

VT Center for Geographic Information



VT Building Footprints Geospatial Data Standard

Version 0.3

2020-12-7

History

Date	Notes
April 28, 2020	Version 0.1, first draft
September 8, 2020	Version 0.2, second draft
December 7, 2020	Version 0.3, release for public comment

Statutory Authority and Standard Review/Approval

The Vermont Center for Geographic Information (VCGI) has the statutory authority¹ to craft and adopt VT GIS standards and guidelines. Over the past 2 decades, VCGI has worked with the VT GIS community to carefully craft these standards and guidelines, helping to make sure that Vermont GIS data “is compatible with, useful to” others in the VT GIS community.

The State’s Enterprise GIS Consortium (EGC) has been established as the organization responsible for reviewing and approving Vermont GIS standards crafted by VCGI (in collaboration with the Vermont GIS Community).

¹ <http://legislature.vermont.gov/statutes/fullchapter/10/008>

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Terminology

In this standard, **building footprints**² means data features that model extents and shapes of buildings as a 2D top-down representations.

Objectives

- Define a data standard that supports use of data which models building footprints in multiple contexts; contexts include emergency management, planning, and analysis.
- Define a data standard that supports a workflow which merges best-available building-footprint data from multiple sources into a single dataset stewarded by VT E911 Services Board; sources include local governments, RPCs (regional planning commissions), lidar, aerial imagery, and the public domain.
- Define a data standard that supports availability of high-quality building-footprint data—in terms of shape integrity and attribute integrity.

Specifications

Spatial Reference

The master-copy **building footprints** dataset must be in a version of Vermont State Plane Meters, NAD83. When building footprints data is provided to the data-merge workflow, its spatial-reference properties must be set (e.g., shapefiles have .prj files).

Shape Integrity

Ideally, unless a building has a non-rectilinear perimeter or a non-orthogonal exterior corner, it is modeled with orthogonal polygons—all angles are 90-degrees. Some source-data features—depending on the method by which they are produced, might not have such shape integrity; in such cases, a determination must be made on whether to use the feature as-is (better to have a building footprint represented than not represented), to modify the feature, or use a different data-source. Building footprints will be represented as 2D polygons.

² Building “footprints” in most cases actually represent “roofprints” since there is no reliable way to determining the actual foundation footprint of a building from an aerial imagery.

Data Schema

STRUCTURES_POLY Feature Class

Field Name	Description	Field Type	Allowed Values
GlobalID	Assigned by E911 via Esri software (auto-generated). For internal use.	GUID	Globally unique values automatically generated by Esri software.
POLY_ID	Assigned by E911. Unique polygon identifier	Long Integer	Based on X,Y centroid coordinate (rounded to nearest meter) of the feature in NAD83 VT State Plane meters
POLY_TYPE	What the polygon represents.	Text, 25	Type of feature [ROOFPRINT, ROOFPRINT_SHIFTED, FOOTPRINT]
BLDG_TYPE	Building classification/ownership type		[RES SCHOOL HOSPITAL PUBLIC SAFETY RES DORM GOVT BUS OTHER RES/OTHER BUS/OTHER COMBINED DAM BUS SINGLE COVERED BRIDGE NURSING CULTURAL]
BLDG_NOTES	Free text field for miscellaneous notes about the building.	Text, 100	See UPDATENOTES for notes regarding polygon feature edits.
NAME_LBL	String to use when wanting to place a "name" label on the map/display for this polygon.	Text, 50	Examples: "University Mall" "State Capital"
ADDR_LBL	String to use when wanting to place a "address range or list" label on the	Text, 100	Examples: Single – "133" List - "389&393&422" Range – "5-12"

	map/display for this polygon.		
PRIMARYADD	Primary address of the building footprint.	Text, 50	Full address of the building footprint.
POLY_SRC	Source of polygon; where it came from.	Text, 25	Current domain set [2016HIGHRESLC, E911, BING, RPC, MUNI, UNKNOWN] All polygons from the original 2016 High Resolution Land Cover coded "2016HIGHRESLC". Polygons digitized by E911 are coded "E911".
SRC_DATE	Date (year) of source data used to create the structure polygon. Coded "20110000" or "20120000.	Long integer	The eight-digit format is to allow for more accurately recording the date as local datasets and newer imagery are used to update the statewide data.
SRC_DATA	Source imagery/data used to derive polygon (if known)	Text, 20	Current domain set [VTORTHO<YEAR>, NAIP<YEAR>, SITEPLAN, UNKNOWN]
LOCAL_ID	Identifier used by local entity.	Text, 50	Used to facilitate collaborative data maintenance between E911 and towns such as Burlington, RPCs, etc
TOWNGEOID	Town (Minor Civil Division) code – VT Geographic Area Codes Standard	Long Integer	See VT Geographic Area Codes Standard
MCODE	Municipal Code of E911 town/jurisdiction in which the building footprint is located.	Short Integer	E911's Municipal coding schema [see E911 documentation]
E911TOWN	Name of E911 town/jurisdiction in	Text, 50	E911's Municipal naming schema [see E911 documentation]

	which the building footprint is located.		
COUNTY	County in which building footprint is located.	Text, 20	See VT Geographic Area Codes Standard
STATE	State or Province in which building footprint is located.	Text, 2	
HEIGHTFT	Height of the roof's highest point (FEET)	Long Integer	Rounded to the nearest foot.
NUM_FLOORS	Number of floors in the building.	Long Integer	
UPDATEDATE	Last edit/update date.	Date	
UPDATESOURCE	Who made last edit/update(s)	String, 25	
UPDATENOTES	Edit/update notes	String, 100	