**Oregon Address Point Framework Data Element**

**Data Standard**

Version 0.1

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Original Draft Written by: Tom Elder

Version x.x revised based on FIT work group name

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Version x.x revised based on Advisory Group comment

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**IMPORTANT:** This is a rough draft and is intended only as a starting point. *Everything* in this draft is subject to review, discussion, and revision. Also, please remember that any Framework standard can be reviewed periodically and changed at any time in the future.

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**1.0 Introduction**

Under the direction of the Oregon Geographic Information Council (OGIC) and the guidance of the Oregon Framework Program, a Framework Implementation Team (FIT) was convened to create a statewide data standard for address points. This document is the result of collaboration and cooperation between many address point data providers (local jurisdictions, Public Safety Answering Points), major address data consumers, and other stakeholders. Their goal was to facilitate the gathering, combining, and distributing address point data for the entire state that is reliable, accurate, complete, and timely.

There are about two million address points found across Oregon from the densely populated urban areas in the west to the sparsely populated rural areas in the east. Address points show the geographic location of individual houses, apartments, condominiums, mobile homes, offices, shops, schools, factories, farms, and any other places where people live, work, and gather. Good quality addresses and locations are indispensable for the efficient delivery of government services and the equitable allocation of public resources. They also help to ensure representation and fairness and to better understand the population of the state at the highest level of spatial detail.

Establishing this standard is just the first step to building and distributing a seamless statewide, sustainable, address point dataset for the benefit of everyone in the state. It is also not intended to be a static or inflexible document. As time goes on, unexpected changes or additional uses will come up and continual improvements will be made to this standard to accommodate any new requirements.

**1.1 Mission and Goals of the Standard**

Address points originate and are maintained by local governments for many different purposes and using many different data formats. The Address Points Data Standard is designed to accommodate and bridge these differences in order to assemble a complete, accurate, and comprehensive dataset of all address points for the state.

The primary goals of the Address Points Standard are -

1. To ensure consistency and compatibility for address point data maintained by different jurisdictions within the state.
2. To ensure that all address points in the state are counted and accommodated down to the unit level of detail.
3. To ensure that each address point is unique and not duplicated or confused with another address.
4. To ensure that each address point is complete and includes all of the address elements that make each one unique.

The standard is not intended to replace any jurisdiction’s local schema, internal data workflow, or

storage specifications required for their operational needs. It is intended to improve data sharing by eliminating incompatibilities and inconsistencies between different jurisdictions. However, some jurisdictions may find that there is a convenience or benefit from storing their data in this structure and are encouraged to adopt this standard.

**1.2 Relationship to Existing Standards**

Four major national address standards were reviewed during the development of Oregon’s Address Points standard.

1. [FGDC](https://www.fgdc.gov/standards/projects/address-data) Federal Geospatial Data Committee, Numbered Thoroughfare address classification.
2. [NENA](https://cdn.ymaws.com/www.nena.org/resource/resmgr/standards/nena-sta-006.2a_ng9-1-1_gis_.pdf) National Emergency Number Association, Site Structure Address Points.
3. [NAD](https://www.transportation.gov/gis/nad/nad-schema) National Address Database.
4. [USPS](https://pe.usps.com/text/pub28/welcome.htm) United States Postal Service.

FGDC was the former Oregon standard adopted by the Oregon Geographic Information Council in 2014. However, it was never implemented and NENA is proposed as the core of the new Oregon standard with a few changes made to the core NENA required fields and a separate additional table of supplemental fields. The Oregon Address Points standard follows the NENA standard because most address point data already comes from 911 Public Safety Answering Points in that format. Also, many other states have adopted the NENA standard. Other reasons for starting with NENA include -

1. NENA is similar, and related to the FGDC and NAD standards.
2. NENA is much simpler than FGDC and easier to implement.
3. Many other states already use NENA.
4. Most address point data is already available from PSAPs in NENA format.
5. Work in cooperation with the ongoing NG911 Technical Advisory Committee.
6. NENA could accommodate other business requirements with supplemental fields.

**1.3 Description of the Standard**

This standard is designed to ensure that every address point in the state is

* Complete
* Consistent
* Unique

Complete

Every complete street address point can have up to 12 basic elements (shown in Table 1 below) which can be grouped into Primary (street) address and Secondary (unit) address. Some of the basic elements are further parsed into sub-elements in the FGDC, NENA, and NAD standards. This standard accommodates all of the possible elements and sub-elements to ensure that any address in Oregon has all of the fields to make it complete. A complete address is vital to making each address unique. Missing elements may create duplicate addresses.

Table 1 – Address Point Basic Elements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **ELEMENT GROUP** | **BASIC ELEMENT** | **FGDC/NENA/NAD SUB-ELEMENT** | **EXAMPLE** |
| 1 | PRIMARY | Address Number | Address Number Prefix | 123 |
| Address Number |
| Address Number Suffix |
| 2 | PRIMARY | Street Pre Direction |  |  |
| 3 | PRIMARY | Street Name | Street Name Pre Modifier | Maple |
| Street Name Pre Type |
| Street Name Pre Separator |
| Street Name |
| Street Name Post Modifier |
| 4 | PRIMARY | Street Post Type |  | Street |
| 5 | PRIMARY | Street Post Direction |  | Northeast |
| 6 | SECONDARY | Unit Type | Unit orFloor orBuilding | 101 |
| 7 | SECONDARY | Unit Number |
| 8 | CITY-STATE-ZIP | City Name |  | Salem |
| 9 | CITY-STATE-ZIP | State |  | OR |
| 10 | CITY-STATE-ZIP | ZIP Code |  | 97301 |
| 11 | LOCATION | Longitude |  | -123.000000 |
| 12 | LOCATION | Latitude |  | 45.000000 |

Consistent

The values used in the address elements should be unambiguous and consistent from any source. Fully spelled street names, with no abbreviations, are used as well as fully spelled street directions and street types. Domains are used to reinforce consistency by providing a complete set of acceptable values for most of the basic street elements.

Unique

In order for an address to be unique every address must include all of the address elements that apply, have a ZIP Code or city name, and the unit number *must* be included for addresses that have units. One of the cornerstones of this standard is that every address is unique within a ZIP Code. The same address may be found in different ZIP Codes but will never be duplicated within a ZIP Code. The combination of the full address including the primary street address *plus* any secondary unit address if present *plus* the correct ZIP Code is unique and can be used as an intrinsic primary key in a database of all addresses. Having the correct ZIP Code or city name be assigned to each address is imperative to prevent duplicates or confusing one address for another.

**1.4 Applicability and Intended Use of the Standard**

The Address Point Standard is intended to support a broad range of important uses including -

Census

Redistricting

Voter Registration

Elections

Public Safety

Next Generation 911

 Location Verification (LVF)

 Call Routing (ECRF)

 Dispatchable Locations

Emergency Management

Risk Assessment

Event Notification

Evacuation

Shelter

Disaster Response

Damage Assessment

Search and Rescue

Resettlement

Property

Building Permitting

Tax Assessment

Utilities

Broadband

Mail

Service Delivery

Application Verification and Qualification

Billing

Record Keeping and Compliance

Planning and Development

Transportation

Housing

Public Health

Business and Economic Development

*Add any others that should be included.*

**1.5 Standard Development Procedures**

**1.5.1 Participants**

This standard was created by a small workgroup in close cooperation with the Oregon Department of Emergency Management Next Generation 911 Technical Advisory Committee (NGTAC), the Oregon Framework Coordinator, and other members of the Addresses and Buildings Framework Implementation Team. A list of participants is in Appendix B. The participants reflect a mix of local, state, federal government, private data providers, data consumers, and other stakeholders with national experience.

**1.5.2 Comment Opportunities and Reviews**

**1.6 Maintenance of the Standard**

This standard will be revised as needed and reviewed at least annually.

**2.0 Body of the Standard**

**2.1 Scope and Content of the Standard**

This standard is primarily intended to be used for the most commonly found type of Address Points which are –

1. *Physical* address locations that can be seen on the ground or on aerial photography and mapped. They are usually manmade sites or structures where people live, work, or gather.
2. *Street* addresses that have both a street number and street name (Numbered Thoroughfare FGDC address class) that fall within the address range of a street segment.
3. Any kind of residential or non-residential address whether they are a private, commercial or public place.

**In Scope:**

 Oregon addresses only.

 Every street address point in the State of Oregon including –

1. Residential - Single Family, Multi Family

2. Non-Residential - private (commercial) or public (government)

3. Group Quarters - Non-Residential addresses that have residents including institutions like nursing homes, hospitals, dormitories, jails, other facilities

Landmark names, building names, business names associated with public and private non-residential addresses.

**Out of Scope:**

Personal information - Names of any individual occupants, residents, or tenants of residential addresses. Also telephone numbers, email addresses, web addresses or any other personal information associated with residential addresses.

Critical infrastructure as defined in ORS 276A.509. This excludes sites and structures that are mostly industrial machinery and where people do not typically reside or work regularly except for temporary maintenance. Electric power substations, water well sites, sewage lift stations, telecommunications switch stations, natural gas compression plants, fuel storage sites, and other automated or unmanned mechanical facilities. See Utilities Framework Theme.

**2.2 Need for the Standard**

Currently, there is no comprehensive statewide seamless address point dataset available for Oregon. All address points originate with local governments (cities, counties, tribal, regional) where the address authorities are usually found in the planning, development, or building permit departments of each jurisdiction. There are 241 incorporated cities, 36 counties, 9 tribes, and 6 regional councils of governments in Oregon and each maintains their own list of addresses and locations and provide them to other local government agencies, public utility companies, telecommunications companies, law enforcement, and the US Postal Service. The US Postal Service does not create addresses.

Generally, each jurisdiction has its own format and method for storing and distributing address information. Because the format of each jurisdiction may be different from another, a single comprehensive standard is needed to combine addresses into a seamless statewide dataset. Assembling combined address databases from multiple sources on an ad-hoc basis is extremely inefficient, time-consuming, and costly and a statewide standard will help avoid this uncoordinated duplication of effort.

**2.3 Participation in the Standard Development**

1. Originators
	1. Address Authorities
2. Collectors or Aggregators
	1. Public Safety Answering Points
3. Consumers
4. Other stakeholders

**2.4 Integration with Other Standards**

Building Footprints

Cadastral

**2.5 Technical and Operational Context**

Basic – Text file formats including CSV, JSON, XML

Advanced – Relational data model

**2.5.1 Data Environment**

The spatial data environment for the address standard is a vector model comprised exclusively of point geometry and associated attribute tables.

**2.5.2 Reference System**

Longitude (X) and latitude (Y) stored as decimal degrees in WGS84 as specified in the NENA standard.

**2.5.3 Integration of Themes**

Addresses and Buildings Theme

The address points are very closely related to building footprints. Address points will generally fall within a building footprint and, in the case of multi-family or multi-business addresses, there could be multiple address points within one building footprint. Each address point will typically have a building footprint identifier as an attribute. Exceptions can occur where the address point was created before the actual building was constructed (planned/platted) or where buildings have been demolished (historical).

The building address and building name attributes will be found in both the address point and building footprint layers.

Cadastral Framework Theme

Address points and building footprints are generally found within parcel boundaries. Each address point will typically have a parcel identifier as an attribute. There can be one or more address points within a building footprint, and one or more building footprints within a parcel. For example, a parcel may have an apartment complex with several buildings and each building could have several address points for the units. The parcel number attribute will be found in the address point layer.

Transportation Framework Theme

Address points are less closely related to street centerlines. One or more address points may occur along a street centerline segment within the minimum and maximum theoretical or actual address range for the street segment. The full street name (including street type and direction) should have a corresponding street segment in the road centerlines. Likewise, the street number of an address point should be within range of street numbers for the correct street segment and on the correct side (right or left) of the street segment.

Preparedness Framework Theme

Subsets of address points are used for elements in the Preparedness theme such as hospitals, schools, police stations, fire stations, and many others. These often contain additional detail fields that are not included in the Oregon Standard to provide much more information about each subset.

Utilities Framework Theme

For critical infrastructure??

**2.5.4 Encoding**

All address attribute data will be stored using only standard ASCII 8-bit characters (in range 32 – 127) and does not use non-printing ASCII characters (in range 0 – 31) nor extended ASCII characters (in range 128 – 255). For example, one half is stored as one-forward slash-two “1/2” and not ½ (extended ASCII 189). No extended ASCII characters are stored for diacritical symbols in foreign language spellings in a street address. Unicode data types (NVARCHAR) are not used are not necessary. Invalid characters (non-printing or extended) found embedded in the source data will be converted to standard ASCII characters.

**2.5.5 Resolution**

**2.5.6 Accuracy**

**Address Accuracy**

It is imperative that every address have all of the elements that comprise it including directionals, street type, unit numbers, and other elements cannot be missing or excluded if they are part of the address.

**Location Accuracy**

The positions of an addresses point is relative and not absolute because an address point usually represents large features on the ground, such as a house, and not usually a precise point, such as a survey monument. Address points are generally positioned manually on aerial photographs as best as can be determined from site diagrams, other sources such as street view photos, or interpretation.

Levels

Unit

Building or Rooftop

Parcel

Street

Transformation to current realization of the North American Datum

**2.5.7 Edge Matching**

**2.5.8 Feature Identifier**

**2.5.9 Attributes**

**2.5.10 Transactional Updating**

Using extrinsic primary key: Address ID

Using intrinsic primary key: Complete address & ZIP

Most address points will have no change in each update.

**2.5.11 Records Management**

**2.5.12 Metadata**

**3.0 Data Characteristics**

**3.1 Minimum Graphic Data Elements**

3.1.1 Point

Table 2 – Spatial Data Fields

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field Name** | **Type** | **Width** | **Required** | **Description** |
| SHAPE | Geometry |  | Y | Point geometry X,Y location coordinates |
| SRID | Integer |  | Y | Well Known Spatial Reference Identifier |
| OBJECTID | Integer |  | Y | ArcGIS unique location row identifier |

* + 1. Line None
		2. Polygon None

**3.2 Minimum Attribute or Non-Graphic Data Elements**

3.2.1 Point

**Table 3 - NENA Site Structure Address Point Core (Oregon changes to the national NENA standard)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field Name** | **Type** | **Width** | **Required** | **Domain** | **Short Description** |
| DiscrpAgID | Text | 100 | Y | Y | Discrepancy Agency ID |
| DateUpdate | Date |  | Y |  | Date Updated |
| Effective | Date |  | N |  | Date Effective |
| Expire | Date |  | N |  | Date Expiration |
| NGUID | Text | 254 | Y |  | NENA Globally Unique ID |
| Country | Text | 2 | Y | Y | Country |
| State | Text | 2 | Y | Y | State |
| County | Text | 100 | Y | Y | County |
| AddCode | Text | 6 | C |  | Additional Code – Canada Only |
| AddDataURI | Text | 254 | C |  | Additional Data URI |
| Inc\_Muni | Text | 100 | Y | Y | Incorporated Municipality |
| Uninc\_Comm | Text | 100 | N |  | Unincorporated Community |
| Nbrhd\_Comm | Text | 100 | N |  | Neighborhood Community |
| AddNum\_Pre | Text | 15 | C |  | Address Number Prefix – None in OR |
| Add\_Number | Integer |  | C |  | Address Number |
| AddNum\_Suf | Text | 15 | C |  | Address Number Suffix |
| St\_PreMod | Text | 15 | C | Y | Street Name Pre Modifier |
| St\_PreDir | Text | 10 | C | Y | Street Name Pre Directional |
| St\_PreTyp | Text | 50 | C | Y | Street Name Pre Type |
| St\_PreSep | Text | 20 | C | Y | Street Name Pre Type Separator |
| St\_Name | Text | 254 | C | Y | Street Name |
| St\_PosTyp | Text | 50 | C | Y | Street Name Post Type |
| St\_PosDir | Text | 10 | C | Y | Street Name Post Directional |
| St\_PosMod | Text | 25 | C | Y | Street Name Post Modifier |
| LSt\_PreDir | Text | 2 | C | Y | Legacy Street Name Pre Directional |
| LSt\_Name | Text | 75 | C | Y | Legacy Street Name |
| LSt\_Typ | Text | 4 | C | Y | Legacy Street Name Type |
| LSt\_PosDir | Text | 2 | C | Y | Legacy Street Name Post Directional |
| ESN | Text | 5 | C |  | Emergency Service Number |
| MSAGComm | Text | 30 | C |  | Master Street Address Guide Community Name |
| Post\_Comm | Text | 40 | N | Y | Postal Community Name |
| Post\_Code | Text | 7 | N | Y | Postal Code |
| PostCodeEx | Text | 4 | N |  | Postal Code Extension |
| Building | Text | 75 | N |  | Building |
| Floor | Text | 75 | N |  | Floor |
| Unit | Text | 75 | ~~N~~ **C** |  | Unit type and number |
| Room | Text | 75 | N |  | Room |
| Seat | Text | 75 | N |  | Seat |
| Addtl\_Loc | Text | 225 | N |  | Additional Location Information |
| LandmkName | Text | 150 | C |  | Complete Landmark Name |
| Milepost | Text | 150 | C |  | Milepost |
| Place\_Type | Text | 50 | N | Y | Place Type |
| Placement | Text | 25 | N | Y | Placement Method |
| Longitude | Float |  | N |  | Longitude |
| Latitude | Float |  | N |  | Latitude |
| Elevation | Integer |  | N |  | Elevation |

**3.3 Other Graphic Data Elements**

**3.3.1 Point -** None

**3.4 Optional Attribute or Non-Graphic Data Elements**

**Table 4 – Supplemental Address Point Fields**

|  |  |  |  |
| --- | --- | --- | --- |
| **Field Name** | **Type** | **Width** | **Description** |
| FULL\_ADDRESS | Text | 100 | Complete concatenated street address with unit if present |
| BUILDING\_ID | Text | 100 | Building footprint identifier |
| PARCEL\_ID | Text | 100 | Parcel identifier |
| UNIT\_TYPE | Text | 4 | Unit Type (domain) |
| Add Others?? |  |  |  |

**3.4.1 Point**

**References**

|  |  |
| --- | --- |
| **ST** | **Link** |
| ID | <https://gis.idaho.gov/wp-content/uploads/DataStandards/NG9-1-1-Site-Structure-Address-Point-Data-Standard.pdf> |
|  | Add Others?? |
|  |  |

**Appendices**

**Appendix A - Terms and Acronyms**

|  |  |
| --- | --- |
| **Term or Acronym** | **Description** |
| ADU | Auxiliary Dwelling Unit |
| ALI | 911 Automatic Location Identification |
| CASS | US Postal Service Coding Accuracy Support System |
| CDP | Census Designated Place (unincorporated) |
| DAS | Oregon Department of Administrative Services |
| DPF | US Postal Service Delivery Point File |
| DPV | US Postal Service Delivery Point Validation |
| ESN | 911 Emergency Service Number |
| FGDC | Federal Geographic Data Committee |
| FIT | Framework Implementation Team |
| MSAG | 911 Master Street Address Guide |
| NG911 | Next Generation 911 |
| NAD | National Address Database |
| NENA | National Emergency Number Association |
| ODEM/OEM | Oregon Department of Emergency Management |
| OGIC | Oregon Geographic Information Council |
| PSAP | 911 Public Safety Answering Point |
| RDI | US Postal Service Residential Delivery Indicator |
| SSAP | NENA Site Structure Address Point layer |
| USPS | United States Postal Service |
| ZIP | US Postal Service Zone Improvement Plan |
| ZCTA | Census ZIP Code Tabulation Area |

**Appendix B - Workgroup Participants**

|  |  |
| --- | --- |
| **Participant** | **Organization** |
| Alex Petzold | Oregon Department of Emergency Management |
| Christina Barrows | Lane Council of Governments |
| Hilary Leavell | City of Salem, Willamette Valley Communications |
| Jason Ford | National Address Database, US Department of Transportation |
| Jessica Beierman | GeoComm |
| Juliana Wold | Oregon Department of Emergency Management |
| Matt Williams | FIT Co-lead, Oregon Department of Geology and Mineral Industries |
| Melissa Foltz | Framework Coordinator, Oregon Department of Administrative Services |
| Paul Cone | City of Portland |
| Tim Esau | Oregon Secretary of State Elections |
| Tim Smothers | Baker County Planning Department |
| Tim VanDeWalle | Yamhill Communications Agency |
| Tom Elder | FIT Co-lead, Oregon Department of Administrative Services |

**Appendix C - Detailed Data Dictionary** – field names are in alphabetical order.

See Chapter 5 of the [NENA](https://cdn.ymaws.com/www.nena.org/resource/resmgr/standards/nena-sta-006.2a_ng9-1-1_gis_.pdf) standard for the default field descriptions first. Additional Oregon-related descriptions and examples are shown below.

**AddCode**

Intended for Canada only and not used in Oregon. Should the Oregon standard be changed to not required (N) from conditionally required (C) in the national NENA standard?

**AddDataURI**

A web link that adds context to, or more information about, a specific street address.

Example: 1705 Main Street, Baker City, OR 97814 <https://www.bakertower.com>

**Addtl\_Loc**

Additional location information including directions, notes, comments, caveats.

**AddNum\_Pre**

There are no addresses in Oregon with an address number prefix. Should the Oregon standard be changed to not required (N) from conditionally required (C) in the national NENA standard?

**AddNum\_Suf**

The vast majority of street numbers are numeric only. However, a few street numbers also contain trailing characters with the most common being half addresses (1/2) separated from the street number by white space.

Example: 510 *1/2* East 12th Avenue Apartment B, Eugene, OR 97401

Much less common are single letters (usually A, B, C, D) for units in duplexes, triplexes, or Auxiliary Dwelling Units (ADU) and these characters are usually not separated from the street number by white space.

Example: 2560*A*/*B*/*C*/*D* Columbia Boulevard, Saint Helens, OR 97051

**Add\_Number**

The street number, occurring within the range of block numbers along a street segment, that is usually assigned to each house or separate structure. The street number is the integer-only portion and does not include any leading zeros or trailing characters. Even and odd numbers are found on opposite sides of the street.

IMPORTANT - The street number is a *mandatory* address element for a street address, along with the street name, and is always required. Blank, null, or zero values are not allowed for street numbers. Should the Oregon standard be changed to required (Y) from conditionally required (C) in the national NENA standard?

**Building**

The name, number, or letter identifying the specific building an address point is in. Used for addresses in apartment complexes, university campuses, business parks, and other multi-building areas. The unit number often indicates the building number or letter.

Example: 1605 Oak Street Southeast Apartment *A*101, Albany, OR 97322 Building: A

How to distinguish from landmark name??

**BUILDING\_ID** (supplemental field)

Placeholder for a building footprint identifier that the address point is located within. Still to be determined from a future Building Footprint Data Standard. This field is used to vertically integrate the address points with the building footprints.

**County**

Values are the county names for the 36 counties in Oregon listed in a domain. No blanks or nulls.

**Country**

This field has only one value – US for United States. No blanks or nulls.

**DiscrpAgID**

Source, provider and/or maintainer organization of the address point.

**DateUpdate**

The most recent date the address is included in a submission from the data provider. This usually indicates an active address.

**Effective**

The date when a new address point is first included in a submission from the data provider. This could indicate a new address to add.

**Elevation**

Placeholder for a possible Z value. Floor may be another field that can be used to indicate the height of an address.

**ESN**

911 Emergency Service Number.

**Expire**

The date when an address point is no longer included in a submission from the data provider. This could indicate an address that has been demolished.

**Floor**

Floor number or name of the address. The floor number could be part of the unit number usually in the first digit(s). For example, apartment *1*01 might be the first apartment on the first floor in this case.

**Inc\_Muni**

Name of the incorporated city the address point is located in. Otherwise use “unincorporated” if the address point is not within city limits. Values include all 242 incorporated cities in Oregon listed in a domain.

IMPORTANT – The postal city name may not match the incorporated city name of the actual jurisdiction the address point is located in because ZIP Codes frequently do not match incorporated city limits.

**LandmkName**

The landmark name can be used to attach a familiar, prominent, or famous place name to a street address.

Example: 900 Court Street Northeast, Salem, OR 97301 Landmark Name: Oregon State Capitol

How to distinguish from building name??

**Latitude**

In Oregon the latitude (Y) coordinate is north of the Equator in positive decimal degrees between 42.0 and 46.25. Accuracy to six decimal places is required.

**Longitude**

In Oregon the longitude (X) coordinate is west of the Prime Meridian in negative decimal degrees from

-116.5 to -124.5. Accuracy to six decimal places is required.

**LSt\_Name**

The fully spelled street name concatenated from the parsed street name fields with whitespace between the elements. Similar to the USPS standard street name format.

**LSt\_PreDir**

USPS direction abbreviation preceding the legacy street name. Values are listed in a domain.

**LSt\_PosDir**

USPS direction abbreviation following the legacy street type. Values are listed in a domain.

**LSt\_Typ**

USPS street type abbreviation following the legacy street name. Values are listed in a domain.

**Milepost**

Not required for Oregon street addresses.

**MSAGComm**

911 Master Street Address Guide community name.

**Nbrhd\_Comm**

Neighborhood community name.

**NGUID**

Some form of a unique, statewide, permanently assigned address identifier that stays with the address throughout its entire life cycle from plat/plan, through construction, occupancy, changes or updates, until demolition. It is a extrinsic primary key and can be used for incremental updates to determine if addresses have been added, changed, removed, or is unchanged from submission to submission. This identifier is used to make an address comparable over time so that relatively few changes (adds, deletes, modifications) can be isolated and handled while the vast majority of addresses that have not changed at any given time can be ignored.

NOTE – The complete street and unit address plus the ZIP Code is another primary key too (intrinsic). Any extrinsic primary key is in addition to the inherit uniqueness of each address.

**OBJECTID**

The OBJECTID is a unique, sequential, autoincrementing row number for each geometry feature that is used and maintained exclusively by ArcGIS software. It is not an address primary key because ArcGIS software manages the OBJECTID and may change it unexpectedly at any time. It can also be externally managed.

**PARCEL\_ID** (supplemental field)

Placeholder for the parcel or taxlot that the address point is located within. Conforms to the MapTaxlot in the Cadastral Exchange Standard. Used to vertically integrate the address points with the cadastral Framework data.

**Place\_Type**

General categories with possible sub-categories for more detail. Values will be listed in a domain.

Residential – single and multi-family

Non-Residential – Commercial, Government

Group Quarters – Non-Residential but with residents.

**Placement**

Quality rating of the location coordinates. Values will be listed in a domain. Possible values include -

|  |  |
| --- | --- |
| 1 (best quality) | Unit location in building. Include floor if possible. |
| 2 | Building/Rooftop |
| 3 | Parcel centroid |
| 4 (worst quality) | Within address range along street centerline |
| 0 | Unknown |

**Post\_Code**

The US Postal Service assigned five-digit Zone Improvement Plan (ZIP) Code for the address. Should this address element be *mandatory* because it is used to make identical addresses found in different cities unique? There are 479 [ZIP Codes in Oregon](https://geohub.oregon.gov/datasets/e557f85f4aba4d0f966a52be99dce2f1) all beginning with “97” and all values are listed in a domain. The USPS [ZIP Code Lookup](https://tools.usps.com/zip-code-lookup.htm) tool can be used to find the correct ZIP Code for individual street addresses. CASS certified software or services can be also used to find the correct ZIP Code for address lists. ZIP Codes are always stored as text, not integers, because they can have leading zeros. The first character of a ZIP Code is for the general geographic area within the US from 0 on the east coast to 9 on the west coast. The second and third characters are for regions within Oregon. The last two characters are for specific Post Offices.

Example: 10 North Main Street, Lebanon, OR, 973*55*

 10 North Main Street, Falls City, OR, 973*44*

**Post\_Comm**

The USPS *preferred* city name associated with the ZIP Code. ZIP Codes do not necessarily follow city limits so the postal city name may not match the actual city jurisdiction the address is located in. The US Postal Service exclusively manages ZIP Codes and the preferred city names. Some ZIP Codes have other acceptable postal city names that can be used for mail instead of the preferred city name. Refer to the [ZIP Codes in Oregon](https://geohub.oregon.gov/datasets/e557f85f4aba4d0f966a52be99dce2f1) to see the preferred, acceptable, and city names to avoid for each ZIP Code.

**PostCodeEx**

The four-digit ZIP Code+4 add-on. The USPS [ZIP Code Lookup](https://tools.usps.com/zip-code-lookup.htm) tool can be used to find the correct ZIP Code add-on for any individual address. CASS certified software or services can also be used to find the correct ZIP Code add-on for address lists. The ZIP Code add-on is not used to make an address unique because the five-digit ZIP Code is sufficient to make sure there are no duplicate addresses. Even though they are numerals the ZIP+4 add-on is always stored as text, not integers, because it can have leading zeros.

**Room**

Do not use instead of Unit (see below).

**Seat**

Not used in Oregon addresses.

**SHAPE**

The SHAPE field stores the spatial location point as a binary geometry object. This object consists of

1. The geometry type – single POINT for every address

2. The X coordinate for the east-west direction

3. The Y coordinate for the north-south direction

4. The spatial reference well-known identifier

Example: POINT(-123.123456 45.123456),4326

There will be no multi-point features for address points.

**St\_Name**

The street name is a *mandatory* address element for a street address and is always required. Blank or null values are not allowed for street names. The street name may consist of letters or numbers and is separate from any street name pre types, separators, or modifiers. Should the Oregon standard be changed to required (Y) from conditionally required (C) in the national NENA standard?

Example:*124th* Avenue

Example: Avenue *A*

Example: Highway *101*

Example: *Summer*Street Northeast

**St\_PosDir**

The street direction that follows the full street name and street type. If a street post-direction is present there is usually no street pre-direction. The pre-direction and post-direction values are the same – North, South, East, West, Northeast, Northwest, Southeast, Southwest. NOTE – This address element is conditionally required only if present. Some street addresses have neither a pre-direction nor a post-direction and both may be null.

Example: 500 Summer Street *Northeast*, Salem, OR 97301

Example: 662 B Street, Ashland, OR 97520 *No* pre or post direction

**St\_PosMod**

A noun that follows a street name. There are very few addresses in Oregon that have a street name post-modifier.

Example: Highway 95 *Spur*

 Highway 101 *Business*

**St\_PosTyp**

The fully spelled street suffix or street type following the street name (Avenue, Boulevard, Road, Street, many others). The same street name may have different street types even in the same ZIP Code. The vast majority of streets will have a street type but this field may be null for the relatively few addresses that do not have a street type (mostly numbered Highway addresses). A list of all street type values are listed in a domain.

Example: 4022 Northwest Northcliff, Bend, OR 97703 *No* street type

**St\_PreDir**

Where the street direction precedes the full street name. If a street pre-direction is present there is usually no street post-direction. The pre-direction and post-direction values are the same – North, South, East, West, Northeast, Northwest, Southeast, Southwest. NOTE – This address element is conditionally required only if present. Some street addresses have neither a pre-direction nor a post-direction and both may be null.

Example: 800 *Northeast* Oregon Street, Portland, OR 97232

**St\_PreMod**

An adjective that precedes a street pre-type. There are very few addresses in Oregon that have a street name pre-modifier with Old and Forest Service being the most common.

Example: *Old* Highway 99

*Forest Service* Road 1500

**St\_PreSep**

Very few street names in Oregon have pre separators which are found between the street pre-type and street name for certain addresses. These can have foreign language spellings (Spanish, Italian, French, Portuguese) as well as English spellings and will also have street pre types. There are only a few values for street name pre-separator including the prepositions of, of the, de, del, de la.

Example: 7700 Avenue *of the* Sun, White City, OR 97503 Also with Avenue pre-type.

Example: 15820 Camino *de* Oro, La Pine, OR 97739 Also with Camino pre-type.

**St\_PreTyp**

The street pre-type appears *before* the street name for certain addresses. The street pre-type uses the same values as the street type domain. Generally, there will be no street type if there is a street name pre-type. By far, the most common street pre-type in Oregon is for numbered Highway addresses.

Example: 2701 Northwest *Highway* 101, Lincoln City, OR 97367

Example: 1125 *Avenue* A, Seaside, OR 97138

**State**

This field has only one value - OR for Oregon. No blanks or nulls. Part of the City-State-ZIP related address element grouping.

**Uninc\_Comm**

Unincorporated community. This may not be the same as the preferred city name for the ZIP Code but might be an acceptable alternate mailing city name. Could also be a Census Designated Place.

Example: Aloha, OR 97078

Example: Damascus, OR 97009

**Unit**

The unit number can be any combination of letters and/or numbers. Examples – Apartment 101, Apartment B-201, Space 18, Suite 3, Unit A. By far, the most common unit numbers are either numbers only or single letters. Various other letter/number patterns are less common.

IMPORTANT – If an address has units then they must be included as part of a complete unique address point. Because it is needed to make an address unique, the Oregon standard makes the unit field conditionally required (instead of not required in the national NENA standard). If the unit numbers are omitted from address points that should have them, the result could be duplicate street addresses.

A unit number might indicate a floor number in the first digit(s). Apartment 101 typically is the first apartment on the first floor in this case. The unit number might also indicate a building letter or number. Apartment B-201 would be the first apartment on the second floor of building B in this case.

The FGDC, NENA, and NAD standards typically concatenate both the unit type and unit number into one field. The USPS standard has separate unit type and unit number fields. The unit type has specific values listed in a domain (apartment, space, suite, unit, etc.). A pound sign (#) can also be used if the unit type is not known.

NOTE – Occasionally unit letters (A, B, C, D) are found in the address number suffix instead of the Unit field.

NOTE – Some apartments do not have unit numbers but have individual street numbers instead.

NOTE – Some mixed-use buildings have both non-residential offices (suites) and residential apartments usually on different floors.

Example: 1705 Main Street *Suite 101*, Baker City, OR 97814

1705 Main Street *Suite 102*, Baker City, OR 97814

1705 Main Street *Suite 103*, Baker City, OR 97814

1705 Main Street *Suite 104*, Baker City, OR 97814

1705 Main Street *Suite 105*, Baker City, OR 97814

1705 Main Street *Suite 200*, Baker City, OR 97814

1705 Main Street *Suite 300*, Baker City, OR 97814

1705 Main Street *Suite 301*, Baker City, OR 97814

1705 Main Street *Suite 400*, Baker City, OR 97814

1705 Main Street *Suite 401*, Baker City, OR 97814

1705 Main Street *Suite 402*, Baker City, OR 97814

1705 Main Street *Suite 501*, Baker City, OR 97814

1705 Main Street *Suite 503*, Baker City, OR 97814

1705 Main Street *Apartment 600*, Baker City, OR 97814

1705 Main Street *Apartment 700*, Baker City, OR 97814

1705 Main Street *Apartment 701*, Baker City, OR 97814

1705 Main Street *Apartment 800*, Baker City, OR 97814

1705 Main Street *Apartment 801*, Baker City, OR 97814

1705 Main Street *Apartment 900*, Baker City, OR 97814

**UNIT\_TYPE** (supplemental field)

US Postal Service unit type abbreviation. All values are listed in a domain. Specific common unit types can be associated with either residential or non-residential addresses. APT = residential apartment, UNIT = residential condominium, SPC = residential mobile home space, STE = non-residential commercial suite.

**Appendix D - Implementation**

Sample SQL code for implementing the standard as a single table .

CREATE TABLE schema.OREGON\_ADDRESS\_STANDARD

--NENA core fields

(DiscrpAgID VARCHAR(100) NOT NULL

,DateUpdate DATETIME NOT NULL DEFAULT GETDATE()

,Effective DATETIME NULL

,Expire DATETIME NULL

,NGUID VARCHAR(254) NOT NULL

,Country VARCHAR( 2) NOT NULL DEFAULT 'US'

,State VARCHAR( 2) NOT NULL DEFAULT 'OR'

,County VARCHAR(100) NOT NULL

,AddCode VARCHAR( 6) NULL

,AddDataURI VARCHAR(254) NULL

,Inc\_Muni VARCHAR(100) NOT NULL DEFAULT 'Unincorporated'

,Uninc\_Comm VARCHAR(100) NULL

,Nbrhd\_Comm VARCHAR(100) NULL

,AddNum\_Pre VARCHAR( 15) NULL

,Add\_Number INT NULL

,AddNum\_Suf VARCHAR( 15) NULL

,St\_PreMod VARCHAR( 15) NULL

,St\_PreDir VARCHAR( 10) NULL

,St\_PreTyp VARCHAR( 50) NULL

,St\_PreSep VARCHAR( 20) NULL

,St\_Name VARCHAR(254) NULL

,St\_PosTyp VARCHAR( 50) NULL

,St\_PosDir VARCHAR( 10) NULL

,St\_PosMod VARCHAR( 25) NULL

,LSt\_PreDir VARCHAR( 2) NULL

,LSt\_Name VARCHAR( 75) NULL

,LSt\_Typ VARCHAR( 4) NULL

,LSt\_PosDir VARCHAR( 2) NULL

,ESN VARCHAR( 5) NULL

,MSAGComm VARCHAR( 30) NULL

,Post\_Comm VARCHAR( 40) NULL

,Post\_Code VARCHAR( 7) NULL

,PostCodeEx VARCHAR( 4) NULL

,Building VARCHAR( 75) NULL

,Floor VARCHAR( 75) NULL

,Unit VARCHAR( 75) NULL

,Room VARCHAR( 75) NULL

,Seat VARCHAR( 75) NULL

,Addtl\_Loc VARCHAR(225) NULL

,LandmkName VARCHAR(150) NULL

,Milepost VARCHAR(150) NULL

,Place\_Type VARCHAR( 60) NULL

,Placement VARCHAR(100) NULL

,Longitude FLOAT NULL

,Latitude FLOAT NULL

,Elevation INT NULL

-- Spatial fields

,SHAPE GEOMETRY NULL -- Includes SRID

,OBJECTID INT NOT NULL IDENTITY(1,1) -- Auto-incrementing

-- Supplemental fields

,FULL\_ADDRESS VARCHAR(100) NULL

,BUILDING\_ID VARCHAR(100) NULL

,PARCEL\_ID VARCHAR(100) NULL

,UNIT\_TYPE VARCHAR( 4) NULL

)