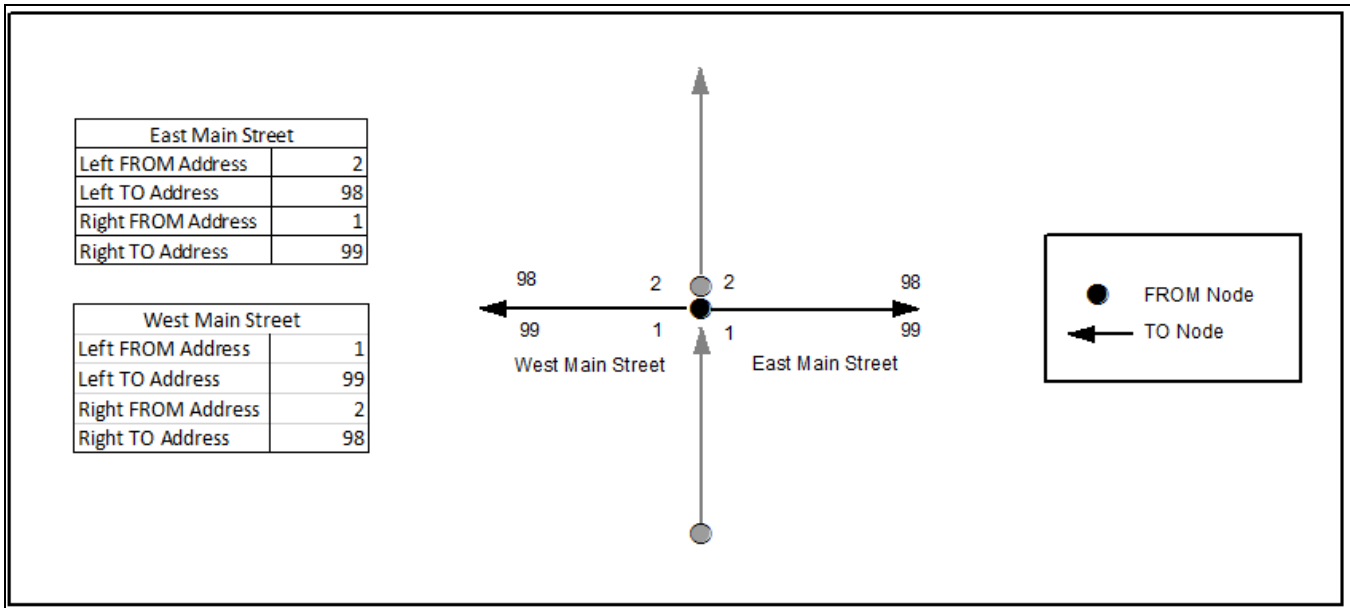
3.3 Address Elements

3.3.1 Left Address Number Prefix

Database Field Name	AdNumPre_L		
Data Type	TEXT	Inclusion	Conditional
Width	15	Domain	
Examples	N123, W123, N, W, S123W		
Description	An extension of the Left FROM Address or Left TO Address on the left side of the road segment consisting of the non-integer portion of the identifier for a parcel, house, building or other feature which precedes the address number, as defined by the official Addressing Authority for the given jurisdiction.		

3.3.2 Left FROM Address

Database Field Name	FromAddr_L		
Data Type	LONG	Inclusion	Yes
Width	6	Domain	Whole numbers from 0 to 999999
Examples	123		
Description	The beginning value of the address range on the left side of the road segment at the FROM node (begin point). This value can be higher than the Left TO Address.		



Example of Left FROM, Left TO, Right FROM, and Right TO Addresses

3.3.3 Left TO Address

Database Field Name	ToAddr_L		
Data Type	LONG	Inclusion	Yes
Width	6	Domain	Whole numbers from 0 to 999999
Examples	123		
Description	The ending value of the address range on the left side of the road segment at the TO node (endpoint). This value can be lower than the Left FROM Address.		

3.3.4 Right Address Number Prefix

Database Field Name	AdNumPre_R		
Data Type	TEXT	Inclusion	Conditional
Width	15	Domain	
Examples	N123, W123, N, W, S123W		
Description	An extension of the Right FROM Address or Right TO Address on the right side of the road segment, consisting of the non-integer portion of the identifier for a parcel, house, building or other feature which precedes the address number, as defined by the official Addressing Authority for the given jurisdiction.		

3.3.5 Right FROM Address

Database Field Name	FromAddr_R		
Data Type	LONG	Inclusion	Yes
Width	6	Domain	Whole numbers from 0 to 999999
Examples	123		
Description	The beginning value of the address range on the right side of the road segment at the FROM node (begin point). This value can be higher than the Right TO Address.		

3.3.6 Right TO Address

Database Field Name	ToAddr_R		
Data Type	LONG	Inclusion	Yes
Width	6	Domain	Whole numbers from 0 to 999999
Examples	123		
Description	The ending value of the address range on the right side of the road segment at the TO node (endpoint). This value can be lower than the Right FROM Address.		

3.3.7 Street Name Pre Modifier

Database Field Name	St_PreMod		
Data Type	TEXT	Inclusion	Conditional
Width	25	Domain	
Examples	Old West United States Highway 2, Business South Interstate 75		
Description	A word or phrase that precedes all other Street Name elements and is separated from the Street Name element by a Street Name Pre Directional and/or a Street Name Pre Type element. Not commonly used and use should be minimized.		

3.3.8 Street Name Pre Directional

Database Field Name	St_PreDir		
Data Type	TEXT	Inclusion	Conditional
Width	10	Domain	North; South; East; West; Northeast; Northwest; Southeast; Southwest; Nord; Sud; Est; Ouest; Nord-Est; Nord-Ouest; Sud-Est; Sud-Ouest; or equivalent words in other languages.
Examples	East Mulberry Road, South Posey Lake Highway		
Description	A word or phrase preceding the Street Name element that indicates the direction taken by the road from an arbitrary starting point or the sector where it is located.		

3.3.9 Street Name Pre Type

Database Field Name	St_PreType		
Data Type	TEXT	Inclusion	Conditional
Width	50	Domain	<i>NENA Street Name Pre Types and Street Name Post Types Registry</i>
Examples	Avenue A , Old West United States Highway 2 , County Road PBA , State Route 123 , Interstate 96		
Description	A word or phrase that precedes the Street Name element and identifies the type of thoroughfare in the Full Street Name.		

3.3.10 Street Name Pre Type Separator

Database Field Name	St_PreSep		
Data Type	TEXT	Inclusion	Conditional
Width	20	Domain	<i>NENA Street Name Pre Type Separators Registry</i>
Examples	Avenue of the Arts, Avenue of Champions		
Description	A preposition or prepositional phrase between the Street Name Pre Type and the Street Name element.		

3.3.11 Street Name

Database Field Name	St_Name		
Data Type	TEXT	Inclusion	Yes
Width	254	Domain	
Examples	Jones Road, County Road H-40 , Avenue of the Arts , Avenue C , Azure Court South		
Description	The official name of the road as defined by the official Street Naming Authority for the given jurisdiction. The Street Name element does not include a street type, directional, or modifier unless assigned as such by the official Street Naming Authority.		

3.3.12 Street Name Post Type

Database Field Name	St_PosTyp		
Data Type	TEXT	Inclusion	Conditional
Width	50	Domain	<i>NENA Street Name Pre Types and Street Name Post Types Registry</i>
Examples	Jones Road , Azure Court South		
Description	A word or phrase that follows the Street Name element and identifies the type of thoroughfare in the Full Street Name.		

3.3.13 Street Name Post Directional

Database Field Name	St_PosDir		
Data Type	TEXT	Inclusion	Conditional
Width	10	Domain	North; South; East; West; Northeast; Northwest; Southeast; Southwest; Nord; Sud; Est; Ouest; Nord-Est; Nord-Ouest; Sud-Est; Sud-Ouest; or equivalent words in other languages.
Examples	Azure Court South , 10th Avenue West		
Description	A word or phrase following the Street Name element that indicates the direction taken by the road from an arbitrary starting point or the sector where it is located.		

3.3.14 Street Name Post Modifier

Database Field Name	St_PosMod		
Data Type	TEXT	Inclusion	Conditional
Width	25	Domain	
Examples	Tyler Road Access , Fishing Site Road Number 1		
Description	A word or phrase that follows all other Street Name elements and is separated from the Street Name element by a Street Name Post Directional and/or Street Name Post Type element. Not commonly used and use should be minimized.		

3.3.15 Direction of Travel

Database Field Name	Dir_Travel		
Data Type	TEXT	Inclusion	Conditional
Width	10	Domain	
Examples	northbound, southbound, eastbound, westbound		
Description	A word that follows all other street name elements and is used only as needed to indicate direction of travel on a divided roadway and associated frontage roads.		

3.3.16 Full Street Name

Database Field Name	FullStNm		
Data Type	TEXT	Inclusion	Yes
Width	245	Domain	
Examples	East Main Street, South Elmwood Drive, Interstate 96, West County Road 410, 10th Avenue West, Azure Court South		
Description	The Street Name with all Pre/Post Modifiers, Pre/Post Directionals, Pre Type Separator, Pre/Post Types and Direction of Travel concatenated: St_PreMod + St_PreDir + St_PreTyp + St_PreSep + St_Name + St_PosTyp + St_PosDir + St_PosMod + Dir_Travel		

3.3.17 Legacy Full Street Name

Database Field Name	lgFullStNm		
Data Type	TEXT	Inclusion	No
Width	175	Domain	
Examples	E MULBERRY RD, S POSEY LAKE HWY, I 75 N, STATE ROUTE 34		
Description	The Full Street Name with abbreviations (where appropriate) used for the Pre/Post Modifiers, Pre/Post Types, and Pre/Post Directionals. LSt_PreDir + LSt_Name + LSt_PosTyp + LSt_PosDir		

3.3.18 Legacy Street Name Pre Directional

Database Field Name	LSt_PreDir		
Data Type	TEXT	Inclusion	Conditional
Width	2	Domain	N; S; E; W; NE; NW; SE; SW; O; NO; SO; or equivalent abbreviations in other languages.
Examples	E MULBERRY RD, S POSEY LAKE HWY		
Description	The street direction prefix as it appears in the MSAG, as assigned by the official Street Naming Authority. Casing should reflect what appears in the MSAG data.		

3.3.19 Legacy Street Name

Database Field Name	LSt_Name		
Data Type	TEXT	Inclusion	Conditional
Width	75	Domain	
Examples	E CHICAGO BLVD, W CADMUS RD, I 75 N, STATE ROUTE 34, 36TH ST S, SHARON RD SW		
Description	The street name field as it appears in the MSAG, as assigned by the official Street Naming Authority. Casing should reflect what appears in the MSAG data.		

3.3.20 Legacy Street Name Type

Database Field Name	LSt_Type		
Data Type	TEXT	Inclusion	Conditional
Width	4	Domain	PSAP MSAG; USPS Publication 28, Appendix C1 [5]
Examples	E CHICAGO BLVD, W CADMUS RD, 36TH ST S, SHARON RD SW		
Description	The valid street type abbreviation as it appears in the MSAG, as assigned by the official Street Naming Authority. Casing should reflect what appears in the MSAG data.		

3.3.21 Legacy Street Name Post Directional

Database Field Name	LSt_PosDir		
Data Type	TEXT	Inclusion	Conditional
Width	2	Domain	N; S; E; W; NE; NW; SE; SW; O; NO; SO; or equivalent abbreviations in other languages.
Examples	OREGON RD W , GINAFRED SHORES DR SW		
Description	The street direction suffix as it appears in the MSAG, as assigned by the official Street Naming Authority. Casing should reflect what appears in the MSAG data.		

3.3.22 Postal Code Left

Database Field Name	PostCode_L		
Data Type	TEXT	Inclusion	No
Width	7	Domain	The domain of values comes from the USPS City State Product, which is a comprehensive list of Postal Codes with corresponding USPS city and county names.
Examples	46768		
Description	The 5-digit code on the left side of the road segment that identifies the individual US Post Office or metropolitan area delivery station associated with the addresses on that side of the road.		

3.3.23 Postal Code Right

Database Field Name	PostCode_R		
Data Type	TEXT	Inclusion	No
Width	7	Domain	The domain of values comes from the USPS City State Product, which is a comprehensive list of Postal Codes with corresponding USPS city and county names.
Examples	46768		
Description	The 5-digit code on the right side of the road segment that identifies the individual US Post Office or metropolitan area delivery station associated with the addresses on that side of the road.		

3.3.24 Postal Community Name Left

Database Field Name	PostComm_L		
Data Type	TEXT	Inclusion	No
Width	40	Domain	Restricted to city names given in the USPS City State Product for a given ZIP Code. The USPS City State Product is a comprehensive list of ZIP Codes with corresponding USPS city and county names.
Examples	Addison, Michigammie, Roseville, Zeeland		
Description	The name on the left side of the road segment recognized by the USPS as valid for the ZIP Code of the addresses on that side of the road.		

3.3.25 Postal Community Name Right

Database Field Name	PostComm_R		
Data Type	TEXT	Inclusion	No
Width	40	Domain	Restricted to city names given in the USPS City State Product for a given ZIP Code. The USPS City State Product is a comprehensive list of ZIP Codes with corresponding USPS city and county names.
Examples	Addison, Michigammie, Roseville, Zeeland		
Description	The name on the right side of the road segment recognized by the USPS as valid for the ZIP Code of the addresses on that side of the road.		

3.4 Area Elements

3.4.1 Country Left

Database Field Name	Country_L		
Data Type	TEXT	Inclusion	Yes
Width	2	Domain	Restricted to the two-letter codes in ISO 3166-1 alpha-2 codes
Examples	US, CA		
Description	The two-letter abbreviation of the Country on the left side of the road segment where the address is located. Must be in uppercase.		

3.4.2 Country Right

Database Field Name	Country_R		
Data Type	TEXT	Inclusion	Yes
Width	2	Domain	Restricted to the two-letter codes in ISO 3166-1 alpha-2 codes
Examples	US, CA		
Description	The two-letter abbreviation of the Country on the right side of the road segment where the address is located. Must be in uppercase.		

3.4.3 State Left (Administrative Level 1)

Database Field Name	State_L (A1_L)		
Data Type	TEXT	Inclusion	Yes
Width	2	Domain	ISO 3166-2 includes the same abbreviations as USPS Publication 28 [5], Appendix B, with the exception of the additional one for the nine minor uninhabited islands owned by the US.
Examples	IN, MI, OH, WI		
Description	The two-letter abbreviation of the State on the left side of the road segment where the address is located. Must be in uppercase.		

3.4.4 State Right (Administrative Level 1)

Database Field Name	State_R (A1_R)		
Data Type	TEXT	Inclusion	Yes
Width	2	Domain	ISO 3166-2 includes the same abbreviations as USPS Publication 28 [5], Appendix B, with the exception of the additional one for the nine minor uninhabited islands owned by the US.
Examples	IN, MI, OH, WI		
Description	The two-letter abbreviation of the State on the right side of the road segment where the address is located. Must be in uppercase.		

3.4.5 County Left (Administrative Level 2)

Database Field Name	County_L (A2_L)		
Data Type	TEXT	Inclusion	Yes
Width	254	Domain	Restricted to the names of counties and county equivalents. For the US, a complete list is maintained by the US Census Bureau as ANSI INCITS 31:2009 [7] (Formerly FIPS 6-4) and the Domain is restricted to the exact listed values as published in ANSI INCITS 31:2009 [7], including casing and use of abbreviations.
Examples	Delta County, Saginaw County		
Description	The name of the County on the left side of the road segment where the address is located.		

3.4.6 County Right (Administrative Level 2)

Database Field Name	County_R (A2_R)		
Data Type	TEXT	Inclusion	Yes
Width	254	Domain	Restricted to the names of counties and county equivalents. For the US, a complete list is maintained by the US Census Bureau as ANSI INCITS 31:2009 [7] (Formerly FIPS 6-4) and the Domain is restricted to the exact listed values as published in ANSI INCITS 31:2009 [7], including casing and use of abbreviations.
Examples	Delta County, Saginaw County		
Description	The name of the County on the right side of the road segment where the address is located.		

3.4.7 Incorporated Municipality Left (Administrative Level 3)

Database Field Name	IncMuni_L (A3_L)		
Data Type	TEXT	Inclusion	Yes
Width	254	Domain	
Examples	Bear Creek Township, City of Sparta, Village of Marcellus		
Description	The name of the Incorporated Municipality on the left side of the road segment where the address is located, including the incorporated municipality type.		

3.4.8 Incorporated Municipality Right (Administrative Level 3)

Database Field Name	IncMuni_R (A3_R)		
Data Type	TEXT	Inclusion	Yes
Width	254	Domain	
Examples	Bear Creek Township, City of Sparta, Village of Marcellus		
Description	The name of the Incorporated Municipality on the right side of the road segment where the address is located, including the incorporated municipality type.		

3.4.9 Unincorporated Community Left (Administrative Level 4)

Database Field Name	UnincCom_L (A4_L)		
Data Type	TEXT	Inclusion	Conditional
Width	254	Domain	
Examples	Jasper, Manitou Beach		
Description	The name of the Unincorporated Community on the left side of the road segment where the address is located.		

3.4.10 Unincorporated Community Right (Administrative Level 4)

Database Field Name	UnincCom_R (A4_R)		
Data Type	TEXT	Inclusion	Conditional
Width	254	Domain	
Examples	Jasper, Manitou Beach		
Description	The name of the Unincorporated Community on the right side of the road segment where the address is located.		

3.4.11 Neighborhood Community Left (Administrative Level 5)

Database Field Name	NbrhdCom_L		
Data Type	TEXT	Inclusion	Conditional
Width	254	Domain	
Examples	Applin River Estates, Green Acres, Oak Hills		
Description	The name of an unincorporated neighborhood, subdivision, or area within an incorporated municipality on the left side of the road segment where the address point is located. Neighborhood communities are only used when they are known and have a clearly defined boundary.		

3.4.12 Neighborhood Community Right (Administrative Level 5)

Database Field Name	NbrhdCom_R		
Data Type	TEXT	Inclusion	Conditional
Width	254	Domain	
Examples	Applin River Estates, Green Acres, Oak Hills		
Description	The name of an unincorporated neighborhood, subdivision, or area within an incorporated municipality on the right side of the road segment where the address point is located. Neighborhood communities are only used when they are known and have a clearly defined boundary.		

3.4.13 Additional Code Left

Database Field Name	AddCode_L		
Data Type	TEXT	Inclusion	Conditional
Width	6	Domain	
Examples			
Description	<p>Note: Since this field is not applicable in the US, it will not be populated in MI GIS data layers.</p> <p>A Standard Geographical Classification code used in Canada that specifies a geographic area and is used to differentiate two municipalities with the same name in a province that does not have counties.</p>		

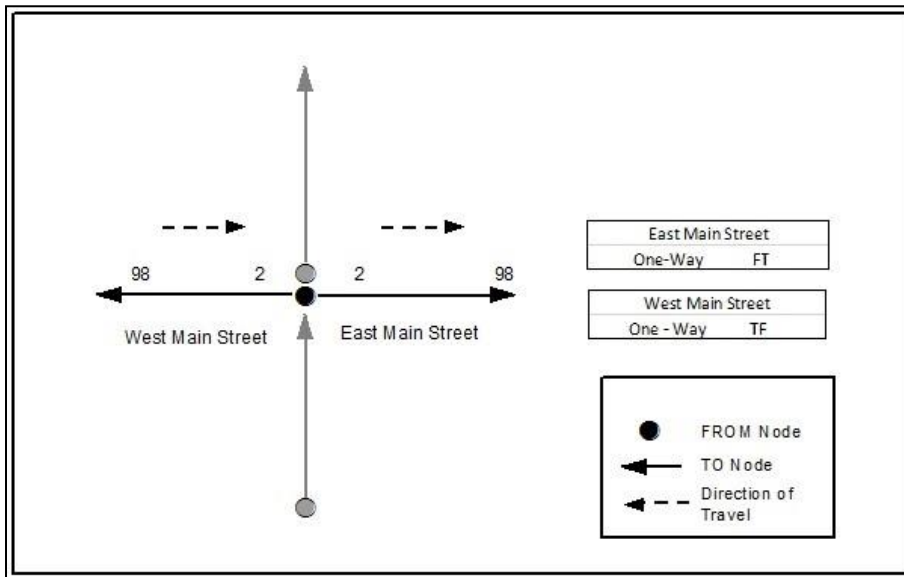
3.4.14 Additional Code Right

Database Field Name	AddCode_R		
Data Type	TEXT	Inclusion	Conditional
Width	6	Domain	
Examples			
Description	<p>Note: Since this field is not applicable in the US, it will not be populated in MI GIS data layers.</p> <p>A Standard Geographical Classification code used in Canada that specifies a geographic area and is used to differentiate two municipalities with the same name in a province that does not have counties.</p>		

3.5 Functional Elements

3.5.1 One-Way

Database Field Name	OneWay		
Data Type	TEXT	Inclusion	No
Width	2	Domain	B, TF, FT
Examples	B, FT, TF		
Description	The direction of traffic movement along a road in relation to the FROM node and TO node of the road segment where: B (Travel allowed in both directions) FT (One-way, travel from FROM node to TO node) TF (One-way, travel from TO node to FROM node)		



Example of OneWay attribution

3.5.2 Speed Limit

Database Field Name	SpeedLimit		
Data Type	SHORT	Inclusion	No
Width		Domain	Whole numbers from 1 to 999
Examples	10, 25, 30, 55, 65		
Description	The posted predominate speed limit of the road segment.		

3.5.3 Road Class

Database Field Name	RoadClass		
Data Type	TEXT	Inclusion	No
Width	24	Domain	Primary, Secondary, Local, Ramp, Service Drive, Vehicular Trail, Walkway/Pedestrian Trail, Stairway, Alley, Private, Parking Lot, Bike Path or Trail, Bridle Path, Other
Examples	Primary, Secondary, Local, Ramp, Alley, Private, Trail		
Description	<p>The general description of the type of road. These values are based on road classification definitions from the Census MAF/TIGER Feature Class Codes (MTFCC) at https://www.census.gov/library/reference/code-lists/mt-feature-class-codes.html.</p> <ul style="list-style-type: none"> • <i>Primary</i> roads are generally divided, limited-access highways within the interstate highway system or under state management, and are distinguished by the presence of interchanges. These highways are accessible by ramps and may include some toll highways. • <i>Secondary</i> roads are main arteries, usually in the US Highway, State Highway, or County Highway system. These roads have one or more lanes of traffic in each direction, may or may not be divided, and usually have at-grade intersections with many other roads and driveways. • <i>Local</i> roads are generally a paved non-arterial street, road, or byway that usually has a single lane of traffic in each direction. Roads in this classification include neighborhood, rural roads, and city streets. • <i>Ramp</i> designates a road that allows controlled access from adjacent roads onto a limited access highway, often in the form of a cloverleaf interchange. Ramps typically do not have address ranges. • <i>Service Drive</i> provides access to structures along the highway, usually parallel to a limited access highway. If these roads are named and addressed, they may be considered local roads. • <i>Vehicular Trail</i> (4WD, snowmobile) is an unpaved trail or path where a four-wheel-drive vehicle, snowmobile, or similar vehicle is required. • <i>Walkway/Pedestrian Trail</i> is a path that is used for walking, being either too narrow for or legally restricted from vehicular traffic. • <i>Stairway</i> is a pedestrian passageway from one level to another by a series of steps. • <i>Alley</i> is generally a service road that does not generally have associated addressed structures and is usually unnamed. It is located at the rear of buildings and properties. • <i>Private</i> (service vehicles, logging, oil fields, ranches, etc.) is a road within private property that is privately maintained for service, extractive, or other purposes. These roads are often unnamed. • <i>Parking Lot</i> is the main travel route for vehicles through a paved parking area. • <i>Bike Path or Trail</i> is a path that is used for manual or small, motorized bicycles, being either too narrow for or legally restricted from vehicular traffic. • <i>Bridle Path</i> is a path that is used for horses, being either too narrow for or legally restricted from vehicular traffic. • <i>Other</i> is any road or path type that does not fit into the above categories. 		

3.6 Management Elements

3.6.1 Date Updated

Database Field Name	DateUpdate		
Data Type	DATE	Inclusion	Yes
Width		Domain	Date and Time may be stored in the local database date/time format with the proviso that local time zone MUST be recorded and time MUST be recorded to a precision of at least 1 second and MAY be recorded to a precision of 0.1 second. If the local database date/time format does not meet these specifications, the database SHOULD record both the local date/time format and a string conforming to W3C dateTime format as described in XML Schema Part 2: Datatypes Second Edition [4].
Examples	2020-01-28T15:47:09.3-06:00 (representing a record updated on January 28, 2020 at 3:47 and 9.3 seconds PM US Central Standard Time, with a precision of .1 second); 2020-07-16T08:31:15.2-05:00 (representing a record updated on July 16, 2020 at 8:31 and 15.2 seconds AM US Central Daylight Time, with a precision of .1 second)		
Description	The date and time that the record was created or last modified.		

3.6.2 Effective Date

Database Field Name	Effective		
Data Type	DATE	Inclusion	No
Width		Domain	Date and Time may be stored in the local database date/time format with the proviso that local time zone MUST be recorded and time MUST be recorded to a precision of at least 1 second and MAY be recorded to a precision of 0.1 second. If the local database date/time format does not meet these specifications, the database SHOULD record both the local date/time format and a string conforming to W3C dateTime format as described in XML Schema Part 2: Datatypes Second Edition [4].
Examples	<p>2021-02-11T01:30:00.1-06:00 (representing a record that will become active on February 11, 2021 at 1:30 and 0.1 seconds AM US Central Standard Time, with a precision of .1 second);</p> <p>2021-10-15T20:15:30.5-05:00 (representing a record that will become active on October 15, 2021 at 8:15 and 30.5 seconds PM US Central Daylight Time, with a precision of .1 second)</p>		
Description	The date and time that the record is scheduled to take effect (e.g., the date and time an annexation takes effect and a copy of the road centerlines within the annexed area that have had their Incorporated Municipality, ESN, and MSAG Community Name fields populated with the new values are recognized for use in the NG9-1-1 system).		

3.6.3 Expiration Date

Database Field Name	Expire		
Data Type	DATE	Inclusion	No
Width		Domain	Date and Time may be stored in the local database date/time format with the proviso that local time zone MUST be recorded and time MUST be recorded to a precision of at least 1 second and MAY be recorded to a precision of 0.1 second. If the local database date/time format does not meet these specifications, the database SHOULD record both the local date/time format and a string conforming to W3C dateTime format as described in XML Schema Part 2: Datatypes Second Edition [4].
Examples	2021-02-11T01:30:00.1-06:00 (representing a record that will expire and no longer be valid on February 11, 2021 at 1:30 and 0.1 seconds AM US Central Standard Time, with a precision of .1 second); 2021-10-15T20:15:30.5-05:00 (representing a record that will expire and no longer be valid on October 15, 2021 at 8:15 and 30.5 seconds PM US Central Daylight Time, with a precision of .1 second)		
Description	The date and time when the information in the record is no longer considered valid (e.g., the date and time an annexation takes effect and the road centerlines within the annexed area that have their Incorporated Municipality, ESN, and MSAG Community Name fields populated with the former values are no longer recognized for use in the NG9-1-1 system).		

3.7 9-1-1 Elements

3.7.1 Discrepancy Agency ID

Database Field Name	DiscrpAgID		
Data Type	TEXT	Inclusion	Yes
Width	100	Domain	
Examples	co.hillsdale.mi.us, lapeercountyweb.org, sanilaccounty.gov		
Description	Agency that receives a Discrepancy Report (DR), should a discrepancy in the GIS data be discovered, and will take responsibility for ensuring discrepancy resolution. This may or may not be the same as the 9-1-1 Authority. This MUST be represented by a domain name that is an Agency Identifier as defined in the NENA Master Glossary of 9-1-1 Terminology, NENA-ADM-000.23.2020 [17].		

3.7.2 Parity Left

Database Field Name	Parity_L		
Data Type	TEXT	Inclusion	Yes
Width	1	Domain	O, E, B, Z
Examples	O, E, B, Z		
Description	<p>The even or odd property of the address number range on the left side of the road segment relative to the FROM Node where:</p> <p>O (only Odd addresses in the address range)</p> <p>E (only Even addresses in the address range)</p> <p>B (Both Even and Odd addresses in the address range)</p> <p>Z (Address Range is 0-0)</p>		

3.7.3 Parity Right

Database Field Name	Parity_R		
Data Type	TEXT	Inclusion	Yes
Width	1	Domain	O, E, B, Z
Examples	O, E, B, Z		
Description	<p>The even or odd property of the address number range on the right side of the road segment relative to the FROM Node where:</p> <p>O (only Odd addresses in the address range)</p> <p>E (only Even addresses in the address range)</p> <p>B (Both Even and Odd addresses in the address range)</p> <p>Z (Address Range is 0-0)</p>		

3.7.4 ESN Left

Database Field Name	ESN_L		
Data Type	TEXT	Inclusion	Conditional
Width	5	Domain	Characters from 000 to 99999
Examples	0203, 131, 6601, 97		
Description	<p>A 3-5 character alphanumeric string that represents the Emergency Service Zone (ESZ) on the left side of the road segment relative to the FROM Node. ESZ is used for 10-digit routing in Legacy Systems and is not used in a full NG9-1-1 implementation.</p>		

3.7.5 ESN Right

Database Field Name	ESN_R		
Data Type	TEXT	Inclusion	Conditional
Width	5	Domain	Characters from 000 to 99999
Examples	0203, 131, 6601, 97		
Description	<p>A 3-5 character alphanumeric string that represents the Emergency Service Zone (ESZ) on the right side of the road segment relative to the FROM Node. ESZ is used for 10-digit routing in Legacy Systems and is not used in a full NG9-1-1 implementation.</p>		

3.7.6 MSAG Community Name Left

Database Field Name	MSAGComm_L		
Data Type	TEXT	Inclusion	Conditional
Width	30	Domain	
Examples	CAMDEN, GRAND BLANC, ONSTED VLG		
Description	The Community name on the left side of the road segment relative to the FROM Node, as it appears in the MSAG. This may or may not be the same as the Postal Community Name used by the US Postal Service.		

3.7.7 MSAG Community Name Right

Database Field Name	MSAGComm_R		
Data Type	TEXT	Inclusion	Conditional
Width	30	Domain	
Examples	CAMDEN, GRAND BLANC, ONSTED VLG		
Description	The Community name on the right side of the road segment relative to the FROM Node, as it appears in the MSAG. This may or may not be the same as the Postal Community Name used by the US Postal Service.		

3.7.8 Legacy County ID Left

Database Field Name	LCntyID_L		
Data Type	TEXT	Inclusion	Conditional
Width	5	Domain	
Examples	021; FRKL		
Description	The existing County ID as found in the MSAG on the left side of the road segment relative to the FROM Node.		

3.7.9 Legacy County ID Right

Database Field Name	LCntyID_R		
Data Type	TEXT	Inclusion	Conditional
Width	5	Domain	
Examples	021; FRKL		
Description	The existing County ID as found in the MSAG on the right side of the road segment relative to the FROM Node.		

3.7.10 Validation Left

Database Field Name	Valid_L		
Data Type	TEXT	Inclusion	No
Width	1	Domain	Y; N
Examples	Y, N		
Description	Indicates if the address range on the left side of the road segment should be used for civic location validation. A value of "Y" means the Road Centerline layer can be used for address validation and therefore 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" means the Road Centerline layer should not be used for validation and an Address Number within the address range on the left side of the road segment should only be validated using the Site/Structure Address Point layer. If no values are populated, a value of "Y" is assumed.		

3.7.11 Validation Right

Database Field Name	Valid_R		
Data Type	TEXT	Inclusion	No
Width	1	Domain	Y; N
Examples	Y, N		
Description	Indicates if the address range on the right side of the road segment should be used for civic location validation. A value of "Y" means the Road Centerline layer can be used for address validation and therefore 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" means the Road Centerline layer should not be used for validation and an Address Number within the address range on the right side of the road segment should only be validated using the Site/Structure Address Point layer. If no values are populated, a value of "Y" is assumed.		

3.7.12 Exception

Database Field Name	Exception		
Data Type	TEXT	Inclusion	Conditional
Width	75	Domain	GMS, NGCS
Examples	<i>To be determined</i>		
Description	Indicates if a segment has an exception. The State of Michigan along with the NGCS will develop these codes in the future.		

4 SiteStructureAddressPoint (Site/Structure Address Point) - Summary Table

Element Number	Element Name	Database Field Name	Field Type	Field Width	Inclusion	Domain	Reference Standard
4.1 Identification Elements							
4.1.1	NENA Globally Unique ID	NGUID	TEXT	254	Yes		NENA
4.2 Relate Elements							
4.2.1	Road Centerline NENA Globally Unique ID (Foreign Key)	RCL_NGUID	TEXT	254	Conditional		
4.3 Base Address Elements							
4.3.1	Address Number Prefix	AddNum_Pre	TEXT	15	Conditional		NENA
4.3.2	Address Number	Add_Number	LONG	6	Conditional	Whole numbers from 0 to 999999	NENA
4.3.3	Address Number Suffix	AddNum_Suf	TEXT	15	Conditional		NENA
4.3.4	Address Number Complete	AddNum_Cmp	TEXT	42	Conditional		NENA
4.3.5	Street Name Pre Modifier	St_PreMod	TEXT	25	Conditional		NENA
4.3.6	Street Name Pre Directional	St_PreDir	TEXT	10	Conditional	North; South; East; West; Northeast; Northwest; Southeast; Southwest; Nord; Sud; Est; Ouest; Nord-Est; Nord-Ouest; Sud-Est; Sud-Ouest; or equivalent words in other languages.	NENA
4.3.7	Street Name Pre Type	St_PreTyp	TEXT	50	Conditional	NENA <i>Street Name Pre Types and Street Name Post Types Registry</i>	NENA
4.3.8	Street Name Pre Type Separator	St_PreSep	TEXT	20	Conditional	NENA <i>Street Name Pre Type Separators Registry</i>	NENA
4.3.9	Street Name	St_Name	TEXT	254	Conditional		NENA
4.3.10	Street Name Post Type	St_PosTyp	TEXT	50	Conditional	NENA <i>Street Name Pre Types and Street Name Post Types Registry</i>	NENA
4.3.11	Street Name Post Directional	St_PosDir	TEXT	10	Conditional	North; South; East; West; Northeast; Northwest; Southeast; Southwest; Nord; Sud; Est; Ouest; Nord-Est; Nord-Ouest; Sud-Est; Sud-Ouest; or equivalent words in other languages.	NENA
4.3.12	Street Name Post Modifier	St_PosMod	TEXT	25	Conditional		NENA
4.3.13	Direction of Travel	Dir_Travel	TEXT	10	Conditional		NENA (v3)
4.3.14	Full Street Name	FullStNm	TEXT	245	No		
4.3.15	Legacy Full Street Name	lgFullStNm	TEXT	175	No		
4.3.16	Legacy Full Address	lgFullAddr	TEXT	300	No		
4.3.17	Legacy Street Name Pre Directional	LSt_PreDir	TEXT	2	Conditional	N; S; E; W; NE; NW; SE; SW; O; NO; SO; or equivalent abbreviations in other languages.	NENA

Element Number	Element Name	Database Field Name	Field Type	Field Width	Inclusion	Domain	Reference Standard
4.3.18	Legacy Street Name	LSt_Name	TEXT	75	Conditional		NENA
4.3.19	Legacy Street Name Type	LSt_Type	TEXT	4	Conditional	PSAP MSAG; USPS Publication 28, Appendix C1	NENA
4.3.20	Legacy Street Name Post Directional	LSt_PosDir	TEXT	2	Conditional	N; S; E; W; NE; NW; SE; SW; O; NO; SO; or equivalent abbreviations in other languages.	NENA
4.3.21	Postal Code	Post_Code	TEXT	7	No	The domain of values comes from the USPS City State Product, which is a comprehensive list of Postal Codes with corresponding USPS city and county names.	USPS, NENA
4.3.22	Post Code Extension	PostCodeEx	TEXT	4	No	Defined by the USPS	USPS, NENA
4.3.23	Postal Community Name	Post_Comm	TEXT	40	No	Restricted to city names given in the USPS City State Product for a given ZIP Code.	USPS, NENA
4.4 Subaddress Elements							
4.4.1	Complete Landmark Name	LandmkName	TEXT	150	No		NENA (v2a)
4.4.2	Distance Marker	DistMarker	TEXT	150	Conditional		NENA (v3)
4.4.3	Site	Site	TEXT	254	No		NENA (v3)
4.4.4	SubSite	SubSite	TEXT	254	No		NENA (v3)
4.4.5	Structure	Structure	TEXT	75	No		NENA (v3)
4.4.6	Floor Label	Floor	TEXT	75	No		NENA (v3)
4.4.7	Floor Index	FloorIndex	LONG		No		NENA (v3)
4.4.8	Wing	Wing	TEXT	75	No		NENA (v3)
4.4.9	Unit	Unit	TEXT	75	Conditional		NENA (v2a)
4.4.10	Unit Pre Type	UnitPreType	TEXT	75	Conditional		NENA (v3)
4.4.11	Unit Value	UnitValue	TEXT	75	Conditional		NENA (v3)
4.4.12	Section	Section	TEXT	75	No		NENA (v3)
4.4.13	Row	Row	TEXT	75	No		NENA (v2a)
4.4.14	Room	Room	TEXT	75	No		NENA (v2a)
4.4.15	Seat	Seat	TEXT	75	No		NENA (v2a)
4.4.16	Location Marker	LocMarker	TEXT	100	No		NENA (v3)
4.4.17	Additional Location Information	Addtl_Loc	TEXT	225	No		NENA

Element Number	Element Name	Database Field Name	Field Type	Field Width	Inclusion	Domain	Reference Standard
4.5 Area Elements							
4.5.1	Country	Country	TEXT	2	Yes	ISO 3166-1 alpha-2 codes	NENA
4.5.2	State (Administrative Level 1)	State (A1)	TEXT	2	Yes	ISO 3166-2 includes the same abbreviations as USPS Publication 28 [5], Appendix B, with the exception of the additional one for the nine minor uninhabited islands owned by the US.	US Census, NENA
4.5.3	County (Administrative Level 2)	County (A2)	TEXT	254	Yes	Restricted to the names of counties and county equivalents. For the US, a complete list is maintained by the US Census Bureau as ANSI INCITS 31:2009 [7] (Formerly FIPS 6-4) and the Domain is restricted to the exact listed values as published in ANSI INCITS 31:2009 [7], including casing and use of abbreviations.	US Census, NENA
4.5.4	Incorporated Municipality (Administrative Level 3)	Inc_Muni (A3)	TEXT	254	Yes		US Census, NENA
4.5.5	Unincorporated Community (Administrative Level 4)	Uninc_Comm (A4)	TEXT	254	Conditional		NENA
4.5.6	Neighborhood Community (Administrative Level 5)	Nbrhd_Comm (A5)	TEXT	254	Conditional		NENA
4.5.7	Additional Code	AddCode	TEXT	6	Conditional		NENA
4.6 Functional Elements							
4.6.1	Placement Method	Placement	TEXT	25	No	NENA <i>Site/Structure Address Point Placement Method Registry</i>	NENA
4.6.2	Place Type	Place_Type	TEXT	50	Conditional	The Registry of Location Types proposed in RFC 4589 (https://tools.ietf.org/rfc/rfc4589.txt) is: https://www.iana.org/assignments/location-type-registry/location-type-registry.xml .	NENA
4.6.3	Additional Data URI	AddDataURI	TEXT	254	No	List of one or more URIs	NENA

Element Number	Element Name	Database Field Name	Field Type	Field Width	Inclusion	Domain	Reference Standard
Error! Reference source not found.	Point Classification	Pt_Class	TEXT	50	No	MI Specific List	State of MI
4.7 Management Elements							
4.7.1	Date Updated	DateUpdate	DATE		Yes		NENA
4.7.2	Effective Date	Effective	DATE		No		NENA
4.7.3	Expiration Date	Expire	DATE		No		NENA
4.8 9-1-1 Elements							
4.8.1	Discrepancy Agency ID	DiscrpAgiID	TEXT	100	Yes		NENA
4.8.2	ESN	ESN	TEXT	5	Conditional	Characters from 000 to 99999	NENA
4.8.3	MSAG Community Name	MSAGComm	TEXT	30	Conditional	PSAP MSAG	NENA
4.8.4	Legacy County ID	LCountyID	TEXT	5	Conditional		NENA (v3)
4.8.5	Latitude	Lat	FLOAT		No	+90 degrees to -90 degrees	NENA
4.8.6	Longitude	Long	FLOAT		No	-180 degrees to +180 degrees	NENA
4.8.7	Elevation	Elev	LONG	6	No	Restricted to whole numbers.	NENA
4.8.8	Altitude	Altitude	FLOAT		No		NENA
4.8.9	Height	Height	FLOAT		No		NENA
4.8.10	Exception	Exception	TEXT	75	Conditional		GMS, NGCS

SiteStructureAddressPoint (Site/Structure Address Point) - Data Element Details

4.1 Identification Elements

4.1.1 NENA Globally Unique ID

Database Field Name	NGUID		
Data Type	TEXT	Inclusion	Yes
Width	254	Domain	
Examples	urn:emergency:uid:gis:SSAP:{AD873541-F41C-409E-A0BE-1B0C583902A4}:charlevoixcounty.org urn:emergency:uid:gis:SSAP:100373182:eatoncounty.org urn:emergency:uid:gis:SSAP:55025{AD873541-F41C-409E-A0BE-1B0C583902A4}:calhouncountymi.gov		
Description	The NENA Globally Unique ID (Primary Key) for each record in a GIS data layer. Each record in the GIS data 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. Additional details on how to construct the NGUID can be found in section 2.4 NENA Globally Unique IDs (NGUID).		

4.2 Relate Elements

4.2.1 Road Centerline NENA Globally Unique ID (Foreign Key)

Database Field Name	RCL_NGUID		
Data Type	TEXT	Inclusion	Conditional
Width	254	Domain	
Examples	urn:emergency:uid:gis:RCL:{AD873541-F41C-409E-A0BE-1B0C583902A4}:charlevoixcounty.org urn:emergency:uid:gis:RCL:100373182:eatoncounty.org urn:emergency:uid:gis:RCL:55025{AD873541-F41C-409E-A0BE-1B0C583902A4}:calhouncountymi.gov		
Description	The Road Centerline NENA Globally Unique ID (RCL_NGUID) is used in the StreetNameAliasTable and SiteStructureAddressPoint as a foreign key relationship between the StreetNameAliasTable and the RoadCenterLine layer or the SiteStructureAddressPoint and the RoadCenterLine layer. A foreign key acts as a cross-reference between RCL_NGUID field in the StreetNameAliasTable and SiteStructureAddressPoint because it references the NGUID field primary key in the RoadCenterLine layer, thereby establishing a link between them. A RoadCenterLine record may have zero to many (0:M) StreetNameAliasTable records and SiteStructureAddressPoint features. Without this relationship, it would not be possible to identify any street name aliases of a road centerline. The values in the RCL_NGUID field MUST exist in the values of the NGUID field in the RoadCenterLine layer.		

4.3 Primary Address Elements

4.3.1 Address Number Prefix

Database Field Name	AddNum_Pre		
Data Type	TEXT	Inclusion	Conditional
Width	15	Domain	
Examples	N123, W123, N, W, S123W		
Description	The non-integer portion of the identifier for a parcel, house, building or other feature which precedes the address number, as defined by the official Addressing Authority for the given jurisdiction. Used commonly in Michigan to include the directional to an address number (e.g., N2554 Johnson Street). Also used in a few counties where grid address numbers exist to include the locally-defined grid cell reference.		

4.3.2 Address Number

Database Field Name	Add_Number		
Data Type	LONG	Inclusion	Conditional
Width	6	Domain	Whole numbers from 0 to 999999
Examples	123, 10546		
Description	The numeric identifier for a parcel, house, building or other feature, as defined by the official Addressing Authority for a given jurisdiction.		

4.3.3 Address Number Suffix

Database Field Name	AddNum_Suf		
Data Type	TEXT	Inclusion	Conditional
Width	15	Domain	
Examples	A, 1/2		
Description	The non-integer portion of the identifier for a parcel, house, building or other feature which follows the address number, as defined by the official Addressing Authority for a given jurisdiction. Not commonly used and use should be minimized. Not to be confused with Unit divisions within a building.		

4.3.4 Address Number Complete

Database Field Name	AddNum_Cmp		
Data Type	TEXT	Inclusion	Conditional
Width	42	Domain	
Examples	123 ½; 5B; W268		
Description	The Address Number Complete includes the Address Number Prefix (if any), the Address Number, Address Number Suffix (if any), and any formatting or separator characters needed to display the official version of the complete address number. The Address Number Complete precedes the complete street name to identify a location along a thoroughfare or within a defined area.		

4.3.5 Street Name Pre Modifier

Database Field Name	St_PreMod		
Data Type	TEXT	Inclusion	Conditional
Width	25	Domain	
Examples	Old West United States Highway 2, Business South Interstate 75		
Description	A word or phrase that precedes all other Street Name elements and is separated from the Street Name element by a Street Name Pre Directional and/or a Street Name Pre Type element. Not commonly used and use should be minimized.		

4.3.6 Street Name Pre Directional

Database Field Name	St_PreDir		
Data Type	TEXT	Inclusion	Conditional
Width	10	Domain	North; South; East; West; Northeast; Northwest; Southeast; Southwest; Nord; Sud; Est; Ouest; Nord-Est; Nord-Ouest; Sud-Est; Sud-Ouest; or equivalent words in other languages.
Examples	East Mulberry Road, South Posey Lake Highway		
Description	A word or phrase preceding the Street Name element that indicates the direction taken by the road from an arbitrary starting point or the sector where it is located.		

4.3.7 Street Name Pre Type

Database Field Name	St_PreTyp		
Data Type	TEXT	Inclusion	Conditional
Width	50	Domain	<i>NENA Street Name Pre Types and Street Name Post Types Registry</i>
Examples	Avenue A , Old West United States Highway 2 , County Road PBA , State Route 123 , Interstate 96		
Description	A word or phrase that precedes the Street Name element and identifies the type of thoroughfare in the Full Street Name.		

4.3.8 Street Name Pre Type Separator

Database Field Name	St_PreSep		
Data Type	TEXT	Inclusion	Conditional
Width	20	Domain	<i>NENA Street Name Pre Type Separators Registry</i>
Examples	Avenue of the Arts, Avenue of Champions		
Description	A preposition or prepositional phrase between the Street Name Pre Type and the Street Name element.		

4.3.9 Street Name

Database Field Name	St_Name		
Data Type	TEXT	Inclusion	Conditional
Width	254	Domain	
Examples	Jones Road, County Road H-40 , Avenue of the Arts , Avenue C , Azure Court South		
Description	The official name of the road as defined by the official Street Naming Authority for the given jurisdiction. The Street Name element does not include a street type, directional, or modifier unless assigned as such by the official Street Naming Authority.		

4.3.10 Street Name Post Type

Database Field Name	St_PosTyp		
Data Type	TEXT	Inclusion	Conditional
Width	50	Domain	<i>NENA Street Name Pre Types and Street Name Post Types Registry</i>
Examples	Jones Road , Azure Court South		
Description	A word or phrase that follows the Street Name element and identifies the type of thoroughfare in the Full Street Name.		

4.3.11 Street Name Post Directional

Database Field Name	St_PosDir		
Data Type	TEXT	Inclusion	Conditional
Width	10	Domain	North; South; East; West; Northeast; Northwest; Southeast; Southwest; Nord; Sud; Est; Ouest; Nord-Est; Nord-Ouest; Sud-Est; Sud-Ouest; or equivalent words in other languages.
Examples	Azure Court South , 10th Avenue West		
Description	A word or phrase following the Street Name element that indicates the direction taken by the road from an arbitrary starting point or the sector where it is located.		

4.3.12 Street Name Post Modifier

Database Field Name	St_PosMod		
Data Type	TEXT	Inclusion	Conditional
Width	25	Domain	
Examples	Tyler Road Access , Fishing Site Road Number 1		
Description	A word or phrase that follows all other Street Name elements and is separated from the Street Name element by a Street Name Post Directional and/or Street Name Post Type element. Not commonly used and use should be minimized.		

4.3.13 Direction of Travel

Database Field Name	Dir_Travel		
Data Type	TEXT	Inclusion	Conditional
Width	10	Domain	
Examples	northbound; southbound; eastbound; westbound		
Description	A word that follows all other street name elements and is used only as needed to indicate direction of travel on a divided roadway and associated frontage roads.		

4.3.14 Full Street Name

Database Field Name	FullStNm		
Data Type	TEXT	Inclusion	No
Width	245	Domain	
Examples	East Main Street, South Elmwood Drive, Interstate 96, West County Road 410, 10th Avenue West, Azure Court South		
Description	The Street Name with all Pre/Post Modifiers, Pre/Post Directionals, Pre Type Separator, Pre/Post Types and Direction of Travel concatenated: St_PreMod + St_PreDir + St_PreTyp + St_PreSep + St_Name + St_PosTyp + St_PosDir + St_PosMod + Dir_Travel		

4.3.15 Legacy Full Street Name

Database Field Name	lgFullStNm		
Data Type	TEXT	Inclusion	No
Width	175	Domain	
Examples	E MULBERRY RD, S POSEY LAKE HWY, I 75 N, STATE ROUTE 34		
Description	The full street name with abbreviations (where appropriate) used for the Pre/Post Modifiers, Pre/Post Types, and Pre/Post Directionals. LSt_PreDir + LSt_Name + LSt_Type + LSt_PosDir		

4.3.16 Legacy Full Address

Database Field Name	lgFullAddr		
Data Type	TEXT	Inclusion	No
Width	300	Domain	
Examples	E MULBERRY RD, S POSEY LAKE HWY, I 75 N, STATE ROUTE 34		
Description	The full address with abbreviations (where appropriate) used for the Pre/Post Modifiers, Pre/Post Types, and Pre/Post Directionals. AddrNum_Pre + AddrNum + AddrNum_Suf + LSt_PreDir + LSt_Name + LSt_Type + LSt_PosDir + Unit		

4.3.17 Legacy Street Name Pre Directional

Database Field Name	LSt_PreDir		
Data Type	TEXT	Inclusion	Conditional
Width	2	Domain	N; S; E; W; NE; NW; SE; SW; O; NO; SO; or equivalent abbreviations in other languages.
Examples	E MULBERRY RD, S POSEY LAKE HWY		
Description	The street direction prefix as it appears in the MSAG, as assigned by the official Street Naming Authority. Casing should reflect what appears in the MSAG data.		

4.3.18 Legacy Street Name

Database Field Name	LSt_Name		
Data Type	TEXT	Inclusion	Conditional
Width	75	Domain	
Examples	E CHICAGO BLVD, W CADMUS RD, I 75 N, STATE ROUTE 34, 36TH ST S, SHARON RD SW		
Description	The street name field as it appears in the MSAG, as assigned by the official Street Naming Authority. Casing should reflect what appears in the MSAG data.		

4.3.19 Legacy Street Name Type

Database Field Name	LSt_Type		
Data Type	TEXT	Inclusion	Conditional
Width	4	Domain	PSAP MSAG; USPS Publication 28, Appendix C1 [5]
Examples	E CHICAGO BLVD , W CADMUS RD , 36TH ST S , SHARON RD SW		
Description	The valid street type abbreviation as it appears in the MSAG, as assigned by the official Street Naming Authority. Casing should reflect what appears in the MSAG data.		

4.3.20 Legacy Street Name Post Directional

Database Field Name	LSt_PosDir		
Data Type	TEXT	Inclusion	Conditional
Width	2	Domain	N; S; E; W; NE; NW; SE; SW; O; NO; SO; or equivalent abbreviations in other languages.
Examples	OREGON RD W , GINAFRED SHORES DR SW		
Description	The street direction suffix as it appears in the MSAG, as assigned by the official Street Naming Authority. Casing should reflect what appears in the MSAG data.		

4.3.21 Postal Code

Database Field Name	Post_Code		
Data Type	TEXT	Inclusion	No
Width	7	Domain	The domain of values comes from the USPS City State Product, which is a comprehensive list of Postal Codes with corresponding USPS city and county names.
Examples	46768		
Description	The 5-digit code that identifies the individual US Post Office or metropolitan area delivery station associated with an address.		

4.3.22 Postal Code Extension

Database Field Name	Post_Code4		
Data Type	TEXT	Inclusion	No
Width	4	Domain	Defined by the USPS
Examples	4841, 7962, 9009		
Description	A system of 4-digit codes that are used after the 5-digit Postal Code to specify a range of USPS delivery addresses.		

4.3.23 Postal Community Name

Database Field Name	Post_Comm		
Data Type	TEXT	Inclusion	No
Width	40	Domain	Restricted to city names given in the USPS City State Product for a given ZIP Code. The USPS City State Product is a comprehensive list of ZIP Codes with corresponding USPS city and county names.
Examples	Addison, Michigammie, Roseville, Zeeland		
Description	The municipal name recognized by the USPS as valid for the ZIP Code of an address.		

4.4 Subaddress Elements

4.4.1 Complete Landmark Name

Database Field Name	LandmkName		
Data Type	TEXT	Inclusion	No
Width	150	Domain	
Examples	Aden Mead Park, Judson Collins Camp		
Description	<p>The name by which a prominent site or structure is publicly known and which may or may not be associated with a civic address.</p> <p>Note: This element may be impacted by a potential future change in NENA Standards. See Section 9 for more information.</p>		

4.4.2 Distance Marker

Database Field Name	DistMarker		
Data Type	TEXT	Inclusion	Conditional
Width	150	Domain	
Examples	Mile Marker 284.8; Milepost 34.5; MM173		
Description	<p>A physical marker labeled with the distance from or to a given point along a route such as a trail, a waterway, a road, or a highway.</p>		

4.4.3 Site

Database Field Name	Site		
Data Type	TEXT	Inclusion	No
Width	254	Domain	
Examples	Crossroads Plaza; White Pine Stables; Springfield Senior Apartments; Old US 131 State Campground; Forestview Elementary School; Eldorado Golf Course; Isle Royale National Park; University of Michigan		
Description	<p>The name of an exterior area that is publicly known and unique within a given place. A site may contain one or more structures, subsites and/or landmarks.</p>		

4.4.4 SubSite

Database Field Name	SubSite		
Data Type	TEXT	Inclusion	No
Width	254	Domain	
Examples	South Cell Phone Lot; Tennis Courts; Flint Campus		
Description	<p>The name of a sub-area within a larger area specified either by a site name, a thoroughfare address, or both.</p>		

4.4.5 Structure

Database Field Name	Structure		
Data Type	TEXT	Inclusion	No
Width	75	Domain	
Examples	Fuel Storage Shed; Welcome Center; Core Sciences Building; Tower C; French Hall		
Description	A built feature with a vertical dimension, including both conventional buildings with walls, doors, and a roof, and other kinds of infrastructure such as cell towers, transformer stations, and fuel tanks.		

4.4.6 Floor Label

Database Field Name	Floor		
Data Type	TEXT	Inclusion	No
Width	75	Domain	
Examples	Floor 4, First Floor, 11, Mezzanine		
Description	A description of floor, story, or level within a building stored as text. This may be considered part of a “dispatchable location.”		

4.4.7 Floor Index

Database Field Name	FloorIndex		
Data Type	LONG	Inclusion	No
Width		Domain	
Examples	-2; -1; 0; 1; 2; 3; 4; 5; 6		
Description	<p>An internal counter or index of floor, story, or level within a building stored as an integer to convey the range and relationships between floors. Having a floor integer independent of the floor label provides an absolute measure that can be used to convey and operationalize vertical uncertainty and will assist first responders in arriving at the location of the emergency.</p> <p>The level of an addressed main entrance is “0.” Each floor or partial floor is sequentially incremented by 1 above or below 0. This is not intended for user display. It is intended to be used for internal processing or calculations.</p>		

4.4.8 Wing

Database Field Name	Wing		
Data Type	TEXT	Inclusion	No
Width	75	Domain	
Examples	Concourse A; North Quadrant; East Wing		
Description	A designated part of a structure that spans one or more floors, typically including more than one unit or room and representing a significant portion of the structure’s floor area.		

4.4.9 Unit

Database Field Name	Unit		
Data Type	TEXT	Inclusion	Conditional
Width	75	Domain	
Examples	Apartment C2; Suite 3103		
Description	<p>A group or suite of rooms within a building, under common ownership or tenancy, typically having a common primary entrance.</p> <p>Note: This field will be populated by the state through concatenation of the Unit Pre Type and Unit Value fields. UnitPreType + UnitValue</p>		

4.4.10 Unit Pre Type

Database Field Name	UnitPreType		
Data Type	TEXT	Inclusion	Conditional
Width	75	Domain	
Examples	Apartment C2; Suite 3103		
Description	Part of the complete unit identifier that precedes the Unit Value and indicates the kind of unit.		

4.4.11 Unit Value

Database Field Name	UnitValue		
Data Type	TEXT	Inclusion	Conditional
Width	75	Domain	
Examples	Apartment C2 ; Suite 3103 ; Penthouse		
Description	Part of the complete unit identifier that precedes the Unit Value and indicates the kind of unit.		

4.4.12 Section

Database Field Name	Section		
Data Type	TEXT	Inclusion	No
Width	75	Domain	
Examples	Section 241; Customer Seating; Waiting Area		
Description	An identified, unenclosed area within a structure, wing, unit, or room.		

4.4.13 Row

Database Field Name	Row		
Data Type	TEXT	Inclusion	No
Width	75	Domain	
Examples	Aisle 4; B-Line Assembly		
Description	An identified linear feature, such as a linear arrangement of seats, workstations, equipment, or storage, within a structure, wing, unit, room, or section.		

4.4.14 Room

Database Field Name	Room		
Data Type	TEXT	Inclusion	No
Width	75	Domain	
Examples	Room 101A; 1202; E; Capitol Ballroom		
Description	A single, distinctly identified, enclosed space within a structure.		

4.4.15 Seat

Database Field Name	Seat		
Data Type	TEXT	Inclusion	No
Width	75	Domain	
Examples	Desk 1; 2; A; Registration Desk; Cubicle D6		
Description	An identified seat, desk, workstation, cubicle, or similar precise location within a structure, wing, unit, room, section, or row.		

4.4.16 Location Marker

Database Field Name	LocMarker		
Data Type	TEXT	Inclusion	No
Width	100	Domain	
Examples	Callbox AB-12-34; Pole 12; Low Water Crossing #12		
Description	A uniquely identified and indivisible infrastructure component, smaller than a structure, which exists either within a structure or exterior to any structure, such as an alarm box, a utility pole, a callbox, or other similar features.		

4.4.17 Additional Location Information

Database Field Name	Addtl_Loc		
Data Type	TEXT	Inclusion	No
Width	225	Domain	
Examples	Main Loading Dock; Stairwell C; Elevator Bank 14-21		
Description	Information that relates to location but does not meet the definition of any other named location elements.		

4.5 Area Elements

4.5.1 Country

Database Field Name	Country		
Data Type	TEXT	Inclusion	Yes
Width	2	Domain	Restricted to the two-letter codes in ISO 3166-1 alpha-2 codes
Examples	US, CA		
Description	The two-letter abbreviation of the Country where the address is located. Must be in uppercase.		

4.5.2 State (Administrative Level 1)

Database Field Name	State (A1)		
Data Type	TEXT	Inclusion	Yes
Width	2	Domain	ISO 3166-2 includes the same abbreviations as USPS Publication 28 [5], Appendix B, with the exception of the additional one for the nine minor uninhabited islands owned by the US.
Examples	IN, MI, OH, WI		
Description	The two-letter abbreviation of the State where the address is located. Must be in uppercase.		

4.5.3 County (Administrative Level 2)

Database Field Name	County (A2)		
Data Type	TEXT	Inclusion	Yes
Width	254	Domain	Restricted to the names of counties and county equivalents. For the US, a complete list is maintained by the US Census Bureau as ANSI INCITS 31:2009 [5] (Formerly FIPS 6-4) and the Domain is restricted to the exact listed values as published in ANSI INCITS 31:2009 [5], including casing and use of abbreviations.
Examples	Delta County, Saginaw County		
Description	The name of the County where the address is located.		

4.5.4 Incorporated Municipality (Administrative Level 3)

Database Field Name	Inc_Muni (A3)		
Data Type	TEXT	Inclusion	Yes
Width	254	Domain	
Examples	Bear Creek Township, Sparta, Village of Marcellus		
Description	The name of the Incorporated Municipality where the address is located, including the incorporated municipality type.		

4.5.5 Unincorporated Community (Administrative Level 4)

Database Field Name	Uninc_Comm (A4)		
Data Type	TEXT	Inclusion	Conditional
Width	254	Domain	
Examples	Jasper, Manitou Beach		
Description	The name of the Unincorporated Community where the address is located.		

4.5.6 Neighborhood Community (Administrative Level 5)

Database Field Name	Nbrhd_Comm (A5)		
Data Type	TEXT	Inclusion	Conditional
Width	254	Domain	
Examples	Applin River Estates, Green Acres, Oak Hills		
Description	The name of an unincorporated neighborhood, subdivision, or area within an incorporated municipality where the address is located. Neighborhood communities are only used when they are known and have a clearly defined boundary.		

4.5.7 Additional Code

Database Field Name	AddCode		
Data Type	TEXT	Inclusion	Conditional
Width	6	Domain	
Examples			
Description	<p>Note: Since this field is not applicable in the US, it will not be populated in MI GIS data layers.</p> <p>A Standard Geographical Classification code used in Canada that specifies a geographic area and is used to differentiate two municipalities with the same name in a province that does not have counties.</p>		

4.6 Functional Elements

4.6.1 Placement Method

Database Field Name	Placement		
Data Type	TEXT	Inclusion	No
Width	25	Domain	<i>NENA Site/Structure Address Point Placement Method Registry</i>
Examples	Geocoding, Parcel, PropertyAccess, Site, Structure, Unknown		
Description	The methodology used for placement of the address point.		

4.6.2 Place Type

Database Field Name	Place_Type		
Data Type	TEXT	Inclusion	Conditional
Width	50	Domain	Restricted to the values in RFC 4589 [8]
Examples	Airport, bank, hotel, office, residence, stadium, store		
Description	The type of feature identified by the address.		

4.6.3 Additional Data URI

Database Field Name	AddDataURI		
Data Type	TEXT	Inclusion	No
Width	254	Domain	List of one or more URIs
Examples	https://addtl12345.example.com		
Description	A Uniform Resource Identifier (URI) that defines the Service URI for accessing additional data and information associated with the address location, including building information (e.g., blueprints, contact info, floor plans).		

4.6.4 Point Classification

Database Field Name	Pt_Class		
Data Type	TEXT	Inclusion	No
Width	50	Domain	TBD
Examples	Primary, Subaddress, Primary for Subaddress, Access Point for Primary, Marker, Not Classified		
Description	<p>Indicates the category of the address point: Primary, Subaddress, Access Point, etc.</p> <ul style="list-style-type: none"> • Primary: a site/structure address point for a location that has no subaddress • Subaddress: a site/structure address point for a location that has subaddress data (site, subsite, structure, floor label, floor index, wing, unit, unit pre type, unit value, section, row, room, seat) • Primary for Subaddress: a site/structure address point representing a primary point placed at the main entrance where all other points include subaddress information (e.g., an apartment complex) • Access Point for Primary: a site/structure address that represents the designated access location for a primary point situated far from the road. • Marker: a site/structure address point for a location that is a marker. The point must have either the <i>Distance Marker</i> or <i>Location Marker</i> field populated. • Not Classified: a site/structure address point for a location where the classification has not be set. 		

4.7 Management Elements

4.7.1 Date Updated

Database Field Name	DateUpdate		
Data Type	DATE	Inclusion	Yes
Width		Domain	Date and Time may be stored in the local database date/time format with the proviso that local time zone MUST be recorded and time MUST be recorded to a precision of at least 1 second and MAY be recorded to a precision of 0.1 second. If the local database date/time format does not meet these specifications, the database SHOULD record both the local date/time format and a string conforming to W3C dateTime format as described in XML Schema Part 2: Datatypes Second Edition [4].
Examples	2020-01-28T15:47.09.3-06:00 (representing a record updated on January 28, 2020 at 3:47 and 9.3 seconds PM US Central Standard Time, with a precision of .1 second); 2020-07-16T08:31:15.2-05:00 (representing a record updated on July 16, 2020 at 8:31 and 15.2 seconds AM US Central Daylight Time, with a precision of .1 second)		
Description	The date and time that the record was created or last modified.		

4.7.2 Effective Date

Database Field Name	Effective		
Data Type	DATE	Inclusion	No
Width		Domain	Date and Time may be stored in the local database date/time format with the proviso that local time zone MUST be recorded and time MUST be recorded to a precision of at least 1 second and MAY be recorded to a precision of 0.1 second. If the local database date/time format does not meet these specifications, the database SHOULD record both the local date/time format and a string conforming to W3C dateTime format as described in XML Schema Part 2: Datatypes Second Edition [4].
Examples	<p>2021-02-11T01:30:00.1-06:00 (representing a record that will become active on February 11, 2021 at 1:30 and 0.1 seconds AM US Central Standard Time, with a precision of .1 second);</p> <p>2021-10-15T20:15:30.5-05:00 (representing a record that will become active on October 15, 2021 at 8:15 and 30.5 seconds PM US Central Daylight Time, with a precision of .1 second)</p>		
Description	The date and time that the record is scheduled to take effect (e.g., the date and time an annexation takes effect and a copy of the Site/Structure Address Points within the annexed area that have had their Incorporated Municipality, ESN, and MSAG Community Name fields populated with the new values are recognized for use in the NG9 1 1 system).		

4.7.3 Expiration Date

Database Field Name	Expire		
Data Type	DATE	Inclusion	No
Width		Domain	Date and Time may be stored in the local database date/time format with the proviso that local time zone MUST be recorded and time MUST be recorded to a precision of at least 1 second and MAY be recorded to a precision of 0.1 second. If the local database date/time format does not meet these specifications, the database SHOULD record both the local date/time format and a string conforming to W3C dateTime format as described in XML Schema Part 2: Datatypes Second Edition [4].
Examples	2021-02-11T01:30:00.1-06:00 (representing a record that will expire and no longer be valid on February 11, 2021 at 1:30 and 0.1 seconds AM US Central Standard Time, with a precision of .1 second); 2021-10-15T20:15:30.5-05:00 (representing a record that will expire and no longer be valid on October 15, 2021 at 8:15 and 30.5 seconds PM US Central Daylight Time, with a precision of .1 second)		
Description	The date and time when the information in the record is no longer considered valid (e.g., the date and time an annexation takes effect and the Site/Structure Address Points within the annexed area that have their Incorporated Municipality, ESN, and MSAG Community Name fields populated with the former values are no longer recognized for use in the NG9-1-1 system).		

4.8 9-1-1 Elements

4.8.1 Discrepancy Agency ID

Database Field Name	DiscrepAgID		
Data Type	TEXT	Inclusion	Yes
Width	100	Domain	
Examples	co.hillsdale.mi.us, lapeercountyweb.org, sanilaccounty.gov		
Description	Agency that receives a Discrepancy Report (DR), should a discrepancy in the GIS data be discovered, and will take responsibility for ensuring discrepancy resolution. This may or may not be the same as the 9-1-1 Authority. This MUST be represented by a domain name that is an Agency Identifier as defined in the NENA Master Glossary of 9-1-1 Terminology, NENA-ADM-000.23.2020 [17].		

4.8.2 ESN

Database Field Name	ESN		
Data Type	TEXT	Inclusion	Conditional
Width	5	Domain	Characters from 000 to 99999
Examples	0203, 131, 6601, 97		
Description	A 3 to 5 character alphanumeric string that represents the Emergency Service Zone (ESZ) where the address is located.		

4.8.3 MSAG Community Name

Database Field Name	MSAGComm		
Data Type	TEXT	Inclusion	Conditional
Width	30	Domain	
Examples	CAMDEN, GRAND BLANC, ONSTED VLG		
Description	The Community name where the address is located, as it appears in the MSAG. This may or may not be the same as the Postal Community Name used by the US Postal Service.		

4.8.4 Legacy County ID

Database Field Name	LCntyID_L		
Data Type	TEXT	Inclusion	Conditional
Width	5	Domain	
Examples	021; FRKL		
Description	The existing County ID as found in the MSAG for the corresponding MSAG record with which the address point is associated. This is typically the same County ID value found on the corresponding Road Centerline segment.		

4.8.5 Latitude

Database Field Name	Lat		
Data Type	LONG	Inclusion	No
Width		Domain	+90 degrees to -90 degrees
Examples	43.075450		
Description	The angular distance of the address point location north or south of the equator as defined by the coordinate system, expressed in decimal degrees.		

4.8.6 Longitude

Database Field Name	Long		
Data Type	LONG	Inclusion	No
Width		Domain	-180 degrees to +180 degrees
Examples	-89.385161		
Description	The angular distance of the address point location east or west of the prime meridian of the coordinate system, expressed in decimal degrees.		

4.8.7 Elevation

Database Field Name	Elev		
Data Type	LONG	Inclusion	No
Width		Domain	Whole numbers from 0 to 999999
Examples	68, 136		
Description	The WGS84 (GPS) elevation, given in meters above the ellipsoid, associated with the address.		

4.8.8 Altitude

Database Field Name	Altitude		
Data Type	LONG	Inclusion	No
Width		Domain	Restricted to a double-precision floating point number with a precision of nine and a scale of three
Examples	"75.000" representing the altitude (in meters) associated with the address "123 Main Street, Suite 401"		
Description	The measure of the orthogonal distance from the WGS84 ellipsoid, given in meters. For Site/Structure Address Points, Altitude measures the orthogonal distance from the WGS84 ellipsoid to the surface (such as a floor or ground).		

4.8.9 Height

Database Field Name	Height		
Data Type	LONG	Inclusion	No
Width		Domain	Restricted to a double-precision floating point number with a precision of nine and a scale of three
Examples	-3.3 meters; 15.5 meters; 21 meters		
Description	Height is the difference between Elevation and Altitude for a Site/Structure Address Point; often referred to as "Height Above Ground Level" (AGL).		

4.8.10 Exception

Database Field Name	Exception		
Data Type	TEXT	Inclusion	Conditional
Width	75	Domain	GMS, NGCS
Examples	<i>To be determined</i>		
Description	Indicates if a point has an exception. The State of Michigan along with the NGCS will develop these codes in the future.		

5 PsapPolygon (PSAP Boundary) - Summary Table

This layer represents the geographic extent of each PSAP's primary call-taking responsibility.

The PSAP Polygon is managed at the state level by DTMB.

Element Number	Element Name	Database Field Name	Field Type	Field Width	Inclusion	Domain	Reference Standard
5.1 Identification Elements							
5.1.1	NENA Globally Unique ID	NGUID	TEXT	254	Yes		NENA
5.2 Relate Elements							
5.3 Address Elements							
5.4 Area Elements							
5.4.1	Country	Country	TEXT	2	Yes	Restricted to the two-tetter codes in ISO 3166-1 alpha-2 codes	NENA
5.5 Functional Elements							
5.5.1	Agency Identifier	Agency_ID	TEXT	100	Yes	Fully qualified domain name	NENA
5.5.2	Service URI	ServiceURI	TEXT	254	Yes	Registered domain name	NENA
5.5.3	Service URN	ServiceURN	TEXT	100	Yes	NENA <i>urn:emergency:service:services Registry</i>	NENA
5.5.4	Service Number	ServiceNum	TEXT	15	No	A dialable number or dial string	NENA
5.5.5	Agency vCard URI	AVcard_URI	TEXT	254	No		NENA
5.5.6	Display Name	DsplayName	TEXT	60	Yes		NENA
5.6 Management Elements							
5.6.1	Date Updated	DateUpdate	DATE		Yes		NENA
5.6.2	Effective Date	Effective	DATE		No		NENA
5.6.3	Expiration Date	Expire	DATE		No		NENA
5.7 9-1-1 Elements							
5.7.1	Discrepancy Agency ID	DiscrpAgID	TEXT	100	Yes		NENA
5.7.2	Exception	Exception	TEXT	75	Conditional		

PsapPolygon (PSAP Boundary) - Data Element Details

5.1 Identification Elements

5.1.1 NENA Globally Unique ID

Database Field Name	NGUID		
Data Type	TEXT	Inclusion	Yes
Width	254	Domain	
Examples	urn:emergency:uid:gis:Psap:{AD873541-F41C-409E-A0BE-1B0C583902A4}:charlevoixcounty.org urn:emergency:uid:gis:Psap:100373182:eatoncounty.org urn:emergency:uid:gis:Psap:55025{AD873541-F41C-409E-A0BE-1B0C583902A4}:calhouncountymi.gov		
Description	The NENA Globally Unique ID (Primary Key) for each record in a GIS data layer. Each record in the GIS data 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. Additional detail on how to construct the NGUID can be found in section 2.4 NENA Globally Unique IDs (NGUID).		

5.2 Relate Elements

Not applicable.

5.3 Address Elements

Not applicable.

5.4 Area Elements

5.4.1 Country

Database Field Name	Country		
Data Type	TEXT	Inclusion	Yes
Width	2	Domain	Restricted to the two-letter codes in ISO 3166-1 alpha-2 codes
Examples	US, CA		
Description	The two-letter abbreviation of the Country where the address is located. Must be in uppercase.		

5.5 Functional Elements

5.5.1 Agency ID

Database Field Name	Agency_ID		
Data Type	TEXT	Inclusion	Yes
Width	100	Domain	Fully qualified domain name
Examples	co.hillsdale.mi.us, lapeercountyweb.org, sanilacounty.gov		
Description	<p>A Domain Name System (DNS) registered domain name which is used to uniquely identify an agency. An agency is represented by a domain name as defined in Internet Engineering Task Force (IETF) RFC 1034 [2]. 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 to ensure that each agency ID is globally unique.</p> <p>Note: If there is no DNS for the specific agency then the jurisdictions discrepancy agency ID should be utilized.</p>		

5.5.2 Service URI

Database Field Name	ServiceURI		
Data Type	TEXT	Inclusion	Yes
Width	254	Domain	Registered domain name
Examples	sips:sos@alpenacd.alpena.ngcs.pfn.net		
Description	<p>The Uniform Resource Identifier (URI) used for call routing that defines the URI of the specific service. The URI is usually a Session Initiation Protocol (SIP or SIPs) URI but may be a telephone number (e.g., tel) URI that defines the route to reach the service. Internet Engineering Task Force (IETF) RFC 1035 [9] defines the process to register a domain name</p> <p>Note: The values for this field will be provided by the NGCS Provider.</p>		

5.5.3 Service URN

Database Field Name	ServiceURN		
Data Type	TEXT	Inclusion	Yes
Width	100	Domain	RFC 5031 defines the Service URN; NENA-STA-010 [12] defines the domain of allowable values. <i>NENA urn:emergency:service:responder Registry</i>
Examples	urn:emergency:service:sos.psap; urn:emergency:service:responder.police; urn:emergency:service:responder.fire; urn:emergency:service:responder.ems		
Description	<p>The Uniform Resource Name (URN) used to select the service for which a route is desired. The ECRF is queried with a location and a Service URN, and then returns the Service URI.</p>		

5.5.4 Service Number

Database Field Name	ServiceNum		
Data Type	TEXT	Inclusion	No
Width	15	Domain	A dialable number or dial string
Examples	911, 18002221212		
Description	<p>The numbers that would be dialed on a 12 digit keypad to reach the emergency service appropriate for the location. This is not the same as an Emergency Service Number (ESN) in Legacy E9-1-1 systems. This field is used for all Emergency Boundaries including PSAP; Law; Fire; EMS; and others such as Poison Control. Within the United States the Service Number for most emergency services is 9-1-1, however, there may be Emergency Service boundaries that have a different number that may be associated with them such as Poison Control.</p>		

5.5.5 Agency vCard URI

Database Field Name	AVcard_URI		
Data Type	TEXT	Inclusion	No
Width	254	Domain	
Examples	https://vcard.psap.co.hillsdale.mi.us ; https://vcard.lapeercountyweb.org/fire		
Description	<p>Note: This field will be considered for deletion in a future version of this document to align with future changes in the NENA NG911 GIS Data Model.</p> <p>A vCard is a file format standard for electronic business cards. The Agency vCard URI is the internet address of a JavaScript Object Notation (JSON) data structure which contains contact information (Name of Agency, Contact phone numbers, etc.) in the form of a jCard (RFC 7095). The vCard URI is used in the service boundary layers to provide contact information for each agency. The Service/Agency Locator (see NENA STA-010.3e-2021 [12]) will provide these URIs for agencies listed within it.</p> <p>NOTE: Spatial Interface providers may auto populate the Agency vCard URI based on their system requirements.</p>		

5.5.6 Display Name

Database Field Name	DsplayName		
Data Type	TEXT	Inclusion	Yes
Width	60	Domain	
Examples	Calhoun County Consolidated Dispatch Authority, Fenton Police Department		
Description	<p>A name or description of the entity offering emergency services within a PSAP or Emergency Service Boundary. This value must be suitable for display.</p>		

5.6 Management Elements

5.6.1 Date Updated

Database Field Name	DateUpdate		
Data Type	DATE	Inclusion	Yes
Width		Domain	Date and Time may be stored in the local database date/time format with the proviso that local time zone MUST be recorded and time MUST be recorded to a precision of at least 1 second and MAY be recorded to a precision of 0.1 second. If the local database date/time format does not meet these specifications, the database SHOULD record both the local date/time format and a string conforming to W3C dateTime format as described in XML Schema Part 2: Datatypes Second Edition [4].
Examples	2020-01-28T15:47.09.3-06:00 (representing a record updated on January 28, 2020 at 3:47 and 9.3 seconds PM US Central Standard Time, with a precision of .1 second); 2020-07-16T08:31:15.2-05:00 (representing a record updated on July 16, 2020 at 8:31 and 15.2 seconds AM US Central Daylight Time, with a precision of .1 second)		
Description	The date and time that the record was created or last modified.		

5.6.2 Effective Date

Database Field Name	Effective		
Data Type	DATE	Inclusion	No
Width		Domain	Date and Time may be stored in the local database date/time format with the proviso that local time zone MUST be recorded and time MUST be recorded to a precision of at least 1 second and MAY be recorded to a precision of 0.1 second. If the local database date/time format does not meet these specifications, the database SHOULD record both the local date/time format and a string conforming to W3C dateTime format as described in XML Schema Part 2: Datatypes Second Edition [4].
Examples	<p>2021-02-11T01:30:00.1-06:00 (representing a record that will become active on February 11, 2021 at 1:30 and 0.1 seconds AM US Central Standard Time, with a precision of .1 second);</p> <p>2021-10-15T20:15:30.5-05:00 (representing a record that will become active on October 15, 2021 at 8:15 and 30.5 seconds PM US Central Daylight Time, with a precision of .1 second)</p>		
Description	The date and time that the record is scheduled to take effect (e.g., the date and time an annexation takes effect and the new PSAP Boundary is recognized for use in the NG9-1-1 system).		

5.6.3 Expiration Date

Database Field Name	Expire		
Data Type	DATE	Inclusion	No
Width		Domain	Date and Time may be stored in the local database date/time format with the proviso that local time zone MUST be recorded and time MUST be recorded to a precision of at least 1 second and MAY be recorded to a precision of 0.1 second. If the local database date/time format does not meet these specifications, the database SHOULD record both the local date/time format and a string conforming to W3C dateTime format as described in XML Schema Part 2: Datatypes Second Edition [4].
Examples	2021-02-11T01:30:00.1-06:00 (representing a record that will expire and no longer be valid on February 11, 2021 at 1:30 and 0.1 seconds AM US Central Standard Time, with a precision of .1 second); 2021-10-15T20:15:30.5-05:00 (representing a record that will expire and no longer be valid on October 15, 2021 at 8:15 and 30.5 seconds PM US Central Daylight Time, with a precision of .1 second)		
Description	The date and time when the information in the record is no longer considered valid (e.g., the date and time an annexation takes effect and the former PSAP Boundary is no longer recognized for use in the NG9-1-1 system).		

5.7 9-1-1 Elements

5.7.1 Discrepancy Agency ID

Database Field Name	DiscrepAgID		
Data Type	TEXT	Inclusion	Yes
Width	100	Domain	
Examples	co.hillsdale.mi.us, lapeercountyweb.org, sanilacounty.gov		
Description	Agency that receives a Discrepancy Report (DR), should a discrepancy be discovered in the GIS data, and will take responsibility for ensuring discrepancy resolution. This may or may not be the same as the 9-1-1 Authority. This MUST be represented by a domain name that is an Agency Identifier as defined in the NENA Master Glossary of 9-1-1 Terminology, NENA-ADM-000.23-2020 [17].		

5.7.2 Exception

Database Field Name	Exception		
Data Type	TEXT	Inclusion	Conditional
Width	75	Domain	<i>GMS, NGCS</i>
Examples	<i>To be determined</i>		
Description	Indicates if a polygon has an exception. The State of Michigan along with the NGCS will develop these codes in the future.		

6 FirePolygon, PolicePolygon, EmsPolygon (Emergency Service Boundary) - Summary Table

In an NG9-1-1 deployment, the selective transfer of 9-1-1 calls and Emergency Incident Data Objects (EIDOs) to another PSAP or downstream agency uses service boundary layers, all with the same data structure.

The following layers (formerly known as Emergency Service Boundaries), which may be maintained as separate or combined, are the next highest priority for NG9-1-1 deployment. Primary Emergency Services MUST include the following:

- Police
- Fire
- Emergency Medical Services

Within an E9-1-1 system these layers are often combined into a single layer called the ESZ (Emergency Service Zone) Boundary. As a starting point, the ESZ Boundary can be used to create the layers above.

Each of these layers is used by the ECRF to perform a geographic query to determine which agencies are responsible for providing service to a location in the event a selective transfer is desired, or to direct an EIDO to an agency for dispatch, or to display the responsible agencies at the PSAP. In addition, service boundary layers are used by PSAPs to identify the appropriate entities/first responders to be dispatched. Each layer representing a primary emergency service may contain one or more polygon boundaries that define the primary emergency services for that geographic area.

*Note: The service boundary layers described here are intended to represent the entirety of the service boundary of the agencies. In many agencies, the service boundary is broken into smaller areas served by a station/beat/platoon, with the service area of the agency being the union of the smaller areas. The layer can contain a polygon set (more than one polygon), which is intended to cover holes, and disconnected areas of service, which does occur. Because a polygon set is allowed, if this layer had the smaller polygons and if all of them have the same Service URI and Service URN (but not necessarily the same Display Name, for example), it would work correctly. It has the downside of increasing work on the ECRF since it has more polygons to consider. The SI Operator can advise whether small polygons can be accommodated in any given implementation. A future edition of this document will address this issue and specifically handle station/beat/platoon service areas directly.

Element Number	Element Name	Database Field Name	Field Type	Field Width	Inclusion	Domain	Reference Standard
6.1 Identification Elements							
6.1.1	NENA Globally Unique ID	NGUID	TEXT	254	Yes		NENA
6.2 Relate Elements							
6.3 Address Elements							
6.4 Area Elements							
6.4.1	Country	Country	TEXT	2	Yes	Restricted to the two-tetter codes in ISO 3166-1 alpha-2 codes	NENA
6.4.1 Functional Elements							
6.5.1	Agency ID	Agency_ID	TEXT	100	Yes	Fully qualified domain name	NENA

Element Number	Element Name	Database Field Name	Field Type	Field Width	Inclusion	Domain	Reference Standard
6.5.2	Service URI	ServiceURI	TEXT	254	Yes	Registered domain name	NENA
6.5.3	Service URN	ServiceURN	TEXT	100	Yes	NENA <i>urn:emergency:service:services Registry</i>	NENA
6.5.4	Service Number	ServiceNum	TEXT	15	No	A dialable number or dial string	NENA
6.5.5	Agency vCard URI	AVcard_URI	TEXT	254	No		NENA
6.5.6	Display Name	DsplayName	TEXT	60	Yes		NENA
6.6 Management Elements							
6.6.1	Date Updated	DateUpdate	DATE		Yes		NENA
6.6.2	Effective Date	Effective	DATE		No		NENA
6.6.3	Expiration Date	Expire	DATE		No		NENA
6.7 9-1-1 Elements							
6.7.1	Discrepancy Agency ID	DiscrpAgID	TEXT	100	Yes		NENA
6.7.2	Exception	Exception	TEXT	75	Conditional		

FirePolygon, PolicePolygon, EmsPolygon (Emergency Service Boundary) - Data Element Details

6.1 Identification Elements

6.1.1 NENA Globally Unique ID

Database Field Name	NGUID		
Data Type	TEXT	Inclusion	Yes
Width	254	Domain	
Examples	urn:emergency:uid:gis:Pol:{AD873541-F41C-409E-A0BE-1B0C583902A4}; charlevoixcounty.org urn:emergency:uid:gis:Fire:100373182:eatoncounty.org urn:emergency:uid:gis:Ems:55025{AD873541-F41C-409E-A0BE-1B0C583902A4}; calhouncountymi.gov		
Description	The NENA Globally Unique ID (Primary Key) for each record in a GIS data layer. Each record in the GIS data 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. Additional detail on how to construct the NGUID can be found in section 2.4 NENA Globally Unique IDs (NGUID).		

6.2 Relate Elements

Not applicable.

6.3 Address Elements

Not applicable.

6.4 Area Elements

6.4.1 Country

Database Field Name	Country		
Data Type	TEXT	Inclusion	Yes
Width	2	Domain	Restricted to the two-letter codes in ISO 3166-1 alpha-2 codes
Examples	US, CA		
Description	The two-letter abbreviation of the Country where the address is located. Must be in uppercase.		

6.5 Functional Elements

6.5.1 Agency ID

Database Field Name	Agency_ID		
Data Type	TEXT	Inclusion	Yes
Width	100	Domain	Fully qualified domain name
Examples	lansingmi.gov/173/Fire-Department, mobilemedical.org, detroitmi.gov/departments/police-department		
Description	<p>A Domain Name System (DNS) registered domain name which is used to uniquely identify an agency. An agency is represented by a domain name as defined in Internet Engineering Task Force (IETF) RFC 1034 [11]. 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 to ensure that each agency ID is globally unique.</p> <p>Note: If there is no DNS for the specific agency then the jurisdictions discrepancy agency ID should be utilized.</p>		

6.5.2 Service URI

Database Field Name	ServiceURI		
Data Type	TEXT	Inclusion	Yes
Width	254	Domain	Registered domain name
Examples	SIP:+18027731818@alpenacd.aplena.ngcs.pfn.net		
Description	<p>The Uniform Resource Identifier (URI) used for call routing that defines the URI of the specific service. The URI is usually a Session Initiation Protocol (SIP or SIPs) URI but may be a telephone number (e.g., tel) URI that defines the route to reach the service. Internet Engineering Task Force (IETF) RFC 1035 [9] defines the process to register a domain name</p> <p>Note: The values for this field will be provided by the NGCS Provider.</p>		

6.5.3 Service URN

Database Field Name	ServiceURN		
Data Type	TEXT	Inclusion	Yes
Width	100	Domain	RFC 5031 defines the Service URN; NENA-STA-010 [3] defines the domain of allowable values. <i>NENA urn:emergency:service:responder Registry</i>
Examples	urn:emergency:service:responder.police; urn:emergency:service:responder.fire; urn:emergency:service:responder.ems		
Description	<p>The Uniform Resource Name (URN) used to select the service for which a route is desired. The ECRF is queried with a location and a Service URN, and then returns the Service URI.</p>		

6.5.4 Service Number

Database Field Name	ServiceNum		
Data Type	TEXT	Inclusion	No
Width	15	Domain	A dialable number or dial string
Examples	911, 18002221212		
Description	<p>The numbers that would be dialed on a 12 digit keypad to reach the emergency service appropriate for the location. This is not the same as an Emergency Service Number (ESN) in Legacy E9-1-1 systems. This field is used for all Emergency Boundaries including PSAP; Law; Fire; EMS; and others such as Poison Control. Within the United States the Service Number for most emergency services is 9-1-1, however, there may be Emergency Service boundaries that have a different number that may be associated with them such as Poison Control.</p>		

6.5.5 Agency vCard URI

Database Field Name	AVcard_URI		
Data Type	TEXT	Inclusion	No
Width	254	Domain	
Examples	https://vcard.psap.co.hillsdale.mi.us ; https://vcard.lapeercountyweb.org/fire		
Description	<p>Note: This field will be considered for deletion in a future version of this document to align with future changes in the NENA NG911 GIS Data Model.</p> <p>A vCard is a file format standard for electronic business cards. The Agency vCard URI is the internet address of a JavaScript Object Notation (JSON) data structure which contains contact information (Name of Agency, Contact phone numbers, etc.) in the form of a jCard (RFC 7095) [10]. The vCard URI is used in the service boundary layers to provide contact information for each agency. The Service/Agency Locator (see NENA STA-010.3e-2021 [12]) will provide these URIs for agencies listed within it.</p> <p>NOTE: Spatial Interface providers may auto populate the Agency vCard URI based on their system requirements.</p>		

6.5.6 Display Name

Database Field Name	DsplayName		
Data Type	TEXT	Inclusion	Yes
Width	60	Domain	
Examples	Akron Police Department, Hamtramck Fire Department, Hart Medical EMS		
Description	<p>A name or description of the entity offering emergency services within a PSAP or Emergency Service Boundary. This value must be suitable for display.</p>		

6.6 Management Elements

6.6.1 Date Updated

Database Field Name	DateUpdate		
Data Type	DATE	Inclusion	Yes
Width		Domain	Date and Time may be stored in the local database date/time format with the proviso that local time zone MUST be recorded and time MUST be recorded to a precision of at least 1 second and MAY be recorded to a precision of 0.1 second. If the local database date/time format does not meet these specifications, the database SHOULD record both the local date/time format and a string conforming to W3C dateTime format as described in XML Schema Part 2: Datatypes Second Edition [4].
Examples	2020-01-28T15:47.09.3-06:00 (representing a record updated on January 28, 2020 at 3:47 and 9.3 seconds PM US Central Standard Time, with a precision of .1 second); 2020-07-16T08:31:15.2-05:00 (representing a record updated on July 16, 2020 at 8:31 and 15.2 seconds AM US Central Daylight Time, with a precision of .1 second)		
Description	The date and time that the record was created or last modified.		

6.6.2 Effective Date

Database Field Name	Effective		
Data Type	DATE	Inclusion	No
Width		Domain	Date and Time may be stored in the local database date/time format with the proviso that local time zone MUST be recorded and time MUST be recorded to a precision of at least 1 second and MAY be recorded to a precision of 0.1 second. If the local database date/time format does not meet these specifications, the database SHOULD record both the local date/time format and a string conforming to W3C dateTime format as described in XML Schema Part 2: Datatypes Second Edition [4].
Examples	<p>2021-02-11T01:30:00.1-06:00 (representing a record that will become active on February 11, 2021 at 1:30 and 0.1 seconds AM US Central Standard Time, with a precision of .1 second);</p> <p>2021-10-15T20:15:30.5-05:00 (representing a record that will become active on October 15, 2021 at 8:15 and 30.5 seconds PM US Central Daylight Time, with a precision of .1 second)</p>		
Description	The date and time that the record is scheduled to take effect (e.g., the date and time an annexation takes effect and the new Emergency Service Boundary is recognized for use in the NG9-1-1 system).		

6.6.3 Expiration Date

Database Field Name	Expire		
Data Type	DATE	Inclusion	No
Width		Domain	Date and Time may be stored in the local database date/time format with the proviso that local time zone MUST be recorded and time MUST be recorded to a precision of at least 1 second and MAY be recorded to a precision of 0.1 second. If the local database date/time format does not meet these specifications, the database SHOULD record both the local date/time format and a string conforming to W3C dateTime format as described in XML Schema Part 2: Datatypes Second Edition [4].
Examples	2021-02-11T01:30:00.1-06:00 (representing a record that will expire and no longer be valid on February 11, 2021 at 1:30 and 0.1 seconds AM US Central Standard Time, with a precision of .1 second); 2021-10-15T20:15:30.5-05:00 (representing a record that will expire and no longer be valid on October 15, 2021 at 8:15 and 30.5 seconds PM US Central Daylight Time, with a precision of .1 second)		
Description	The date and time when the information in the record is no longer considered valid (e.g., the date and time an annexation takes effect and the former Emergency Service Boundary is no longer recognized for use in the NG9-1-1 system).		

6.7 9-1-1 Elements

6.7.1 Discrepancy Agency ID

Database Field Name	DiscrepAgID		
Data Type	TEXT	Inclusion	Yes
Width	100	Domain	
Examples	co.hillsdale.mi.us, lapeercountyweb.org, sanilacounty.gov		
Description	Agency that receives a Discrepancy Report (DR), should a discrepancy be discovered in the GIS data, and will take responsibility for ensuring discrepancy resolution. This may or may not be the same as the 9-1-1 Authority. This MUST be represented by a domain name that is an Agency Identifier as defined in the NENA Master Glossary of 9-1-1 Terminology, NENA-ADM-000.23-2020 [17].		

6.7.2 Exception

Database Field Name	Exception		
Data Type	TEXT	Inclusion	Conditional
Width	75	Domain	<i>GMS, NGCS</i>
Examples	<i>To be determined</i>		
Description	Indicates if a polygon has an exception. The State of Michigan along with the NGCS will develop these codes in the future.		

7 ProvisioningPolygon (Provisioning Boundary) - Summary Table

This layer represents the coverage area for which GIS data providers are responsible for submitting GIS data for NG9-1-1. The data provided must cover the entire extent of the coverage area that defines their geographic area of responsibility but data must not extend beyond the identified coverage area.

The Provisioning Polygon is managed at the state level by DTMB.

Element Number	Element Name	Database Field Name	Field Type	Field Width	Inclusion	Domain	Reference Standard
7.1 Identification Elements							
7.1.1	NENA Globally Unique ID	NGUID	TEXT	254	Yes		NENA
7.2 Relate Elements							
7.3 Address Elements							
7.4 Area Elements							
7.5 Functional Elements							
7.6 Management Elements							
7.6.1	Date Updated	DateUpdate	DATE		Yes		NENA
7.6.2	Effective Date	Effective	DATE		No		NENA
7.6.3	Expiration Date	Expire	DATE		No		NENA
7.7 9-1-1 Elements							
7.7.1	Discrepancy Agency ID	DiscrpAgID	TEXT	100	Yes		NENA

ProvisioningPolygon (Provisioning Boundary) - Data Element Details

7.1 Identification Elements

7.1.1 NENA Globally Unique ID

Database Field Name	NGUID		
Data Type	TEXT	Inclusion	Yes
Width	254	Domain	
Examples	urn:emergency:uid:gis:Prov:{AD873541-F41C-409E-A0BE-1B0C583902A4}; charlevoixcounty.org urn:emergency:uid:gis:Prov:100373182:eatoncounty.org urn:emergency:uid:gis:Prov:55025{AD873541-F41C-409E-A0BE-1B0C583902A4}; calhouncountymi.gov		
Description	The NENA Globally Unique ID (Primary Key) for each record in a GIS data layer. Each record in the GIS data 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. Additional detail on how to construct the NGUID can be found in section 2.4 NENA Globally Unique IDs (NGUID).		

7.2 Relate Elements

Not applicable.

7.3 Address Elements

Not applicable.

7.4 Area Elements

Not applicable.

7.5 Functional Elements

Not applicable.

7.6 Management Elements

7.6.1 Date Updated

Database Field Name	DateUpdate		
Data Type	DATE	Inclusion	Yes
Width		Domain	Date and Time may be stored in the local database date/time format with the proviso that local time zone MUST be recorded and time MUST be recorded to a precision of at least 1 second and MAY be recorded to a precision of 0.1 second. If the local database date/time format does not meet these specifications, the database SHOULD record both the local date/time format and a string conforming to W3C dateTime format as described in XML Schema Part 2: Datatypes Second Edition [4].
Examples	2020-01-28T15:47.09.3-06:00 (representing a record updated on January 28, 2020 at 3:47 and 9.3 seconds PM US Central Standard Time, with a precision of .1 second); 2020-07-16T08:31:15.2-05:00 (representing a record updated on July 16, 2020 at 8:31 and 15.2 seconds AM US Central Daylight Time, with a precision of .1 second)		
Description	The date and time that the record was created or last modified.		

7.6.2 Effective Date

Database Field Name	Effective		
Data Type	DATE	Inclusion	No
Width		Domain	Date and Time may be stored in the local database date/time format with the proviso that local time zone MUST be recorded and time MUST be recorded to a precision of at least 1 second and MAY be recorded to a precision of 0.1 second. If the local database date/time format does not meet these specifications, the database SHOULD record both the local date/time format and a string conforming to W3C dateTime format as described in XML Schema Part 2: Datatypes Second Edition [4].
Examples	<p>2021-02-11T01:30:00.1-06:00 (representing a record that will become active on February 11, 2021 at 1:30 and 0.1 seconds AM US Central Standard Time, with a precision of .1 second);</p> <p>2021-10-15T20:15:30.5-05:00 (representing a record that will become active on October 15, 2021 at 8:15 and 30.5 seconds PM US Central Daylight Time, with a precision of .1 second)</p>		
Description	The date and time that the record is scheduled to take effect (e.g., the date and time an annexation takes effect and the new Provisioning Boundary is recognized for use in the NG9-1-1 system).		

7.6.3 Expiration Date

Database Field Name	Expire		
Data Type	DATE	Inclusion	No
Width		Domain	Date and Time may be stored in the local database date/time format with the proviso that local time zone MUST be recorded and time MUST be recorded to a precision of at least 1 second and MAY be recorded to a precision of 0.1 second. If the local database date/time format does not meet these specifications, the database SHOULD record both the local date/time format and a string conforming to W3C dateTime format as described in XML Schema Part 2: Datatypes Second Edition [4].
Examples	2021-02-11T01:30:00.1-06:00 (representing a record that will expire and no longer be valid on February 11, 2021 at 1:30 and 0.1 seconds AM US Central Standard Time, with a precision of .1 second); 2021-10-15T20:15:30.5-05:00 (representing a record that will expire and no longer be valid on October 15, 2021 at 8:15 and 30.5 seconds PM US Central Daylight Time, with a precision of .1 second)		
Description	The date and time when the information in the record is no longer considered valid (e.g., the date and time an annexation takes effect and the former Provisioning Boundary is no longer recognized for use in the NG9-1-1 system).		

7.7 9-1-1 Elements

7.7.1 Discrepancy Agency ID

Database Field Name	DiscrpAgID		
Data Type	TEXT	Inclusion	Yes
Width	100	Domain	
Examples	co.hillsdale.mi.us, lapeercountyweb.org, sanilaccounty.gov		
Description	Agency that receives a Discrepancy Report (DR), should a discrepancy be discovered in the GIS data, and will take responsibility for ensuring discrepancy resolution. This may or may not be the same as the 9-1-1 Authority. This MUST be represented by a domain name that is an Agency Identifier as defined in the NENA Master Glossary of 9-1-1 Terminology, NENA-ADM-000.23-2020 [17].		

8 Future Changes in NENA Standards Impacting this Standard

NENA NG9-1-1 Standards undergo continuous review and update, particularly as the implementation of the NENA Standards often identifies areas needing improvement, clarification, or reconsideration. It is important for the State of Michigan to monitor the development of NENA NG9-1-1 GIS standards and how elements in this standard may be impacted by potential future changes in the NENA Standards. The NENA NG9-1-1 Civic Location Data Exchange Format (CLDXF) Standard [13] was recently updated and the NENA Standard for NG9-1-1 GIS Data Model [1] (NG9-1-1 GIS Data Model) is undergoing an update to include the updates made to the CLDXF document as of the release of this document.

New elements added in version 2 of the NENA CLDXF Standard and soon to be added elements to NENA NG9-1-1 GIS Data Model Standard version 3 have been included in the MI NG9-1-1 GIS Data Standard:

- Site
- Subsite
- Structure
- Floor Label
- Floor Index
- Wing
- Unit PreType
- Unit Value
- Section
- Row

The following element(s) were removed in version 2 of the NENA CLDXF Standard and will be removed from the version 3 NENA NG9-1-1 GIS Data Model Standard:

- Complete Landmark Name – to be replaced by new Site, Subsite, and Structure elements
- Building – to be replaced by new Structure element
- Unit – to be supplemented with new Unit PreType and Unit Value elements

Changes and updates coming to version 3 of the NG9-1-1 GIS Data Model Standard have been added to the MI NG9-1-1 GIS Data Standard:

- Road Centerlines
 - Direction of Travel
- Site/Structure Address Points
 - Address Number Complete
 - Distance Marker
 - Direction of Travel
 - Location Marker
 - Altitude
 - Height
- Additions of layers
 - Site/Structure Address Polygons

Administrative levels such as State, County, Incorporated Municipality, Unincorporated Community and Neighborhood Community have been renamed to Administrative Levels A1 – A5 to align with the IETF's PIDF-LO. In this GIS Data Standard, the common names remain with the Administrative Levels in parathesis to tie to the NENA NG9-1-1 GIS Data Model [1].

9 Items Pending Future Work

The following items require additional research and/or development work:

- Development and maintenance of domains used within Michigan
 - Unit Pre Type
- Monitor changes to the NENA Site/Structure Address Point Placement Method Registry
- Monitor changes to NENA Civic Location Data Exchange Format (CLDXF) Standard
- Monitor changes to NENA Standard for NG9-1-1 GIS Data Model
 - Implementation of the Site/Structure Address Polygons
- Monitor changes to NENA Requirement for 3D GIS for E9-1-1 and NG9-1-1

10 Terminology

Unless otherwise noted, the following terms are a subset of terms defined in the NENA Master Glossary of 9-1-1 Terminology [15] or the NENA Standard for NG9-1-1 GIS Data Model [1].

Term or Abbreviation	Definition / Description
<i>Addressing Authority</i>	In Michigan, an Addressing Authority is a local, tribal, military, or county department responsible for issuing addresses and reconciling addressing discrepancies, through administrative procedures, to locations within its jurisdiction. The local and county authority is provided by state statute for the specific purpose of aiding in fire protection, emergency services, and civil defense.
<i>ALI (Automatic Location Identification)</i>	The automatic display at the PSAP of the caller’s telephone number, the address/location of the telephone and supplementary emergency services information of the location from which a call originates.
<i>CAD (Computer Aided Dispatch)</i>	A computer-based system, which aids PSAP Telecommunicators by automating selected dispatching and record keeping activities.
<i>CLDXF (Civic Location Data Exchange Format)</i>	A United States emergency services profile of PIDF-LO that defines a set of data elements that describe detailed street address information.
<i>Domain (Data Domain)</i>	An enumerated listing or range of valid values that may be used as an attribute. If no Data Domain is provided, then any value that meets the format criteria may be used.
<i>DNS (Domain Name System)</i>	A globally distributed database for the resolution of host names to numeric IP addresses.
<i>ECRF (Emergency Call Routing Function)</i>	A functional element in an NGCS (Next Generation 9-1-1 Core Services) which is a LoST protocol server where location information (either civic address or geo-coordinates) and a Service URN serve as input to a mapping function that returns a URI used to route an emergency call toward the appropriate PSAP for the caller’s location or towards a responder agency.
<i>ESInet (Emergency Services IP Network)</i>	A managed IP network that is used for emergency services communications, and which can be shared by all public safety agencies. It provides the IP transport infrastructure upon which independent application platforms and core services can be deployed, including, but not restricted to, those necessary for providing NG9-1-1 services. ESInets may be constructed from a mix of dedicated and shared facilities. ESInets may be interconnected at local, regional, state, federal, national and international levels to form an IP-based inter-network (network of networks). The term ESInet designates the network, not the services that ride on the network.

Term or Abbreviation	Definition / Description
<i>GCS (Geocode Service)</i>	A web-based service that provides two functions: Geocoding and reverse-geocoding. Geocoding takes a PIDF-LO, which contains a civic address and returns a PIDF-LO containing a geodetic representation for the same location; reverse-geocoding takes a PIDF-LO, which contains a geodetic representation and returns a PIDF-LO that contains a civic address for the same location.
<i>i3</i>	A shorthand term for a version of a NENA technical architecture that introduces the concept of an Emergency Services IP network (ESInet), which is designed as an IP-based inter-network (network of networks) shared by all agencies which may be involved in any emergency. An interim version of the NENA E9-1-1 architecture evolving to an IP infrastructure is referred to as 'i2'.
<i>LoST (Location-to-Service Translation) Protocol</i>	A protocol that takes location information and a Service URN and returns a URI. Used generally for location-based call routing. In NG9-1-1, used as the protocol for the ECRF and LVF.
<i>LVF (Location Validation Function)</i>	A functional element in an NGCS that is a LoST protocol server where civic location information is validated against the authoritative GIS database information. A civic address is considered valid if it can be located within the database uniquely, is suitable to provide an accurate route for an emergency call and adequate and specific enough to direct responders to the right location.
<i>MCS (MSAG Conversion Service)</i>	A web service providing conversion between Presence Information Data Format-Location Object (PIDF-LO) and Master Street Address Guide (MSAG) data.
<i>MDS (Mapping Data Service)</i>	A service that returns images or features stored in a GIS that can be used to create a display for a telecommunicator or facilitate spatial analyses. Often used to provide maps for handling out of area calls, the Mapping Data Service can also be used locally to provide a single, uniform map display for all functional elements in a PSAP that require maps.
<i>MSAG (Master Street Address Guide)</i>	A database of street names and house number ranges within their associated communities defining Emergency Service Zones (ESZs) and their associated Emergency Service Numbers (ESNs) to enable proper routing of 9-1-1 calls.
<i>NENA (National Emergency Number Association)</i>	NENA, also referred to as The 9-1-1 Association, is fully dedicated to the continued improvement and modernization of the 9-1-1 emergency communication system. NENA's approach includes research, standards development, training, education, certification, outreach, and advocacy through communication with stakeholders. As an ANSI-accredited Standards Developer, NENA works with 9-1-1 professionals, public policy leaders, emergency services and telecommunications industry partners, like-minded public safety associations, and more. Current NENA activities center on awareness, documentation, and implementation for Next Generation 9-1-1 (NG9-1-1) and international three-digit emergency communication systems. See www.nena.org .
<i>NGCS (Next Generation 9-1-1 (NG9-1-1) Core Services)</i>	The base set of services needed to process a 9-1-1 call on an ESInet. Includes the ESRP, ECRF, LVF, BCF, Bridge, Policy Store, Logging Services and typical IP services such as DNS and DHCP. The term NG9-1-1 Core Services includes the services and not the network on which they operate.

Term or Abbreviation	Definition / Description
<i>PIDF-LO (Presence Information Data Format – Location Object)</i>	Provides a flexible and versatile means to represent location information in a SIP header using an XML schema.
<i>Registry</i>	A single place for keeping valid data values associated with a specific data element.
<i>SI (Spatial Interface)</i>	A standardized NG9-1-1 interface between the GIS data and the functional elements that consume GIS data, such as the ECRF/LVF, Map Database Services, etc.
<i>Street Naming Authority</i>	In Michigan, a Street Naming Authority is the local, tribal, military, or county department responsible for approving or issuing street names and reconciling street name discrepancies, through resolution or ordinance, to public streets and private driveways within its jurisdiction. The local and county authority is provided by state statute for the specific purpose of aiding in fire protection, emergency services, and civil defense.
<i>URI (Uniform Resource Identifier)</i>	An identifier consisting of a sequence of characters matching the syntax rule that is named <URI> in RFC 3986 [3]. It enables uniform identification of resources via a set of naming schemes. A URI can be further classified as a locator (URL), a name (URN), or both. A Uniform Resource Locator (URL) is a type of URI that provides a means of locating the resource by describing its primary access mechanism (e.g., its network "location"). An example of a URI that is neither a URL nor a URN is sip:psap@example.com.
<i>URN (Uniform Resource Name)</i>	A type of URI (Uniform Resource Identifier). URNs are intended to serve as persistent, location-independent, resource identifiers and are designed to make it easy to map other namespaces (which share the properties of URNs) into URN-space. An example of a URN is urn:service.sos.
<i>WGS 84 (World Geodetic System 1984)</i>	The reference coordinate system used by the Global Positioning Systems and in cartography and navigation.

11 References

- [1] National Emergency Number Association. *NENA Standard for NG9-1-1 GIS Data Model*. [NENA-STA-006.2a-2022](#). Arlington, VA: NENA, approved September 23, 2022.
- [2] Internet Engineering Task Force. *Domain Names – Concepts And Facilities*. P. Mockapetris. [RFC 1034](#), November 1987.
- [3] Internet Engineering Task Force. *Uniform Resource Identifier (URI): Generic Syntax*. T. Berners-Lee, R. Fielding and L. Masinter. [RFC 3986](#), January 2005.
- [4] World Wide Web Consortium (W3C). *XML Schema Part 2: Datatypes Second Edition*. P. Biron and A. Malhotra. <http://www.w3.org/TR/xmlschema-2>, October 28, 2004.
- [5] United States Postal Service. "Postal Addressing Standards." [Publication 28](#), June 20210. Accessed September 25, 2020.
- [6] United States Postal Service. "City State Product," Available at <https://postalpro.usps.com/address-quality/city-state-product>. Accessed September 25, 2020.
- [7] InterNational Committee for Information Technology Standards (INCITS). *Codes for the Identification of Counties and Equivalent Areas of the United States, Puerto Rico, and the Insular Areas*. [INCITS 31:2009 \(R2019\)](#), approved November 2019. Maintained by the U.S. Census Bureau.
- [8] Internet Engineering Task Force. *Location Types Registry*. H. Schulzrinne and H. Tschofenig. [RFC 4589](#), July 2006.
- [9] Internet Engineering Task Force. *Domain Names – Implementation and Specification*. P. Mockapetris. [RFC 1035](#), November 1987.
- [10] Internet Engineering Task Force. *jCard: The JSON Format for vCard*. P. Kewisch. [RFC 7095](#), January 2014.

- [11] Internet Engineering Task Force. *Domain Names – Concepts and Facilities*. P. Mockapetris. [RFC 1034](#), November 1987.
- [12] National Emergency Number Association. *NENA i3 Standard for Next Generation 9-1-1*. [NENA-STA-010.3e-2021](#). Arlington, VA: NENA, approved October 7, 2021.
- [13] National Emergency Number Association. *NENA Next Generation 9-1-1 (NG9-1-1) United States Civic Location Data Exchange Format (CLDXF) Standard*. [NENA-STA-004.1.1-2014](#). Arlington, VA: NENA, approved March 23, 2014.
- [14] National Emergency Number Association. *NENA Information Document for Development of Site/Structure Address Point GIS Data for 9-1-1*. [NENA-INF-014.1-2015](#). Arlington, VA: NENA, approved September 18, 2015.
- [15] National Emergency Number Association. *NENA Knowledge Base Glossary*. Updated June 16, 2022. <https://kb.nena.org/wiki/Category:Glossary>.
- [16] National Emergency Number Association. *NENA Information Document for GIS Data Stewardship for Next Generation 9-1-1 (NG9-1-1)*. [NENA-INF-028.2-2023](#). Arlington, VA: NENA, approved September 20, 2023.
- [17] National Emergency Number Association. *NENA Master Glossary of 9-1-1 Terminology*. [NENA-ADM-000.23-2020](#). Arlington, VA: DSC, approved January 20, 2020.

Appendix B | Street Name Aliases

Street Name Alias Methodology

The street name as assigned by the local addressing authority MUST be the name in the RoadCenterLine layer. The street name assigned by the local addressing authority is the street name used for location validation, and call routing. However, many roads are known by more than one street name, and these are known as alias street names. There are many ways to represent an alias. This document describes one model. Regardless of the alias naming methodology selected, one MUST ensure it is compatible with the latest version of Appendix B of NENA-STA-010.3e-2021 [12]. Note that the representation shown in this section is compatible with the latest version of Appendix B of NENA-STA-010.3e-2021 [12].

Alias street names are common and must be considered. Examples include when a state route or state highway crosses into a city jurisdiction, when several streets “merge” to traverse the same road segment, or when honorary names are given to previously named and addressed roads. Many 9-1-1 Authorities will need to accommodate for alias street names during call taking and data sharing.

The method of maintaining alias street names is illustrated below in the StreetNameAliasTable, Figure B-3. The attribute data in Figure B-1 and Figure B-3 below is only to illustrate the concept of managing alias street names. In the RoadCenterLine layer in Figure B-1, the street names “Avenue of the Pines” and “Main Street” have been assigned by the local addressing authority. Each street name has two different segments associated with it. All the segments are in Any County, with the two segments associated with Main Street also being in Some City. Each road centerline segment has a NENA Globally Unique ID (NGUID) assigned to it as a primary key. In this example, the NGUID for each road centerline segment is in the first column.

NGUID (Primary Key)	St_PreMod	St_PreDir	St_PreTyp	St_PreSep	St_Name	St_PosTyp	St_PosDir	St_PosMod	State_L	State_R	County_L	County_R	IncMuni_L	IncMuni_R	LSt_PreDir	LSt_Name	LSt_Type	LSt_PosDir
urn:emergency:uid:gis:RCL:1:eatoncounty.org			Avenue	of the	Pines				MI	MI	Eaton County	Eaton County				AVENUE OF THE PINES		
urn:emergency:uid:gis:RCL:2:eatoncounty.org			Avenue	of the	Pines				MI	MI	Eaton County	Eaton County				AVENUE OF THE PINES		
urn:emergency:uid:gis:RCL:3:eatoncounty.org					Main Street				MI	MI	Eaton County	Eaton County	Lansing	Lansing		MAIN	ST	
urn:emergency:uid:gis:RCL:4:eatoncounty.org					Main Street				MI	MI	Eaton County	Eaton County	Lansing	Lansing		MAIN	ST	

Figure B-1 Street Name Alias Methodology

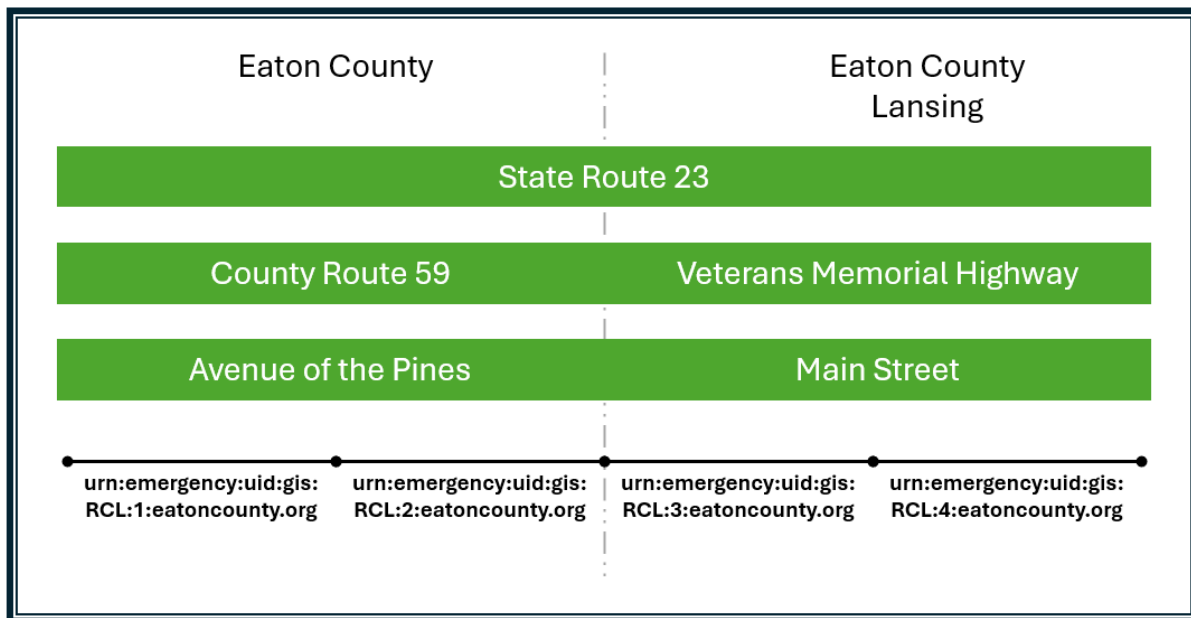


Figure B-2 Graphic Depiction of Figure B-1

In Figure B-1, Avenue of the Pines and Main Street that have been assigned by the local addressing authority each has several alias street names:

- State Route 23, the street name assigned by the state department of transportation, is used as an alias for Avenue of the Pines and Main Street. These four segments have an individual RoadCenterLine layer NGUID of:
 - urn:emergency:uid:gis:RCL:1:eatoncounty.org
 - urn:emergency:uid:gis:RCL:2:eatoncounty.org
 - urn:emergency:uid:gis:RCL:3:eatoncounty.org
 - urn:emergency:uid:gis:RCL:4:eatoncounty.org
- County Route 59 is an alias for the two segments of Avenue of the Pines that are in Any County but not in Some City. These two segments have an individual RoadCenterLine layer NGUID of:
 - urn:emergency:uid:gis:RCL:1:eatoncounty.org
 - urn:emergency:uid:gis:RCL:2:eatoncounty.org
- Veterans Memorial Highway is an alias for the two segments of Main Street that are in Some City. These two segments have an individual RoadCenterLine layer NGUID of:
 - urn:emergency:uid:gis:RCL:3:eatoncounty.org
 - urn:emergency:uid:gis:RCL:4:eatoncounty.org

The RoadCenterLine layer NGUID is used to relate the alias street names in the StreetNameAliasTable to the road centerline segments in the RoadCenterLine layer in Section 3. Using this methodology, one can add as many alias street names as needed.

To ensure data integrity, the user MUST assign an NGUID (Primary Key) to each record in the StreetNameAliasTable. The NGUID (Primary Key), as with the other respective Unique IDs for each layer, MUST be globally unique and therefore has only one occurrence.

NGUID (Primary Key)	RCL_NGUID (Foreign Key)	St_PreMod	St_PreDir	St_PreTyp	St_PreSep	St_Name	St_PosTyp	St_PosDir	St_PosMod	Lst_PreDir	Lst_Name	Lst_Type	Lst_PosDir
urn:emergency:uid:gis:StrNA:1:eatoncounty.org	urn:emergency:uid:gis:RCL:1:eatoncounty.org			State Route		23					M 23		
urn:emergency:uid:gis:StrNA:2:eatoncounty.org	urn:emergency:uid:gis:RCL:2:eatoncounty.org			State Route		23					M 23		
urn:emergency:uid:gis:StrNA:3:eatoncounty.org	urn:emergency:uid:gis:RCL:3:eatoncounty.org			State Route		23					M 23		
urn:emergency:uid:gis:StrNA:4:eatoncounty.org	urn:emergency:uid:gis:RCL:4:eatoncounty.org			State Route		23					M 23		
urn:emergency:uid:gis:StrNA:5:eatoncounty.org	urn:emergency:uid:gis:RCL:1:eatoncounty.org			County Route		59					CO RD 59		
urn:emergency:uid:gis:StrNA:6:eatoncounty.org	urn:emergency:uid:gis:RCL:2:eatoncounty.org			County Route		59					CO RD 59		
urn:emergency:uid:gis:StrNA:7:eatoncounty.org	urn:emergency:uid:gis:RCL:3:eatoncounty.org					Veterans Memorial	Highway				VETERANS MEMORIAL	HWY	
urn:emergency:uid:gis:StrNA:8:eatoncounty.org	urn:emergency:uid:gis:RCL:4:eatoncounty.org					Veterans Memorial	Highway				VETERANS MEMORIAL	HWY	

Figure B-3 StreetNameAliasTable

From the StreetNameAliasTable in Figure B-3 above, we can tell that:

- RCL_NGUID (Foreign Key) = urn:emergency:uid:gis:RCL:1:eatoncounty.org has an alias of State Route 23 and another alias of County Route 59
- RCL_NGUID (Foreign Key) = urn:emergency:uid:gis:RCL:2:eatoncounty.org has an alias of State Route 23 and another alias of County Route 59
- RCL_NGUID (Foreign Key) = urn:emergency:uid:gis:RCL:3:eatoncounty.org has an alias of State Route 23 and another alias of Veterans Memorial Highway
- RCL_NGUID (Foreign Key) = urn:emergency:uid:gis:RCL:4:eatoncounty.org has an alias of State Route 23 and another alias of Veterans Memorial Highway

StreetNameAliasTable (Street Name Aliases) – Summary Table

Street Name Aliases data is maintained as a table containing alternate street names related to the legal street name contained in the RoadCenterLine layer. This dataset is referred to as the StreetNameAliasTable in the GIS Data Layers Registry in NENA-STA-010.3e-2021 [12] and in NENA documents going forward.

Note: The NENA NG9-1-1 GIS Data Model version 3 will no longer have a separate table for the Street Name Alias Table. The table has been incorporated in the Relational Data Model portion of the document.

Element Number	Element Name	Database Field Name	Field Type	Field Width	Inclusion	Domain	Reference Standard
B.1 Identification Elements							
B.1.1	NENA Globally Unique ID (Primary Key)	NGUID	TEXT	254	Yes		NENA
B.2 Relate Elements							
B.2.1	Road Centerline NENA Unique ID (Foreign Key)	RCL_NGUID	TEXT	254	Yes		NENA
B.3 Address Elements							
B.3.1	Street Name Pre Modifier	St_PreMod	TEXT	25	Conditional		NENA
B.3.2	Street Name Pre Directional	St_PreDir	TEXT	10	Conditional	North; South; East; West; Northeast; Northwest; Southeast; Southwest; Nord; Sud; Est; Ouest; Nord-Est; Nord-Ouest; Sud-Est; Sud-Ouest; or equivalent words in other languages.	NENA
B.3.3	Street Name Pre Type	St_PreType	TEXT	50	Conditional	NENA <i>Street Name Pre Types and Street Name Post Types Registry</i>	NENA
B.3.4	Street Name Pre Type Separator	St_PreSep	TEXT	20	Conditional	NENA <i>Street Name Pre Type Separators Registry</i>	NENA
B.3.5	Street Name	St_Name	TEXT	254	Yes		NENA
B.3.6	Street Name Post Type	St_PosTyp	TEXT	50	Conditional	NENA <i>Street Name Pre Types and Street Name Post Types Registry</i>	NENA
B.3.7	Street Name Post Directional	St_PosDir	TEXT	10	Conditional	North; South; East; West; Northeast; Northwest; Southeast; Southwest; Nord; Sud; Est; Ouest; Nord-Est; Nord-Ouest; Sud-Est; Sud-Ouest; or equivalent words in other languages.	NENA
B.3.8	Street Name Post Modifier	St_PosMod	TEXT	25	Conditional		NENA
B.3.9	Full Street Name	FullStNm	TEXT	245	Yes		
B.3.10	Abbreviated Full Street Name	abFullStNm	TEXT	175	No		
B.3.11	Legacy Street Pre Directional	LSt_PreDir	TEXT	2	Conditional	N; S; E; W; NE; NW; SE; SW; O; NO; SO; or equivalent abbreviations in other languages.	NENA
B.3.12	Legacy Street Name	LSt_Name	TEXT	75	Conditional		NENA
B.3.13	Legacy Street Type	LSt_Type	TEXT	4	Conditional	USPS Publication 28, Appendix C1 [5]	NENA

Element Number	Element Name	Database Field Name	Field Type	Field Width	Inclusion	Domain	Reference Standard
B.3.14	Legacy Street Post Directional	LSt_PosDir	TEXT	2	Conditional	N; S; E; W; NE; NW; SE; SW; O; NO; SO; or equivalent abbreviations in other languages.	NENA
B.4 Area Elements							
B.5 Functional Elements							
B.6 Management Elements							
B.6.1	Date Updated	DateUpdate	DATE		Yes		NENA
B.6.2	Effective Date	Effective	DATE		No		NENA
B.6.3	Expiration Date	Expire	DATE		No		NENA
B.7 9-1-1 Elements							
B.7.1	Discrepancy Agency ID	DiscrpAgID	TEXT	100	Yes		NENA

StreetNameAliasTable (Street Name Alias Table) - Data Element Details

B.1 Identification Elements

B.1.1 NENA Globally Unique ID

Database Field Name	NGUID		
Data Type	TEXT	Inclusion	Yes
Width	254	Domain	
Examples	urn:emergency:uid:gis:StrNA:{AD873541-F41C-409E-A0BE-1B0C583902A4}:charlevoixcounty.org urn:emergency:uid:gis:StrNA:100373182:eatoncounty.org urn:emergency:uid:gis:StrNA:55025{AD873541-F41C-409E-A0BE-1B0C583902A4}:calhouncountymi.gov		
Description	The NENA Globally Unique ID (Primary Key) for each record in a GIS data layer. Each record in the GIS data 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. Additional detail on how to construct the NGUID can be found in section 2.4 NENA Globally Unique IDs (NGUID).		

B.2 Relate Elements

B.2.1 Road Centerline NENA Globally Unique ID (Foreign Key)

Database Field Name	RCL_NGUID		
Data Type	TEXT	Inclusion	Yes
Width	254	Domain	
Examples	urn:emergency:uid:gis:RCL:{AD873541-F41C-409E-A0BE-1B0C583902A4}:charlevoixcounty.org urn:emergency:uid:gis:RCL:100373182:eatoncounty.org urn:emergency:uid:gis:RCL:55025{AD873541-F41C-409E-A0BE-1B0C583902A4}:calhouncountymi.gov		
Description	The Road Centerline NENA Globally Unique ID (RCL_NGUID) is used in the StreetNameAliasTable as a foreign key relationship between the StreetNameAliasTable and the RoadCenterLine layer. A foreign key acts as a cross-reference between RCL_NGUID field in the StreetNameAliasTable because it references the NGUID field primary key in the RoadCenterLine layer, thereby establishing a link between them. A RoadCenterLine record may have zero to many (0:M) StreetNameAliasTable records. Without this relationship, it would not be possible to identify any street name aliases of a road centerline. The values in the RCL_NGUID field MUST exist in the values of the NGUID field in the RoadCenterLine layer.		

B.3 Address Elements

B.3.1 Street Name Pre Modifier

Database Field Name	St_PreMod		
Data Type	TEXT	Inclusion	Conditional
Width	15	Domain	
Examples	Old North County Highway 12		
Description	A word or phrase that precedes all other Street Name elements and is separated from the Street Name element by a Street Name Pre Directional and/or a Street Name Pre Type element. Not commonly used and use should be minimized.		

B.3.2 Street Name Pre Directional

Database Field Name	St_PreDir		
Data Type	TEXT	Inclusion	Conditional
Width	10	Domain	North; South; East; West; Northeast; Northwest; Southeast; Southwest; Nord; Sud; Est; Ouest; Nord-Est; Nord-Ouest; Sud-Est; Sud-Ouest; or equivalent words in other languages.
Examples	East Main Street, Old North County Highway 12		
Description	A word or phrase preceding the Street Name element that indicates the direction taken by the road from an arbitrary starting point or the sector where it is located.		

B.3.3 Street Name Pre Type

Database Field Name	St_PreType		
Data Type	TEXT	Inclusion	Conditional
Width	50	Domain	<i>NENA Street Name Pre Types and Street Name Post Types Registry</i>
Examples	Avenue A , Old North County Highway 12 , United States Highway 151 , State Highway 46 , Interstate 90		
Description	A word or phrase that precedes the Street Name element and identifies the type of thoroughfare in the Full Street Name.		

B.3.4 Street Name Pre Type Separator

Database Field Name	St_PreSep		
Data Type	TEXT	Inclusion	Conditional
Width	20	Domain	<i>NENA Street Name Pre Type Separators Registry</i>
Examples	Avenue of the Arts, Avenue of Champions		
Description	A preposition or prepositional phrase between the Street Name Pre Type and the Street Name element.		

B.3.5 Street Name

Database Field Name	St_Name		
Data Type	TEXT	Inclusion	Yes
Width	254	Domain	
Examples	Jones Road, County Highway KP , Avenue of the Arts , Avenue C , Azure Court South		
Description	The official name of the road as defined by the official Street Naming Authority for the given jurisdiction. The Street Name element does not include a street type, directional, or modifier unless assigned as such by the official Street Naming Authority.		

B.3.6 Street Name Post Type

Database Field Name	St_PosTyp		
Data Type	TEXT	Inclusion	Conditional
Width	50	Domain	<i>NENA Street Name Pre Types and Street Name Post Types Registry</i>
Examples	Jones Road , Azure Court South		
Description	A word or phrase that follows the Street Name element and identifies the type of thoroughfare in the Full Street Name.		

B.3.7 Street Name Post Directional

Database Field Name	St_PosDir		
Data Type	TEXT	Inclusion	Conditional
Width	10	Domain	North; South; East; West; Northeast; Northwest; Southeast; Southwest; Nord; Sud; Est; Ouest; Nord-Est; Nord-Ouest; Sud-Est; Sud-Ouest; or equivalent words in other languages.
Examples	Azure Court South , 10 th Avenue West		
Description	A word or phrase following the Street Name element that indicates the direction taken by the road from an arbitrary starting point or the sector where it is located.		

B.3.8 Street Name Post Modifier

Database Field Name	St_PosMod		
Data Type	TEXT	Inclusion	Conditional
Width	25	Domain	
Examples	Bermuda Boulevard Lower , Lake Road Fire Road 8 , Stoughton Road Frontage Road , Interstate 90 westbound		
Description	A word or phrase that follows all other Street Name elements and is separated from the Street Name element by a Street Name Post Directional and/or Street Name Post Type element. Not commonly used and use should be minimized.		

B.3.9 Full Street Name

Database Field Name	FullStNm		
Data Type	TEXT	Inclusion	Yes
Width	245	Domain	
Examples	Old North County Highway 12, Azure Court South, Lake Road Fire Road 8		
Description	The Street Name with all Pre/Post Modifiers, Pre/Post Directionals, Pre Type Separator, and Pre/Post Types concatenated: St_PreMod + St_PreDir + St_PreTyp + St_PreSep + St_Name + St_PosTyp + St_PosDir + St_PosMod		

B.3.10 Abbreviated Full Street Name

Database Field Name	abFullStNm		
Data Type	TEXT	Inclusion	No
Width	175	Domain	
Examples	Old N CTH 12, Azure Ct S, Lake Rd Fire Rd 8		
Description	The Full Street Name with abbreviations (where appropriate) used for the Pre/Post Modifiers, Pre/Post Types, and Pre/Post Directionals. LSt_PreDir + LSt_Name + LStType + LStPosDir		

B.3.11 Legacy Street Name Pre Directional

Database Field Name	LSt_PreDir		
Data Type	TEXT	Inclusion	Conditional
Width	2	Domain	N; S; E; W; NE; NW; SE; SW; O; NO; SO; or equivalent abbreviations in other languages.
Examples	E MULBERRY RD, S POSEY LAKE HWY		
Description	The street direction prefix as it appears in the MSAG, as assigned by the official Street Naming Authority. Casing should reflect what appears in the MSAG data.		

B.3.12 Legacy Street Name

Database Field Name	LSt_Name		
Data Type	TEXT	Inclusion	Conditional
Width	75	Domain	
Examples	E CHICAGO BLVD, W CADMUS RD, I 75 N, STATE ROUTE 34, 36TH ST S, SHARON RD SW		
Description	The street name field as it appears in the MSAG, as assigned by the official Street Naming Authority. Casing should reflect what appears in the MSAG data.		

B.3.13 Legacy Street Type

Database Field Name	LSt_Type		
Data Type	TEXT	Inclusion	Conditional
Width	4	Domain	PSAP MSAG; USPS Publication 28, Appendix C1 [5]
Examples	E CHICAGO BLVD, W CADMUS RD, 36TH ST S, SHARON RD SW		
Description	The valid street type abbreviation as it appears in the MSAG, as assigned by the official Street Naming Authority. Casing should reflect what appears in the MSAG data.		

B.3.14 Legacy Street Post Directional

Database Field Name	LSt_PosDir		
Data Type	TEXT	Inclusion	Conditional
Width	2	Domain	N; S; E; W; NE; NW; SE; SW; O; NO; SO; or equivalent abbreviations in other languages.
Examples	OREGON RD W, GINAFRED SHORES DR SW		
Description	The street direction suffix as it appears in the MSAG, as assigned by the official Street Naming Authority. Casing should reflect what appears in the MSAG data.		

B.4 Area Elements

Not Applicable

B.5 Functional Elements

Not Applicable

B.6 Management Elements

B.6.1 Date Updated

Database Field Name	DateUpdate		
Data Type	DATE	Inclusion	Yes
Width		Domain	Date and Time may be stored in the local database date/time format with the proviso that local time zone MUST be recorded and time MUST be recorded to a precision of at least 1 second and MAY be recorded to a precision of 0.1 second. If the local database date/time format does not meet these specifications, the database SHOULD record both the local date/time format and a string conforming to W3C dateTime format as described in XML Schema Part 2: Datatypes Second Edition [15].
Examples	2020-01-28T15:47.09.3-06:00 (representing a record updated on January 28, 2020 at 3:47 and 9.3 seconds PM US Central Standard Time, with a precision of .1 second); 2020-07-16T08:31:15.2-05:00 (representing a record updated on July 16, 2020 at 8:31 and 15.2 seconds AM US Central Daylight Time, with a precision of .1 second)		
Description	The date and time that the record was created or last modified.		

B.6.2 Effective Date

Database Field Name	Effective		
Data Type	DATE	Inclusion	No
Width		Domain	Date and Time may be stored in the local database date/time format with the proviso that local time zone MUST be recorded and time MUST be recorded to a precision of at least 1 second and MAY be recorded to a precision of 0.1 second. If the local database date/time format does not meet these specifications, the database SHOULD record both the local date/time format and a string conforming to W3C dateTime format as described in XML Schema Part 2: Datatypes Second Edition [15].
Examples	<p>2021-02-11T01:30:00.1-06:00 (representing a record that will become active on February 11, 2021 at 1:30 and 0.1 seconds AM US Central Standard Time, with a precision of .1 second);</p> <p>2021-10-15T20:15:30.5-05:00 (representing a record that will become active on October 15, 2021 at 8:15 and 30.5 seconds PM US Central Daylight Time, with a precision of .1 second)</p>		
Description	The date and time that the record is scheduled to take effect (e.g., the date and time an annexation takes effect and a copy of the road centerlines within the annexed area that have had their Incorporated Municipality, ESN, and MSAG Community Name fields populated with the new values are recognized for use in the NG9-1-1 system).		

B.6.3 Expiration Date

Database Field Name	Expire		
Data Type	DATE	Inclusion	No
Width		Domain	Date and Time may be stored in the local database date/time format with the proviso that local time zone MUST be recorded and time MUST be recorded to a precision of at least 1 second and MAY be recorded to a precision of 0.1 second. If the local database date/time format does not meet these specifications, the database SHOULD record both the local date/time format and a string conforming to W3C dateTime format as described in XML Schema Part 2: Datatypes Second Edition [15].
Examples	2021-02-11T01:30:00.1-06:00 (representing a record that will expire and no longer be valid on February 11, 2021 at 1:30 and 0.1 seconds AM US Central Standard Time, with a precision of .1 second); 2021-10-15T20:15:30.5-05:00 (representing a record that will expire and no longer be valid on October 15, 2021 at 8:15 and 30.5 seconds PM US Central Daylight Time, with a precision of .1 second)		
Description	The date and time when the information in the record is no longer considered valid (e.g., the date and time an annexation takes effect and the road centerlines within the annexed area that have their Incorporated Municipality, ESN, and MSAG Community Name fields populated with the former values are no longer recognized for use in the NG9-1-1 system).		

B.7 9-1-1 Elements

B.7.1 Discrepancy Agency ID

Database Field Name	DiscrepAgID		
Data Type	TEXT	Inclusion	Yes
Width	100	Domain	
Examples	co.hillsdale.mi.us, lapeercountyweb.org, sanilaccounty.gov		
Description	Agency that receives a Discrepancy Report (DR), should a discrepancy be discovered in the GIS data, and will take responsibility for ensuring discrepancy resolution. This may or may not be the same as the 9-1-1 Authority. This MUST be represented by a domain name that is an Agency Identifier as defined in the NENA Master Glossary of 9-1-1 Terminology, NENA-ADM-000.23.2020 [15].		