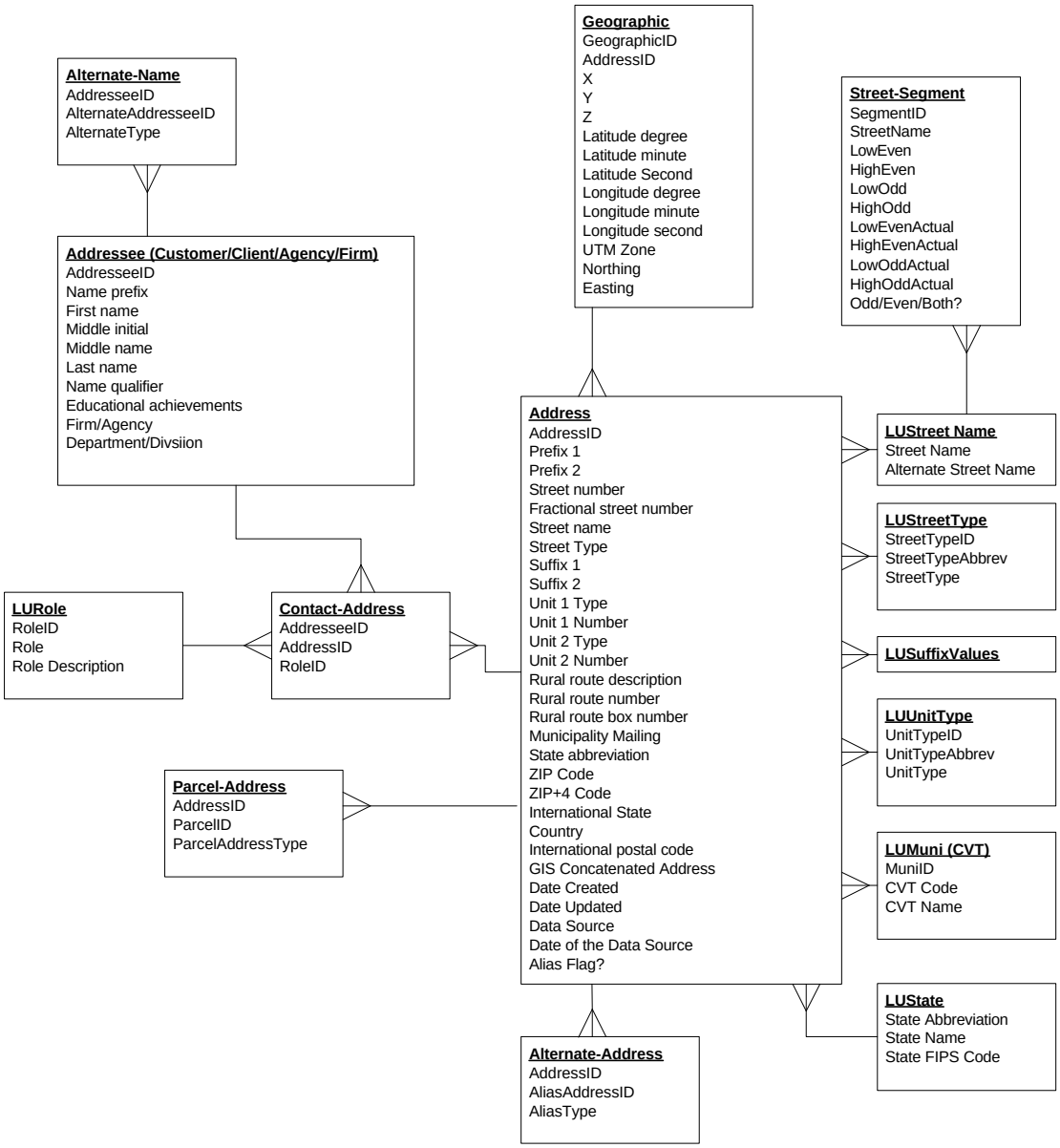
Address Standard Review
November 2001

The following document describes a proposed standard of tables and definitions. This standard is based on elements of the United States Postal Service (USPS), the Federal Geographic Data Committee (FGDC), the National Emergency Number Association (NENA) and the State of Kansas Address Standards. The tables and elements defined here are inclusive and may include more elements than are needed.

These elements will be cross-walked against the current and future functional requirements to ensure that all elements that may be needed are present. This is a draft document and will be refined based on reviews and discussions.



Addressee – This table identifies the person or organization for whom an address has been collected. Not all people or organizations will have an address

Addressee (Client/Agency/Customer/Business)		
AddresseeID	Number	Primary Key for the addressee
Name prefix	Character	Title preceding the name of an individual. Examples: Judge, Mr., Mrs., Ms., Miss, Colonel
First name	Character	Given name or nickname of an individual
Middle initial	Character	First letter of the second (or more) names of an individual
Middle name	Character	Second (or more) names given an individual preceding the individual's last name
Last name	Character	Surname (i.e. family name) of the individual
Name qualifier	Character	Qualifier indicating a person has the same name as another family member. Examples: Junior [Jr.], III
Educational achievements	Character	One or more advanced degrees that may be important to an establishment (e.g., an educational institution). Examples: Ph.D., EdD, JD, MD
Business/Agency	Character	The name of the firm or agency
Division/Department	Character	The department or division or other subdivision of an agency or business to identity the specific entity

Alternate Name – This table tracks relationships among the name listings in the Addressee table

Alternate Name		
AddresseeID	Number	Foreign key pointing to a record in the Addressee table
AlternateAddresseeID	Number	A pointer to another record in the Addressee Table
AlternateType	Character	The relationship between the two listed addresses

Address - This is the primary address table and is a mailing address.

Address		
AddressID		Primary key for the table
Prefix 1		This is normally a direction that precedes a site address. It will be standardized from a look up table. This is called a predirectional field in the postal standards and the EPA standards
Prefix 2		This is a secondary prefix for the address. This is only filled if the prefix 1 is not a directional prefix or there are two prefixes. This is not the second coordinate.
Street Number		The number assigned to a building or a land parcel along the street to identify location and to ensure accurate mail delivery. This is the number of the site. For the coordinate addresses it is NxxxWxxx, that is, include both numbers with no space.
Fractional street number		A sub-number to a street number
Street name		This is the name of the street and this will also form the basis for the street naming list that will be provided to all municipalities for use as they approve new street names. Official name of a street assigned by a local governing authority.
Street Type		The trailing designator in a street address. Called suffix in the FGDC standard. This is the standard street type abbreviation. These are defined in Appendix C of the postal standards. The post office provides a standard domain of values for these.
Suffix 1		Postdirectional field in the FGDC standard. The directional symbol that represents the sector of a city where a street address is located. This is a post directional field in the postal standards. These should be standardized to be the cardinal directions as with the prefixes.
Suffix 2		This is a post directional field in the postal standards. The second suffix is only filled in if the First Suffix is filled in.
Unit 1 Type		This is the unit type, such as apartment, suite or office. The standards for these are listed in Appendix C of the postal standards. Called Secondary address identifier in FGDC
Unit 1 Number		This is the number of the first unit and can contain letters or numbers.
Unit 2 Type		If Unit 1 location is already identified and there is a second unit like Office 1 Suite 32, then Office 1 is in the first field and the Suite is in the second field. Another example is in condominiums like building 1 unit 5.
Unit 2 Number		This is a number and can contain numbers or letters.
Rural route description		Type of rural route; route, rural route, highway contract route, star route, or PSC.
Rural route number		Number assigned to the rural route
Rural route box number		Number of a box along the rural route
Municipality Mailing		A finer partitioning of geographic subdivisions of a

		state or county, usually associated with additional levels of government. Note that the taxing municiaplit for a parcel or structure may be different than the mailing address. The tax files will contain the taxing municipality.
State abbreviation		Two-character abbreviation for the name of a state, U.S. Territory, or Armed Forces ZIP Code Designation (“AA”, “AE”, or “AP”).
ZIP Code		A five-digit code that identifies a specific geographic delivery area. ZIP Codes can represent an area within a state, an area that crosses state boundaries (unusual condition) or a single building or company that has a very high mail volume. “ZIP” is an acronym for Zone Improvement Plan.
ZIP+4 Code		ZIP equals the five-digit ZIP code (refer to ZIP Code) +4 describes the last four positions of a ZIP+4 code. Most delivery addresses are assigned a single ZIP+4 Code. However, large companies may be given a range of ZIP+4 Codes that can be used to route mail to a specific department.
International State		The first division of an international country. I.e. the state equivalent in other countries.
Country		The largest of the geo-political boundaries that define address areas of the world.
International postal code		The postal code used for final sorting by local or regional delivery unit. Different countries have their own coding systems and formats for this code.
GIS Concatenated Address		The address components concatenated to match the format requirements for address geocoding. This element will be computed form the component parts.
Date Created		The date the record was created
Date Updated		The date the record was updated
Data Source		(File or source name) The file or source for the original record
Date of the Data Source		The date of the file or source for the original record

Contact-Address – This table matches people to an address

Contact-Address		
AddresseeID	Number	Foreign key points to the addressee
AddressID	Number	Foreign Key points to the address entry
RoleID	Number	Value form a look up table indicating the role the contact plays that address

Role – The role the contact, person or firm or agency, has with the address. This is a look up table.

LURole		
RoleID	Number	Primary Key for the Table
Role	Character	The name of role such as resident, owner, contractor, manager, primary contact, other, unknown, etc

Role Description	Character	A more complete text description of the role for help and information

Geographic Address – The coordinate location of the address. Note that the horizontal and vertical datum are expressed in the metadata for this file.

Geographic Address		
GeoAddressID	Number	Primary key for the table
AddressID	Number	Foreign Key pointing to the address
X	Number	State Plane Coordinate Value for easting
Y	Number	State Plane Coordinate Value for northing
Z	Number	Elevation in Feet referenced to the County's vertical datum
Latitude degree	Number	First unit of measure; 0-360 degrees domain – FGDC Standard
Latitude minute	Number	Second unit of measure; 60 minutes = 1 degree – FGDC Standard
Latitude Second	Number	Third unit of measure; 60 seconds = 1 minute – FGDC Standard
Longitude degree	Number	First unit of measure; 0-360 degrees domain – FGDC Standard
Longitude minute	Number	Second unit of measure; 60 minutes = 1 degree – FGDC Standard
Longitude second	Number	Third unit of measure; 60 seconds = 1 minute – FGDC Standard
UTM Zone	Number	Segment of a grid dividing the Earth - required for NIMA
Northing	Number	Distance in meters from the Equator - required for NIMA
Easting	Number	Distance in meters from the Prime Meridian - required for NIMA

Reference Information – FGDC Proposed Address Standard

Appendix A

Address type = MAILING		
Descriptive Element Name	Source[1]	Definition
Addressee name/		
Name prefix	EPA[2]	Title preceding the name of an individual. Examples: Judge, Mr., Mrs., Ms., Miss, Colonel
First name	EPA	Given name or nickname of an individual
Middle initial	EPA	First letter of the second (or more) names of an individual
Middle name	None	Second (or more) names given an individual preceding the individual's last name
Last name	EPA	Surname (i.e. family name) of the individual
Name qualifier	EPA	Qualifier indicating a person has the same name as another family member. Examples: Junior [Jr.], III
Educational achievements	EPA	One or more advanced degrees that may be important to an establishment (e.g., an educational institution). Examples: Ph.D., EdD, JD, MD
Business/Agency	EPA	A finer partitioning of geographic subdivisions of a state or county, usually associated with additional levels of government.
Division/Department	EPA	The primary administrative subdivision of a state in the United States
County FIPS code	Census	A three-digit code assigned by the National Institute of Standards and Technology (NIST) to identify each county and statistically equivalent entity within a State. The NIST assigns the codes based on the alphabetic sequence of county names, it documents these codes in a Federal Information Processing Standard (FIPS) publication (FIPS PUB 6).
Country	EPA	The largest of the geo-political boundaries that define address areas of the world.
International postal code	EPA	The postal code used for final sorting by local or regional delivery unit. Different countries have their own coding systems and formats for this code.
Rural route description	Census	Type of rural route; route, rural route, highway contract route, star route, or PSC.
Rural route number		Number assigned to the rural route
Rural route box number		Number of a box along the rural route
State name	Census	A type of governmental unit that is the primary legal subdivision of the United States.
State abbreviation	USPS	Two-character abbreviation for the name of a state, U.S. Territory, or Armed Forces ZIP Code Designation ("AA", "AE", or "AP").
State FIPS code	Census	A two-digit FIPS code assigned by the NIST to identify each State and statistically equivalent entity. The NIST assigns the codes based on the alphabetic sequence of state names (Puerto Rico and the Outlying Areas appear at the end); it documents

[1] The source indicates the agency documentation used for the listed definition.

[2] EPA definitions are from the Data Standard for Representation of Address Information, SDC-0055-057-LF-5038

		these codes in a FIPS publication (FIPS PUB 5)
Street/		
Street number	EPA	The number assigned to a building or a land parcel along the street to identify location and to ensure accurate mail delivery
Fractional street number	USGS	A sub-number to a street number
Predirectional	EPA	The street vector, or direction the street has taken from some arbitrary starting point.
Street name	Census	Official name of a street assigned by a local governing authority.
Suffix	USPS	The trailing designator in a street address
Postdirectional	EPA	The directional symbol that represents the sector of a city where a street address is located
Secondary address identifier	EPA	The room, suite, apartment, unit, or building designator and number that are used by the postal service for mail delivery and for assigning the ZIP+4 postal code.
Secondary address range	USPS	A geographic direction which follows the Street Name
ZIP Code	USPS	A five-digit code that identifies a specific geographic delivery area. ZIP Codes can represent an area within a state, an area that crosses state boundaries (unusual condition) or a single building or company that has a very high mail volume. "ZIP" is an acronym for Zone Improvement Plan.
ZIP+4 Code	USPS	ZIP equals the five-digit ZIP code (refer to ZIP Code) +4 describes the last four positions of a ZIP+4 code. Most delivery addresses are assigned a single ZIP+4 Code. However, large companies may be given a range of ZIP+4 Codes that can be used to route mail to a specific department.

Address type = GEOGRAPHIC		
Descriptive Element Name	Source	Definition
Latitude degree		First unit of measure; 0-360 degrees domain
Latitude minute		Second unit of measure; 60 minutes = 1 degree
Latitude Second		Third unit of measure; 60 seconds = 1 minute
Longitude degree		First unit of measure; 0-360 degrees domain
Longitude minute		Second unit of measure; 60 minutes = 1 degree
Longitude second		Third unit of measure; 60 seconds = 1 minute
UTM/		
Zone	NIMA	Segment of a grid dividing the Earth
Northing	NIMA	Distance in meters from the Equator
Easting	NIMA	Distance in meters from the Prime Meridian

Address type = PHYSICAL		
Descriptive Element Name	Source	Definition
Reference item	Census	Permanent object used to find the location of an address
From distance	Census	Distance from the reference item to the address location
From direction	Census	Direction of the address location from the reference item

Reference Information – NENA Address Standard

Appendix B

This document sets forth National Emergency Number Association (NENA) standard formats for Automatic Location Identification (ALI) data exchange between Service Providers and Data Base Maintenance System Providers. Movement of ALI data between Service Providers and/or Data Base Management System Providers is a necessary and common activity for the activation of E9-1-1 systems. Means of moving such data are varied and many. This document contains data exchange formats and data protocols recommended for creation and transporting of 9-1-1 data.

This recommendation advocates the use of one of two common protocols (KERMIT and NDM) for use in the near term and with a move toward one common protocol (TCP/IP) in the future. The recommendation unfolded in this manner with the recognition that as a goal NENA acknowledges the advantage of one protocol, but that existing systems are in place so an evolution plan must be put in place and that no single protocol can satisfy all applications.

The following table contains elements from the version 3 data exchange standards that may impact address exchange.

Record Type	Indicates start of data record (label only, no data follows). Valid labels: DAT = Data Record sent from the Service Provider to the Data Base Management System Provider RTN = Data record returned from the Data Base Management System Provider to the Service Provider
Status Indicator	Record status indicator. Valid entries: E = Error C = Completed P = Pending U = Unprocessed Gateway received but not sent to processing, (future date)
Function Code	Type of activity the record is being submitted for. Valid entries: C = Change D = Delete I = Insert U = Unlock M = Migrate
House Number	House Number.
House Number Suffix	House number extension (e.g. 1/2).
Prefix Directional	Leading street direction prefix. Valid Entries: N S E W NE NW SE SW
Street Name	Valid service address of the Calling Telephone number.
Street Suffix	Valid street abbreviation, as defined by the U S Postal Service Publication 28. (e.g. AVE)
Post Directional	Trailing street direction suffix. Valid entries: N S E W

	NE NW SE SW
MSAG Community Name	Valid service community name as identified by the MSAG.
Postal Community Name	Valid service community name as identified by the U S Postal Service.
State	Alpha state abbreviation (e.g., TX)
Location	Additional address information (free formatted) describing the exact location of the Calling Telephone Number (e.g., Apt 718)
Also Rings At Address	Secondary address for the Calling Telephone Number that rings at 2 locations. Not validated against the MSAG. *This information may be displayed at the PSAP*
Zip Code	Postal Zip Code
Zip + 4	Postal Zip Code Extension
X Coordinate	Longitude/X coordinate. Right Justified: pad field with zeros to left of decimal degrees. +long: east of Greenwich; -long: west of Greenwich. Sample: +000.000000
Y Coordinate	Latitude/Y coordinate. Right Justified; pad field with zeros to left of decimal degrees. +lat: north of equator; -lat: south of equator. Sample: +000.######
Z Coordinate	Altitude indicated as mean sea level, measured in meters. Blank record indicates data not available. Sample: ####

Reference Information – United States National Grid – FGDC Standard

Appendix C

The objective of this standard is to create a more favorable environment for developing location- based services within the United States and to increase the interoperability of location services appliances with printed map products by establishing a nationally consistent grid reference system as the preferred grid for National Spatial Data Infrastructure (NSDI) applications. This standard defines the US National Grid. The U.S. National Grid is based on universally defined coordinate and grid systems and can, therefore, be easily extended for use world-wide as a universal grid reference system.

This standard defines a preferred U.S. National Grid (USNG) for mapping applications at scales of approximately 1:1,000,000 and larger. It defines how to present Universal Transverse Mercator (UTM) coordinates at various levels of precision. It specifies the use of those coordinates with the grid system defined by the Military Grid Reference System (MGRS). Additionally, it addresses specific presentation issues such as grid spacing. The UTM coordinate representation, the MGRS grid, and the specific grid presentation requirements together define the USNG. This standard is a process standard as defined by the Federal Geographic Data Committee (FGDC) Standards Reference Model. Specifically, it is a presentation process standard.

A point position within the 100,000-meter square shall be given by the UTM grid coordinates in terms of its Easting (E) and Northing (N). For specific requirements or applications, the number of digits will depend on the precision desired in position referencing. In this convention, the reading shall be from left with Easting first, then Northing. An equal number of digits shall always be used for E and N.
Examples:

18SUJ20 - Locates a point with a precision of 10 km
18SUJ2306 - Locates a point with a precision of 1 km
18SUJ234064 - Locates a point with a precision of 100 meters
18SUJ23480647 - Locates a point with a precision of 10 meters
18SUJ2348306479 - Locates a point with a precision of 1 meter

Reference Information – EPA Address Standards

Appendix D

Facility Identification Data Standard - Mailing Address
The standard address used to send mail to an individual or organization affiliated with the facility site. Each Mailing Address must be the delivery point for one or more Affiliation(s).

COMPONENTS

Supplemental Address Text - The text that provides additional information to facilitate the delivery of a mail piece, including building name, secondary units, and mail stop or local box numbers not serviced by the U.S. Postal Service.

Value Domain: All text that provides additional information to facilitate the delivery of a mail piece, including building name, secondary units, and mail stop or local box numbers not serviced by the U.S. Postal Service.

Example: Waterside Mall Mail Code 5204G, Pulaski Bldg Rm 8130

Mailing Address - The exact address where a mail piece is intended to be delivered, including urban-style street address, rural route, and PO Box.

Value Domain: All exact addresses where a mail piece is intended to be delivered, including urban-style street address, rural route, and PO box.

Example: 200 N Glebe Rd, RR3 Box 2, PO Box 135

Mailing Address Country Name - The name of the country where the addressee is located.

Mailing Address ZIP Code/International Postal Code - The combination of the five-digit Zone Improvement Plan (ZIP) code and the four-digit extension code (if available) that represents the geographic segment that is a subunit of the ZIP code, assigned by the U.S. Postal Service to a geographic location to facilitate mail delivery; or the postal zone specific to the country, other than the U.S., where the mail is delivered.

Value Domain: All combinations of the five-digit Zone Improvement Plan (ZIP) code and the four-digit extension code that represents the geographic segment that is a subunit of the ZIP code, assigned by the U.S. Postal Service to a geographic location to facilitate mail delivery; or all the postal zone specific to the country, other than the U.S., where the mail is delivered.

Mailing Address City Name - The name of the city, town, or village where the mail is delivered.

Mailing Address State Name - The name of the state where mail is delivered.

Reference Information – Kansas Address Standards October 29, 1999

Appendix E

This document is a standard for addressing. For the sake of clarity, the term *address* refers to the simple, everyday element that designates a specific, situs location, such as a home or office. Addresses are very important. But, addresses are not always recorded and maintained in a standard manner. This document provides a set of guidelines by which addresses can be uniformly developed and, thereby, integrated with geospatial data structures. The guidelines should be incorporated into all efforts to establish address databases, for geocoding validation, and for the development of a master address list. The standard may be applied to both attribute databases and geospatial datasets.

An associated address table shall be comprised of the following components:

- Unique identifier
- Address Number
- Directional Prefix
- Street Name
- Street Type
- Directional Suffix
- Unit Type
- Unit Number
- City Name
- State
- 5 Digit Zip Code
- +4 Zip Code

Example: 1235 W 19TH ST APT 24

At a minimum, the components shall be formatted as shown below:

Field Name	Length	Type	Description
UNIQ	20	Alpha	A unique identifier within the or associated address table that Numeric can be linked to other tables.
NUMBER	6	Alpha	Address Number
SUB_NUM	3	Alpha	Address Sub-number
PRE_DIR	2	Alpha	Directional Prefix
STR_NAM	30	Alpha	Street Name
STR_TYPE	4	Alpha	Street Type
SUF_DIR	2	Alpha	Directional Suffix
UNIT_TYPE	4	Alpha	Unit (i.e., APT, STE, BLDG)
UNIT_NUM	4	Alpha	Unit Number
CITY	17	Alpha	City name
ST	2	Alpha	State
ZIP5	5	Alpha	Zip Code
ZIP4	4	Alpha	+4 Zip Code

The *line* in this instance is a linear geospatial feature that represents a street centerline. Address ranges are typically established for individual centerline segments so address matching may be performed. Whenever practical, street names and address ranges shall conform to the actual situs addresses assigned to points and polygons.

- Unique identifier
- Left From (Low) Address
- Left To (High) Address
- Right From (Low) Address
- Right To (High) Address
- Directional Prefix
- Street Name
- Street Type
- Directional Suffix

The components shall be formatted as shown below:

Field Name	Length	Type	Description
UNIQ	20	Alpha	A unique identifier within or the geospatial feature attribute Numeric table that can be linked to an associated address table.
L_ADD_FROM	5	Numeric	Left From (Low) Address
L_ADD_TO	5	Numeric	Left To (High) Address
R_ADD_FROM	5	Numeric	Right From (Low) Address
R_ADD_TO	5	Numeric	Right To (High) Address
PRE_DIR	2	Alpha	Directional Prefix
STR_NAME	30	Alpha	Street Name
STR_TYPE	4	Alpha	Street Type
SUF_DIR	2	Alpha	Directional Suffix