

The State of Oklahoma Geographic Information Address Standards

Oklahoma GI Council / Office of Geographic Information



Oklahoma Geographic Information Council Adopted : September 5, 2014

Draft Submitted for Public Review : May 2, 2014 – September 4, 2014

Version 1.0

Oklahoma Address Standards

Article I.	Introduction.....	3
Article II.	Background.....	3
Section 2.01	Oklahoma Geographic Information Council Legislative History.....	3
Section 2.02	Oklahoma GI Council / Office of Geographic Information Legislative Duties.....	3
Section 2.03	Need for a Standard.....	4
Section 2.04	Workgroup Formation.....	4
Article III.	Address Fundamentals.....	4
Section 3.01	Address Data Formats	4
Section 3.02	Essential Address Elements.....	4
Section 3.03	Definition of the Standard	5
Section 3.04	Applicability And Intended Uses of the Standard.....	5
Section 3.05	Existing Compatibility	5
Section 3.06	Spatial Components	5
Section 3.07	Attributes.....	6
Section 3.08	Geocoding	6
Section 3.09	Data Quality.....	7
Section 3.10	Positional Accuracy Standards.....	7
Section 3.11	Content Accuracy.....	7
Section 3.12	Data Stewardship	7
Section 3.13	Metadata.....	7
Article IV.	Address Point And Polyline Schema.....	8
Section 4.01	Standard Addressing Practices.....	8
Section 4.02	Address Points	10
Section 4.03	Centerline	11
Section 4.04	Reference Domains	12
Article V.	Citations of Existing Standards, Sources, and Reference Material.....	13
Section 5.01	Existing Neighbor State Standards.....	13
Section 5.02	Existing Professional Standards Documentation.....	13
Section 5.03	Workgroup Acknowledgements.....	14
Section 5.04	Maintenance of the Standard	14
Section 5.05	Technical Glossary.....	14

Article I. Introduction

This document shall serve as the primary reference document for Address Standards in the State of Oklahoma regarding Geographic Information Systems based addressing. The standard set forth is to be maintained, utilized, and distributed under the authority of the Oklahoma Geographic Information Council and the Oklahoma Office of Geographic Information. This standard is in no way to be interpreted as a mandatory format but rather a professional authoritative best practices reference document to allow for data uniformity regarding addressing in the State of Oklahoma. The following guidelines should be incorporated into all addressing applications, both geospatial and tabular, to ensure interdisciplinary compatibility.

Article II. Background

Section 2.01 Oklahoma Geographic Information Council Legislative History

The Oklahoma GI Council has continually adapted to the technological advancements within the GIS profession to provide the State of Oklahoma the best possible collective GIS resource since its inception in 1994. The current Oklahoma GI Council of 19 members and the Office of Geographic Information (OGI) represent a professionally diverse cross section of the existing GIS community in Oklahoma and operate under the following legislative authority.

- 1994 **SB 722** Created the State GIS Council of 11 members under the Conservation Commission serving as the Chair
- 1995 **HB 1964** Added 3 members to the State GIS Council
- 2001 Amendment adding 1 member to the State GIS Council
- 2003 **Interim Study H2003-105** considered a State-wide Coordinator, Adding more members to the State GIS Council, & the Authority to set policies / standards.
- 2004 **HB 2457** Changed the name of the State GIS Council to the State GI Council, added 4 new members, created the Office of Geographic Information (OGI) and corresponding positions in the OGI, along with specifying duties for the OGI and the State GI Council

Section 2.02 Oklahoma GI Council / Office of Geographic Information Legislative Duties

As set forth in 2004 Regular Session of the Oklahoma State Legislature by **§82-1501-205.1** and **§82-1501-205.3 HB 2457** includes the following duties for the Oklahoma Geographic Information Council and the Office of Geographic Information. The Oklahoma Geographic Council developed this address standard under the following legislation.

- **§82-1501-205.1**
 - (G) The duties of the Council shall include overseeing the Office of Geographic Information concerning the following:
 1. Development, adoption, and recommendation of standards and procedures that may be applied to geographic information and Geographic Information Systems to promote consistency of data elements;
- **§82-1501-205.3**
 - (A) There is hereby established an Office of Geographic Information in the Oklahoma Conservation Commission.
 - (D) The Office shall:
 6. Develop, maintain, update, and interpret Geographic Information System standards under the direction of the Council and working with state and local agencies;

Section 2.03 Need for a Standard

Addresses today are the primary reference commonly accepted as the indexing system used to represent specific geospatial locations in an easily searchable tabular format. The increasing integration of geospatial information into every aspect of daily operations has led to the need for a statewide address standard. Throughout Oklahoma there are many authorities that assign addresses within their respective jurisdiction. The development of addressing systems throughout the state without an existing a single point reference document has led to a diversity of datasets. In accomplishing the required tasks of the assigning agencies multiple methods have been employed to accommodate the unique functionality or overcome existing limitations. While many of the limitations that once constrained the development of addresses are no longer applicable today, there are several that are still very much a consideration for the assigning agency. The development of Oklahoma's address standard ensures the fundamental minimum requirements needed to accurately depict an address are met within any current accepted system today while preparing for future development.

Section 2.04 Workgroup Formation

In response to the increasing need for address standardization the Oklahoma Geographic Information Council formed the Address Standard Workgroup on **April 1, 2011** to research, develop, and submit an address standard for adoption by the Oklahoma Geographic Information Council. The primary focus of this group was to research what address standards were being utilized in Oklahoma currently and develop a simple custom set of fundamental address standards that adhered to current industry standards. A fundamental provision from the start of the workgroup was to consider existing formats that currently are operational. While an address assigning jurisdiction may add certain elements to their data the focus of this workgroup was to isolate on the commonalities across the jurisdictions that are required for addressing. After this assessment a fundamental schema and associated documentation was to be built that could either be utilized to create a new address dataset, incorporate an existing, or enhance an older dataset with added functionality. Address Fundamentals

Section 2.05 Address Data Formats

Addresses generally exist in one of three formats

- (a) A single address field or possibly set of fields in a tabular database
- (b) A specific address associated with a point feature
- (c) An address range associated with a linear feature such as a street or railroad centerline.
(This format generalizes the address along the length of the linear feature. It is generally more forgiving but not as precise due to numerous theoretical addresses that may not exist)

Section 2.06 Essential Address Elements

An address is comprised of several different attribute components, all of which are required to accurately define a specific address. When an address is matched against a Master Address File (MAF) it must be parsed (divided) into the individual components separated by a single space between the components. The minimum components required to accurately define the geospatial portion of an address with relation to this address standard are:

USPS Publication 28 Data Element	OK Address Standard Field Name	Example Value
Street Number	Address	101
Predirectional	PreDir	N
Street Name	Street	Main
Street Suffix	StreetType	ST
Postdirectional	SufDir	NE
Secondary Unit Indicator	BldgUnit	APT
Secondary Number	BldgName	3
City	City	Guthrie
State	State	OK
Zipcode	Zipcode	73044

Mailing Standards of the United States Postal Service Publication 28 - Postal Addressing Standards

While not all of the elements are required to be filled out for an address to be valid all of the placeholders need to be present in the attribute table to accurately represent the accepted United States Postal Service Standards. The Postal Service uses the following parsing logic to enter address information into their appropriate fields. When parsing an address into the individual components, start from the right-most element of the address and work toward the left. Then it places each element in the appropriate field until all address components are isolated. This process facilitates matching files and produces the correct format for standardized output as well as isolating the mismatches to the closest possible fit before failing.

Section 2.07 Definition of the Standard

The following address standard defines the intended applications and usages associated with the address standard along with the detailed components required for accurately representing addresses in a Geographic Information System. This standard does not limit or restrict the information collected and stored in a particular database. The specific rules for developing addressing guidelines and standards remain ultimately the responsibility of the local jurisdiction.

Section 2.08 Applicability And Intended Uses of the Standard

The intended use of this address standard is to provide a simple basic address schema for anyone working with addresses in the State of Oklahoma. The associated documentation standardizes the basic structure of the tabular and attribute data required for geocoding using points or lines. It is intended to be used by both the public and private sector. The standard is intended to facilitate the sharing of cumulative learned knowledge regarding professional authoritative best practices in addressing within Oklahoma. The standard is not intended to be a substitute for an implementation design. An implementation design requires adopting, and in some cases adapting, the structure and form of these definitions to meet specific application requirements. This standard in no way supersedes any existing local, state, federal, professional, or otherwise existing address standard.

Section 2.09 Existing Compatibility

Address information is an attribute of a location and not the geographical feature. Addresses may be associated with almost any item, account, facility, or feature and should be treated as such. Nothing in this standard shall be intentionally devised in a manner that will conflict with other legal, professional, or geospatial standards. It is the responsibility of the local jurisdiction to ensure the required functionality and compatibility regarding various dataset integrations are adhered to. (911, Transportation, Social Services, Utilities, etc...) Address consistency should be pursued in order to preserve compatibility across the following areas.

- (a) Coordinating address numbers between jurisdictions.
- (b) Coordinating street names between jurisdictions.
- (c) Road names on signs matching the local E9-1-1 database.

Section 2.10 Spatial Components

For the purpose of this standard the two spatial feature types referenced are points and lines representing generally address points and street centerlines respectively.

- (a) **Points** may be used to represent the center of building footprints, access locations such as driveway / building entrances, or parcel centroids. The address point identifies a single address or at the very least the primary address of a location. (ie.. an apartment complexes main address) The individual point may not completely reflect the address of a parcel or structure considering some buildings or parcels have more than one address. In such a case it is generally advisable to place a single point per valid address to ensure a one to one match in geocoding.
- (b) **Lines** are generally used for street centerlines but can represent any linear feature where addressing is based on a distance along the line. This address format requires address ranges

along the linear feature providing an even / odd address parity instead of individual numbers. It is critical that topology and line directionality are strictly adhered to regarding lines to ensure a functional geocoding.

Section 2.11 Attributes

Attributes are the tabular datasets represented by rows and columns of information associated with a geographic spatial feature. The following list represents the types of information that can be stored in attribute tables.

- (a) Required attributes are the essential fields of data that are, at a minimum, required for correct geocoding and accurate address placement.
- (b) Associated attributes pertain to the tabular and related data tied to an address. Examples of this could include a business name, incident number, structure type, etc. Many times associated data is stored in alias tables.
- (c) Alias tables may also be associated with any type of attribute data to provide extra information or increase the accuracy of geocoding operations.

Section 2.12 Geocoding

Geocoding is the process of finding associated geographic coordinates (often expressed as latitude and longitude) from other geographic data, such as street addresses, or ZIP codes (postal codes). This process can be accomplished through various methods. For the purpose of this standard the following three methods are generally preferred.

- (a) **Point based geocoding** provides for the most accurate one to one geocoding option. It utilizes a preset number of essential fields to parse an address and accurately correlate the parsed address to the tabular data associated with a specific geographic point representing an address. While this method is highly accurate it is generally not very tolerant of address discrepancies or errors unless alias tables are utilized. It is generally the preferred first method of geocoding and provides real addresses with absolute accuracy.
- (b) **Linear based geocoding** provides the most widely accepted and error tolerant geocoding option. It allows for any number of addresses within a preset range based on either a single high and low number or an even and odd high and low number parity along a linear feature. A geographic position is calculated along a line based on the measured distance and address interval. This method can be extremely accurate depending on the data ranges. While this method is very tolerant of address discrepancies and errors it can produce theoretical addresses where real addresses do not exist. It is generally preferred for complete coverage of a jurisdiction and provides relative accuracy of an address.
- (c) **Composite Geocoding** is a dual stage geocoding option where generally a more accurate (generally point based) geocoding option is initially utilized to find a location. If a suitable match is not found the address is passed to the second (generally linear based) geocoding option for an attempted match based on more forgiving parameters. This dual pass geocoding provides very good absolute accuracy while retaining complete coverage of relative accuracy throughout a jurisdiction.

Section 2.13 Data Quality

Data quality is the relationship of the contents of the digital database to the reality that we are attempting to represent. Federal and many state governments have established standards to meet the needs of a wide range of mapping and other projects in their area of authority. Jurisdictions may follow these standards if they apply, but often the end user must carefully establish special standards for particular projects. Picking arbitrarily high levels of precision, accuracy, and completeness simply adds unnecessary time and expense. Picking standards that are too low means the project may not be able to reach its analytical goals or be widely utilized in the future once the database is compiled. It is best to consider standards in the light of ultimate project goals. How accurate, precise, and complete will an overall solution need to be to accomplish current and future project goals?

Section 2.14 Positional Accuracy Standards

The geospatial accuracy of an address location should be pursued to achieve the highest feasible positional accuracy possible. While the required accuracy of the data may vary greatly between agencies there must be a minimum accuracy standard to allow for correct demarcation of a single address. Considering many rural address point locations are derived from 1 meter resolution NAIP Orthophotography or various GPS collection devices the following minimum standards should be attainable in most addressing applications. The minimum positional accuracy standards need to meet the following standard as set forth in the *FGDC Geospatial Positioning Accuracy Standards Part 3, Appendix 3-D (FDGC-STD-007.3-1998)*

- Class 1 Horizontal 1:12,000 (10 feet RMSE)

See also NENA GIS Data Collection and Maintenance Standards (NENA 02-014)

Section 2.15 Content Accuracy

Content accuracy is measured based on the overall functional correctness of the data to accurately represent reality. This accuracy can be measured by the following aspects.

- (a) The individual components of the address or address range must be complete (filled in where appropriate) and contain the correct information.
- (b) The address or address range must be correct for the location in question. Routing to someplace is important but locating that someplace is critical.
- (c) The address or address range must be correct sequentially in terms of its relationship with the overall addressing schema.
- (d) The address must be a current valid address that reflects the current existing road name and numbering schema

Section 2.16 Data Stewardship

The agency that is responsible for the data within their respective jurisdiction is the ultimate authority regarding the data and maintains the final authority over the development and maintenance of the information. A clear reference must be maintained in the metadata to the authoritative jurisdiction regarding the development and maintenance of any dataset.

Section 2.17 Metadata

Metadata shall be maintained for all address data sets. The metadata shall meet the standards as set forth in the *FGDC Content Standards for Geospatial Metadata (FGDC-STD-001-1998)* and shall be made available through accepted publishing methods.

Article III. Address Point And Polyline Schema

Section 3.01 Standard Addressing Practices

In order to provide for data consistency and interoperability there are several accepted industry standards that are either essential or recommended.

- (a) **Unique Identification Code** - A unique identifier is required for all address databases, whether they are associated attributes or geospatial data sets. This unique identifier shall be used to link address attributes and indexes with other information.
- (b) **Street Types** -Each street name should have a street type that is used consistently, or have a street type that is based on a logical pattern. The exception to this rule is where street type is needed to distinguish between two streets in the same area with the same name (e.g., Sunset Dr and Sunset Ct). The recommended standard for establishing the street type values is set forth in the *Mailing Standards of the United States Postal Service Publication 28 - Postal Addressing Standards-Appendix C1*.
- (c) **Abbreviations** – Geographic directional and street types shall always be abbreviated, but street names should never be abbreviated. Unless there are strong reasons for doing otherwise, it is recommended that the *Mailing Standards of the United States Postal Service Publication 28 - Postal Addressing Standards -Appendix B & C1* be used.
- (d) **Street Naming** - A standard method of assigning numeric and character street names shall be developed and adopted for the whole jurisdiction. The primary objective is to establish a grid within each jurisdiction regardless of the detailed pattern of the individual grid. Streets that run primarily east and west would use a numeric street name grid, while those that run primarily north and south would be based on names from a master street name grid, or vice versa. The spacing of numeric street names should be based on a standard increment. A numeric street name should not be used outside of its proper location and sequence as established by the grid. The spacing of character streets should be based on a similar pattern. A character street name that is part of the grid should not be used outside of its proper location and sequence as established by the grid.
- (e) **Avoiding Obvious Conflicts** – For the sake of accuracy and clarity avoid obvious conflicting names and numbers.
 - Names with directions: (i.e. South Ridge)
 - Names that include street types: (i.e. Sunset Place Drive)
 - Names that sound alike: (i.e. Roe and Row)
 - Easily misleading names: (i.e. Main Dr and Main St)
 - Multiple word names without hyphens : (i.e. Hickory Wood View Manor)
- (f) **Non-Grid Street Names** - Street names that are not in the street name grid should always be unique to the overall jurisdiction.
- (g) **Vanity Street Names** - Vanity street names and addresses that related to a particular business, developer or property owner and should never be used in place of the primary street address. They may, however, be used as a supplemental address in compliance with the *Mailing Standards of the United States Postal Service Publication 28 - Postal Addressing Standards*
- (h) **Location of Street Name Break Points** - Street name breaks should occur at an intersection whenever possible, and preferably at an intersection with a major cross street. Where it is not possible to make the break at an intersection, the break should occur at a point on the curve where the street orientation changes from primarily north-south to east-west, or vice-versa. Street name signs should be used at every street name break to clarify the change.
- (i) **Odd/Even Numbering (Address Parity)** – Parity shall remain consistent within the system adopted by the local jurisdiction. Address ranges are sets of numbers, usually comprised of four

(4) distinct values, representing a range of addresses along the sides of the centerline of the road by addresses at either end of a street centerline segment. Two numbers of the range represent the lowest addresses, and the other two represent the highest. The numbers are further distinguished as being on either the left or the right side of the segment. In topological terms, the low numbers are associated with the FROM node of the segment, while the high numbers are associated with the TO node. Likewise, left and right are determined by the direction of the segment, as defined by the FROM and TO nodes. Topology is critical when a set of addressed centerlines is being developed. Implementation of the address parity (i.e., odd vs. even) is usually determined by the addressing software

- (j) **Sequential Direction** - Address ranges shall increase as you travel in the direction adopted by the jurisdiction. The direction of each line segment shall follow the sequence direction of the address ranges. Typically this is accomplished by controlling from-node and to-node topology. One-way streets are NOT an exception to this rule. Curvilinear streets may violate this standard for short stretches provided that they are in compliance with respect to the general direction of the full street segment. Where compliance with this standard is difficult or impossible, it may warrant considering a change in the street name at the point where it changes direction.
- (k) **Consistency with Distance-Based Address Grid** – Depending on the preference of the jurisdiction there must be a defined standard interval based grid system. Whether it is hundred blocks as in a city, a potential 1000 addresses per mile, (a possible address every 5.28 feet), or another variation the jurisdictions accepted standards should be adhered to as close as possible. In rural areas addresses can be assigned based on the distance south or west from the nearest section line. This standard is particularly useful in areas that are largely undeveloped (and thus don't have many cross streets) or in areas that have existing streets that are not in the standard street name grid. This standard should generally be considered to be less important, however, than staying consistent with the address designations of cross streets.
- (l) **Logical Address Consistency** – Addresses located across the street from each other shall be assigned so that they are nearly equal. Where there are more addresses on one side of the street, addresses assigned to the other side will be more widely spaced so that addressing consistency is maintained for addresses across from one another.
- (m) **Alias Tables** – The usage of associated alias tables will greatly increase the accuracy of the automated geocoding. It allows the system to handle various spellings or misspellings (aliases). A series of alias tables create alternate spelling options for common discrepancies regarding addresses. Whenever an address is being processed by the system it needs to go through a process of standardization. A crucial part of this standardization is to look up each address component in the alias tables and replace alias values with the standard equivalents. Example : ('bl', 'blvd', 'blv', 'boulvd', 'boulevard'='Blvd') Constructing such alias tables requires considerable judgment to avoid distortions and are typically built up over time as unmatchable addresses are reviewed. While some alias table information is fairly common many customizations are specific to a particular jurisdiction and cannot be universally adopted.
- (n) **Address Number Assignment** - Each jurisdiction shall adopt a standard method of assigning address numbers. A jurisdiction may elect to have address numbers increase from north to south and from east to west. The jurisdiction may also choose to assign odd address numbers on the south and east sides of the street and even numbers on the north and west sides of the street. Regardless of the method selected, it must remain consistent throughout the jurisdiction and should be coordinated with as many contiguous jurisdictions as possible.
- (o) **Address Sequential Direction** - Addresses shall always be assigned so that they are in numeric sequence and shall increase as you travel in the direction adopted by the jurisdiction

Section 3.02 Address Points

Addresses can be accessed as or through geospatial points. Address points can be used for a variety of purposes, ranging from precise geocoding to assigning addresses in a reliable manner. This schema has the potential to serve as both an address repository while referencing a master street name list, providing an invaluable resource to a broad community of users.

Reference [OK_ADDRESS_SCHEMAS.XLS](#) -ADD_POINT_SCHEMA

Suggested Field Name	Field Description	Field Type	Field Width	Priority	Domain Table
Id	Unique identifier within the address table	ALPHANUMERIC	20	1	
Address	Address Number (ie 100)	NUMERIC	6	1	
AddSuf	House Number Suffix (ie 100 A)	ALPHANUMERIC	4	1	
PreDir	Primary Street Directional Prefix	ALPHANUMERIC	2	1	DIRECTION
PreType	Primary Street Prefix Type	ALPHANUMERIC	4	1	STREETTYPE
Street	Primary Street Name	ALPHANUMERIC	30	1	
StreetType	Primary Street Type	ALPHANUMERIC	4	1	STREETTYPE
SufDir	Primary Street Directional Suffix	ALPHANUMERIC	3	1	DIRECTION
BldgName	Building or Unit Name (Apartment Complex Name)	ALPHANUMERIC	64	1	
BldgUnit	Building Unit Type (i.e., APT, STE, BLDG)	ALPHANUMERIC	4	1	BLDGUNIT
BldgNum	Building Unit Number	ALPHANUMERIC	4	1	
FullName	Full Name of the Primary Street	ALPHANUMERIC	50	2	
FullAddr	Full Address (ie.101 W Main St)	ALPHANUMERIC	100	2	
Label	Map Label of the Address	ALPHANUMERIC	50	2	
City	Name of the Municipality the Address Resides In	ALPHANUMERIC	30	1	
County	Name of the County the Address Resides In	ALPHANUMERIC	25	1	COUNTY
State	Name of the State the Address Resides In (OK)	ALPHANUMERIC	2	1	STATE
Zipcode	Zipcode	ALPHANUMERIC	5	1	
Zipcode4	Zip Code +4 Extension	ALPHANUMERIC	4	2	
PostComm	Postal Community	ALPHANUMERIC	30	2	
InitiSrce	Original source of the data	ALPHANUMERIC	30	1	
InitiDate	Initial Time-Stamp - (Creation Entry Date)	DATETIME	26	1	
RevEditor	Most recent editor of the data	ALPHANUMERIC	30	1	
RevDate	Modified Time-Stamp - (Modify Entry Date)	DATETIME	26	1	
Latitude	Latitude Coordinates of the Address Point in Decimal Degrees	NUMERIC	15	1	
Longitude	Longitude Coordinates of the Address Point in Decimal Degrees	NUMERIC	15	1	
Comment	Comments / Notes	ALPHANUMERIC	100	1	
FormerAdd	Previous / Former Address	ALPHANUMERIC	100	4	
MSAG	Master Street Address Guide Community	ALPHANUMERIC	25	3	
PSAP	Responding Public Service Access Point	ALPHANUMERIC	25	3	
ESN	Emergency Service Number	ALPHANUMERIC	10	3	
Elevation	Elevation of the Address Point (Denote Foot/Meter)	NUMERIC	7	4	
EntityName	Business or Agency at the Address	ALPHANUMERIC	100	4	
GrpQuarter	Group Living Quarters	ALPHANUMERIC	5	4	YESNO
OccupTime	Times the Building is Occupied (8:00 a.m.- 5:00 p.m.)	ALPHANUMERIC	50	4	
StrmSheltr	Type of Storm Shelter	ALPHANUMERIC	25	4	STORMSHELTER
Basement	Existing Basement	ALPHANUMERIC	5	4	YESNO
Class	Classification of Building	ALPHANUMERIC	50	4	
Rooms	Number of Rooms in the Building	ALPHANUMERIC	10	4	
Floors	Number of Floors in the Building	ALPHANUMERIC	10	4	

Field Priority

- 1 - Essential
- 2 - Preferred
- 3-911 Essential
- 4 - Optional

Section 3.03 Centerline

The line in this instance is a linear geospatial feature that represents a street centerline. Other linear features that have incremental address ranges along their sides may also utilize this basic structure. Address ranges are typically established for individual centerline segments so address matching may be performed. Street names and address ranges shall conform to the actual addresses assigned to specific points as a practical rule.

Reference **OK ADDRESS SCHEMAS.XLS** -ADD_STREET_CENTERLINE_SCHEMA

Suggested Field Name	Field Description	Field Type	Field Width	Priority	Domain Table
Id	Unique Identifier Within the Street Table	ALPHANUMERIC	20	1	
Add_L_From	Left From (Low) Address	NUMERIC	6	1	
Add_L_To	Left To (High) Address	NUMERIC	6	1	
Add_R_From	Right From (Low) Address	NUMERIC	6	1	
Add_R_To	Right To (High) Address	NUMERIC	6	1	
PreDir	Primary Street Directional Prefix	ALPHANUMERIC	2	1	DIRECTION
PreType	Primary Street Prefix Type	ALPHANUMERIC	4	1	STREETTYPE
Street	Primary Street Name	ALPHANUMERIC	30	1	
StreetType	Primary Street Type	ALPHANUMERIC	4	1	STREETTYPE
SufDir	Primary Street Directional Suffix	ALPHANUMERIC	2	1	DIRECTION
FullName	Full Name of the Primary Street	ALPHANUMERIC	50	2	
Label	Map Label of the Road Segment	ALPHANUMERIC	50	2	
City	Name of the Primary Municipality the Road Resides In	ALPHANUMERIC	30	1	
County	Name of the County the Road Resides In	ALPHANUMERIC	25	1	COUNTY
State	Name of the State the Road Resides In (OK)	ALPHANUMERIC	2	1	STATE
Zipcode	Zipcode	ALPHANUMERIC	5	1	
Zipcode4	Zipcode +4 Extension	ALPHANUMERIC	4	2	
PostComm	Postal Community	ALPHANUMERIC	30	2	
InitiSrce	Original source of the data	ALPHANUMERIC	30	1	
InitiDate	Initial Time-Stamp - (Creation Entry Date)	DATETIME	26	1	
RevEditor	Most recent editor of the data	ALPHANUMERIC	30	1	
RevDate	Modified Time-Stamp - (Modify Entry Date)	DATETIME	26	1	
Comment	Comments / Notes	ALPHANUMERIC	100	1	
RoadClass	HPMS Functional Classification	ALPHANUMERIC	35	5	ROADCLASS
Oneway	Travel Direction of the Segment Related to Line Direction	ALPHANUMERIC	10	5	ONEWAY
City_L	Name of the Municipality on the Left Side of the Road	ALPHANUMERIC	30	3	
City_R	Name of the Municipality on the Right Side of the Road	ALPHANUMERIC	30	3	
County_L	Name of the County on the Left Side of the Road	ALPHANUMERIC	25	3	COUNTY
County_R	Name of the County on the Right Side of the Road	ALPHANUMERIC	25	3	COUNTY
State_L	Name of the State on the Left Side of the Road	ALPHANUMERIC	2	3	STATE
State_R	Name of the State on the Right Side of the Road	ALPHANUMERIC	2	3	STATE
Zipcode_L	Zipcode on the Left Side of the Road	ALPHANUMERIC	5	3	
Zipcode_R	Zipcode on the Right Side of the Road	ALPHANUMERIC	5	3	
Zipcode4_L	Zipcode +4 Extension on the Left Side of the Road	ALPHANUMERIC	5	3	
Zipcode4_R	Zipcode +4 Extension on the Right Side of the Road	ALPHANUMERIC	5	3	
PostComm_L	Postal Community on the Left Side of the Road	ALPHANUMERIC	30	3	

PostComm_R	Postal Community on the Right Side of the Road	ALPHANUMERIC	30	3	
MSAG_L	MSAG Community on the Left Side of the Road	ALPHANUMERIC	30	3	
MSAG_R	MSAG Community on the Right Side of the Road	ALPHANUMERIC	30	3	
Esn_L	Emergency Service Network on the Left Side of the Road	ALPHANUMERIC	10	3	
Esn_R	Emergency Service Network on the Right Side of the Road	ALPHANUMERIC	10	3	
FromLevel	Level from Overpass / Underpass	ALPHANUMERIC	10	5	LEVEL
ToLevel	Level to Overpass / Underpass	ALPHANUMERIC	10	5	LEVEL
BoundLane	Direction of the Lane of Traffic if Dedicated Direction	ALPHANUMERIC	15	5	DIRECTION
SpeedLimit	Speed Limit of Street Centerline Segment	ALPHANUMERIC	5	5	SPEEDLIMIT
RoadLength	Length of Street Segment	ALPHANUMERIC	15	5	
DriveTime	Drivetime of the Street Segment	ALPHANUMERIC	15	5	
DeadEnd	Dead End Street Segment	ALPHANUMERIC	10	5	YESNO
Surface	Paving Surface of the Street	ALPHANUMERIC	10	4	
Lanes	Number of Lanes Represented by the Street Segment	ALPHANUMERIC	5	4	NUMBER
Toll	Requires Toll to Access	ALPHANUMERIC	10	4	YESNO
LtdAccess	Limited Access to the General Public	ALPHANUMERIC	10	5	YESNO
AltStName1	1st Alternate Street Name	ALPHANUMERIC	50	4	
AltStName2	2nd Alternate Street Name	ALPHANUMERIC	50	4	
AltStName3	3rd Alternate Street Name	ALPHANUMERIC	50	4	

Field Priority

- 1 - Essential
- 2 -Preferred
- 3-911 Essential
- 4 - Optional
- 5 - Routing Essential

Section 3.04 Reference Domains

Reference domain values provide a pick list of preset values for various attributes in order to standardize data values both within an organization as well as across multiple jurisdictions. The following domain values are either preset static values or professionally authoritative standard values in order to provide consistency among various datasets.

Associated Reference Document : **OK_ADDRESS_SCHEMAS.XLS**

- (a) Reference **OK_ADDRESS_SCHEMAS.XLS** –YESNO
- (b) Reference **OK_ADDRESS_SCHEMAS.XLS** –NUMBER
- (c) Reference **OK_ADDRESS_SCHEMAS.XLS** –SPEEDLIMIT
- (d) Reference **OK_ADDRESS_SCHEMAS.XLS** –LEVEL
- (e) Reference **OK_ADDRESS_SCHEMAS.XLS** –STORMSHELTER
- (f) Reference **OK_ADDRESS_SCHEMAS.XLS** –COUNTY
- (g) Reference **OK_ADDRESS_SCHEMAS.XLS** –STATE
- (h) Reference **OK_ADDRESS_SCHEMAS.XLS** –DIRECTION
- (i) Reference **OK_ADDRESS_SCHEMAS.XLS** –STREETTYPE

- (j) Reference **OK ADDRESS SCHEMAS.XLS** –BLDGUNIT
- (k) Reference **OK ADDRESS SCHEMAS.XLS** –ONEWAY
- (l) Reference **OK ADDRESS SCHEMAS.XLS** –ROADCLASS

Article IV. Citations of Existing Standards, Sources, and Reference Material

Section 4.01 Existing Neighbor State Standards

The Oklahoma Address Standard utilized, in part the research and knowledge acquired from the following states published standards and documentation.

- (a) **Kansas** - Kansas Geospatial Data Addressing Standard Final Edition – October 29, 1999
- (b) **Arkansas** – Proposed Arkansas Centerline File Standard – June 18, 2002
- (c) **Missouri** – Missouri Addressing Standard – January 26, 2005
- (d) **Texas** – ESRI Address Geodatabase Schema – September 15, 2005
- (e) **Nebraska** – Nebraska Street Centerline Address Database Schema – Draft - September 23, 2013

Section 4.02 Existing Professional Standards Documentation & Legislation

The Oklahoma Address Standard directly referenced various pertaining portions of the following documents to ensure industry standards are adhered to.

(a) Federal Geographic Data Committee (FGDC)

- FDGC Standards Page
- FGDC Content Standard for Geospatial Metadata –(FGDC-STD-001-1998)
- FGDC Standards Reference Model – (March 1996)
- Postal Addressing Profile of the Federal Geographic Data Committee United States Thoroughfare, Landmark, and Postal Address Standard (December 16, 2010 FGDC Standards WG meeting)
- FGDC Endorsed Address Standard – (FGDC-STD-016-2011)
- Geospatial Positioning Accuracy Standards Part 3: National Standard for Spatial Data Accuracy (FGDC-STD-007.3-1998)

(b) National Emergency Number Association (NENA)

- NENA Standards Page
- NENA Standard Data Formats For 9-1-1 Data Exchange & GIS Mapping – (NENA-02-010)
- NENA Information Documentation for Synchronizing GIS Databases with MSAG & ALI – (NENA-71-501)
- GIS Data Collection and Maintenance – (NENA-02-014)
- NENA Next Generation 9-1-1 (NG9-1-1) United States Civic Location Data Exchange Format (CLDXF) Standard (NENA-STA-004)
- Recommended Standard For Street Thoroughfare Abbreviations - Arkansas reference – (NENA-02-002)

(c) United States Postal Service (USPS)

- Mailing Standards of the United States Postal Service Publication 28 - Postal Addressing Standards

(d) American Society for Photogrammetry and Remote Sensing (ASPRS)

- ASPRS Accuracy Standards for Digital Geospatial Data – (Draft March 2014)
- ASPRS Accuracy Standards for Large-Scale Maps(1990_jul_1068-1070)

(e) State of Oklahoma Legislative Actions

- Oklahoma Senate. 1994 Regular Session, S 722
- Oklahoma House of Representatives. 1995 Regular Session, HB 1964
- Oklahoma House of Representatives. Interim Study H2003-105
- Oklahoma House of Representatives. 2004 Regular Session, HB 2457

Section 4.03 Workgroup Acknowledgements

Oklahoma’s GIS Community contributed directly to the development of the address standard. This standard was developed under the authority and guidance of the Oklahoma Geographic Information Council, the Oklahoma Office of Geographic Information, and the volunteered efforts of the following individuals who participated on the Address Standards Workgroup as listed below along with the input from the Oklahoma GIS Community.

- Mike Sharp OGI
- Shellie Willoughby OGI
- Troy Frazier Oklahoma Tax Commission
- Kathy Hines Center for Spatial Analysis
- Sohail Hasanjee OneOK
- Craig Moody ODOT
- John Sharp ACOG
- Wade Patterson Garfield County Assessor
- Brenda Fennel Choctaw Nation
- Joel Foster ACOG
- Charles Brady III City of Ardmore

Section 4.04 Maintenance of the Standard

The Oklahoma Geographic Information Council will oversee the maintenance of this address standard as necessary and shall keep it relevant and applicable to the industry.

Section 4.05 Technical Glossary

(a) Accuracy

Absolute - A measure of the location of features on a map compared to their true position on the face of the earth.

Relative - A measure of the accuracy of individual features on a map when compared to other features on the same map.

(b) Address

Actual or Real - The simple, everyday element that designates a specific, situs location, such as a house number or an office suite.

Range - Numbers associated with segments of a digital street centerline file that represent the actual high and low addresses at either end of each segment.

Theoretical - A location that can be interpolated along a street centerline file through geocoding software.

Vanity - A special address that is inconsistent with or an exception to the standard addressing schema.

(c) Address matching – See Geocoding.

(d) Attribute - the properties and characteristics of entities.

- (e) **Entity** - A data entity is any object about which an organization chooses to collect data.
- (f) **Geocoding** -A mechanism for building a database relationship between addresses and geospatial features. When an address is matched to the geospatial features, geographic coordinates are assigned to the address resulting in a single geographic point for a specific address.
- (g) **Geospatial feature** - A point, line or polygon stored within geospatial software.
- (h) **Geospatial software** - Mapping software with analytical capabilities.
- (i) **Line** -A linear feature built of straight line segments made up of two or more coordinates.
- (j) **Parity** -A characteristic of a set of addresses or address ranges in which the numbers are either odd or even.
- (k) **Point** - A geospatial feature that is stored as a single XY coordinate.
- (l) **Street Centerline** – A linear representation of a street that contains the associated attributes required for geocoding. A street centerline can represent a single lane or multiple lanes depending on the required functionality.