Block Boundary Suggestion Project GUPS User's Guide

Instructions for Using the Geographic Update Partnership Software (GUPS)

2020 Redistricting Data Program
Phase One
Block Boundary Suggestion Project

September 2015

U.S. Department of Commerce
Economic and Statistics Administration
U.S. CENSUS BUREAU
census.gov

United States™ Census Bureau

Table of Contents

Introduction **3**
PART 1: **5**
BLOCK BOUNDARY SUGGESTION PROJECT OVERVIEW **5**
1 Planned 2020 Census Tabulation Block Boundaries **5**
2 Suggested BBSP Workflow **7**
2.1 Linear Feature Review **9**
2.2 Area Landmark and Area Hydrography Review **10**
2.3 Legal Boundary Review and Update (New for 2020) **10**
2.4 Point Landmark Review **11**
2.5 2010 Linear Feature Extension Review **11**
2.6 Block Size Review (New for 2020) **12**
2.7 Block Boundary Suggestion Flagging (Must Hold and Do Not Hold) **12**
2.8 Block Area Grouping Delineation (Updated for 2020) **14**
2.9 Block Boundary Review **14**
2.10 General Geography and Change Review **14**
2.11 Validation Check **15**
2.12 Work Delegated? **15**
3 File Submission Through SWIM **16**
PART 2: **17**
MAKING BLOCK BOUNDARY SUGGESTIONS USING THE GUPS (Geographic Update Partnership Software) **17**
4 GETTING STARTED **19**
4.1 System and Hardware Requirements **19**
4.2 Acquiring the GUPS and Spatial Data; Installation and Access **19**
4.3 RDP Liaison Delegates Work? **20**
5 GUPS Basics: Map Management, View and Tools **21**
5.1 Starting GUPS (Map Management) **21**
5.2 Page Layout **23**
5.1.1 Map View 23
5.1.2 Menu and Toolbars 24
5.1.3 Table of Contents 54
5.1.5 Status Bar 63
6 BBSP Suggested Workflow **64**
6.1 Linear Feature Review **66**
6.2 Area Landmark Review **73**
6.3 Legal Boundary Updates (New for 2020) **83**
6.4 Point Landmark Review **92**
6.5 2010 Linear Feature Extension Review **96**
6.6 Block Size Review **100**
6.7 Block Boundary Suggestion Flagging (Assigning Must Hold and Do Not Hold Flags) **109**
6.8 Block Area Grouping Delineation **116**
6.9 Block Boundary Review **117**
6.10 General Geography and Change Review **120**
6.11 Validation Check **125**
6.12 Work Delegated? **126**
7 File Submission through SWIM **133**
7.1 Login Page **134**

7.1.1 If you already have a SWIM Account: 134
7.1.2 If you do not yet have a SWIM Account: 135
7.2 Welcome Page 136
7.3 Geographic Program Page 137
7.4 Select a State 137
7.5 Select a .ZIP File to Upload 138
7.6 Thank You Page 139
APPENDIX A: UPDATES ALLOWED, BY MTFCC 140
A.1 Area Landmark Updates Permitted 140
A.2 Linear Feature Updates Permitted 141
A.3 Point Landmark Updates Permitted 142
APPENDIX B: MTFCC DESCRIPTIONS - COMPLETE LIST 143
APPENDIX C: PARTNERSHIP SHAPEFILE DATA DICTIONARY 153
APPENDIX D: ACRONYMS 173
APPENDIX E: BBSP PARTICIPANT SUPPORT 174
APPENDIX F: COUNTY COMPLETION TRACKING SHEET 175

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Introduction

Public Law 94-171 stipulates that the U.S. Census Bureau work in a nonpartisan manner with the states to identify and provide the small-area data population counts necessary for legislative redistricting to the governor and the officers or public bodies having responsibility for redistricting of each state one year after the Census. For the 2020 Census, the Census Bureau must deliver the counts by April 1, 2021.

The Census Redistricting & Voting Rights Data Office implements the requirements of P.L. 94-171 through five phases of the Redistricting Data Program:

Phase 1: Block Boundary Suggestion Project (BBSP)
Phase 2: Voting District Project (VTDP)
Phase 3: Delivery of the 2020 P.L. 94-171 Redistricting Data Files
Phase 4: Collection of Post-2020 Redistricting Plans
Phase 5: Review of 2020 Census Redistricting Data Program and Recommendations for Census 2030

This document addresses Phase 1: Block Boundary Suggestion Project of the Redistricting Data Program. It is intended for state participants using the Census Bureau's Geographic Update Partnership Software (GUPS) tool to participate in the program.

Part 1 of the document provides the ***conceptual overview*** of the 2020 Block Boundary Suggestion Project, including a suggested workflow, BBSP block boundary flagging, optional updates and what's new or updated for 2020.

Part 1 provides you a conceptual understanding of the 2020 Block Boundary Suggestion Project prior to moving on to Part 2, the technical directions. There are also hyperlinks in Part 1 to the technical directions in Part 2 for each of topics.

Part 2 of the document contains the ***technical directions for using the GUPS*** to accomplish the updates outlined in Part 1. However, Part 2 walks you through using the GUPS tool, step-by-step, for each of the activities outlined in the *Suggested BBSP Workflow*. To help you determine where you are in the workflow process, a small, stylized version of the *Suggested BBSP Workflow* diagram, with the section's activity highlighted, accompanies the section heading.

PART 1:
BLOCK BOUNDARY SUGGESTION PROJECT OVERVIEW

1 Planned 2020 Census Tabulation Block Boundaries

Census tabulation block boundaries primarily follow visible features, such as roads and rivers, as well as any edges that bound legal or statistical geographic areas or selected area landmarks stored in the MAF/TIGER System. Census blocks nest within all other tabulated census geographic entities and are the basis for all data tabulated for the decennial census, the American Community Survey, and other Census Bureau programs and surveys.

The table below lists the feature and boundary types currently planned as 2020 Census tabulation block boundaries.

2020 CENSUS PLANNED TABULATION BLOCK BOUNDARIES BY MAF/TIGER FEATURE CLASSIFICATION CODE (MTFCC)

G2120 Hawaiian Home Land	G5200 Congressional District
G2130 Alaska Native Village Statistical Area	G5210 State Legislative District (Upper Chamber)
G2140 Oklahoma Tribal Statistical Area	G5220 State Legislative District (Lower Chamber)
G2150 State-designated Tribal Statistical Area	G5240 Voting District
G2160 Tribal Designated Statistical Area	G5400 Elementary School District
G2170 American Indian Joint Use Area	G5410 Secondary School District
G2200 Alaska Native Regional Corporation	G5420 Unified School District
G2300 Tribal Subdivision	G6330 Urban Growth Area
G2400 Tribal Census Tract	K2110 Military Installation
G2410 Tribal Block Group	K2181 National Park Service Land
G4000 State or State Equivalent	K2182 National Forest or Other Federal Land
G4020 County or State Equivalent	K2540 University or College
G4040 County Subdivision	K1235 Juvenile Institution
G4050 Estate	K1236 Local Jail or Detention Center
G4060 Sub-Minor Civil Division	K1237 Federal Penitentiary, State Prison, or Prison Farm
G4110 Incorporated Place	K1238 Other Correctional Institution
G4120 Consolidated City	S1100 Primary Road
G5020 Census Tract	S1200 Secondary Road
G5035 Block Area Grouping	

Table 1.1: Planned 2020 Tabulation Block Boundaries

Please note that primary and secondary roads (MTFCCs S1100 and S1200) are planned 2020 Census tabulation block boundaries. Other features, such as local roads, alleys, railroads, and perennial water, may or may not qualify as 2020 Census tabulation block boundaries based on the established criteria. These features can be selected as "must hold" or "do not hold" block boundaries. You can determine whether a feature is planned block boundary by the feature symbolization in the GUPS map or the feature's value in the CBBFLG field in the attribute table. A CBBFLG value of "4" indicates the feature is a planned 2020 block boundary, while a CCBFLG value of "9" indicates the feature is ineligible as a 2020 tabulation block boundary.

The technical details for reviewing features and assigning block boundary suggestion flags are contained in Part 2, Chapter 6.

Note: *Appendix B: MTFCC Descriptions - Complete List,* contains the list of MTFCC values in the partnership shapefiles and their descriptions.

2 Suggested BBSP Workflow

Figure 2.1 depicts the suggested workflow for reviewing and updating Census Bureau data for the Block Boundary Suggestion Project. The technical details for acquiring the Geographic Update Partnership Software (GUPS) and spatial data for the BBSP are contained in Part Two, the technical section, of this document.

There is a separate chapter outlining the activities associated with each of the workflow process (square) boxes. The BBSP participant is not required to perform all the update activities shown in the flowchart.

Work is performed at a county level and should be submitted to the Census Bureau on a flow basis, as you complete each county. Submitting work on flow basis permits the Census Bureau to review the files early in the process, provide feedback as necessary, and facilitates our file processing.

The Geographic Update Partnership Software contains a validation tool to ensure BBSP updates meet the established criteria and submission files meet Census Bureau processing requirements. Although the validation step is shown later in the BBSP workflow, we suggest that the validation tool be utilized often at the beginning of update work to identify errors and to avoid potentially extensive re-work later on.

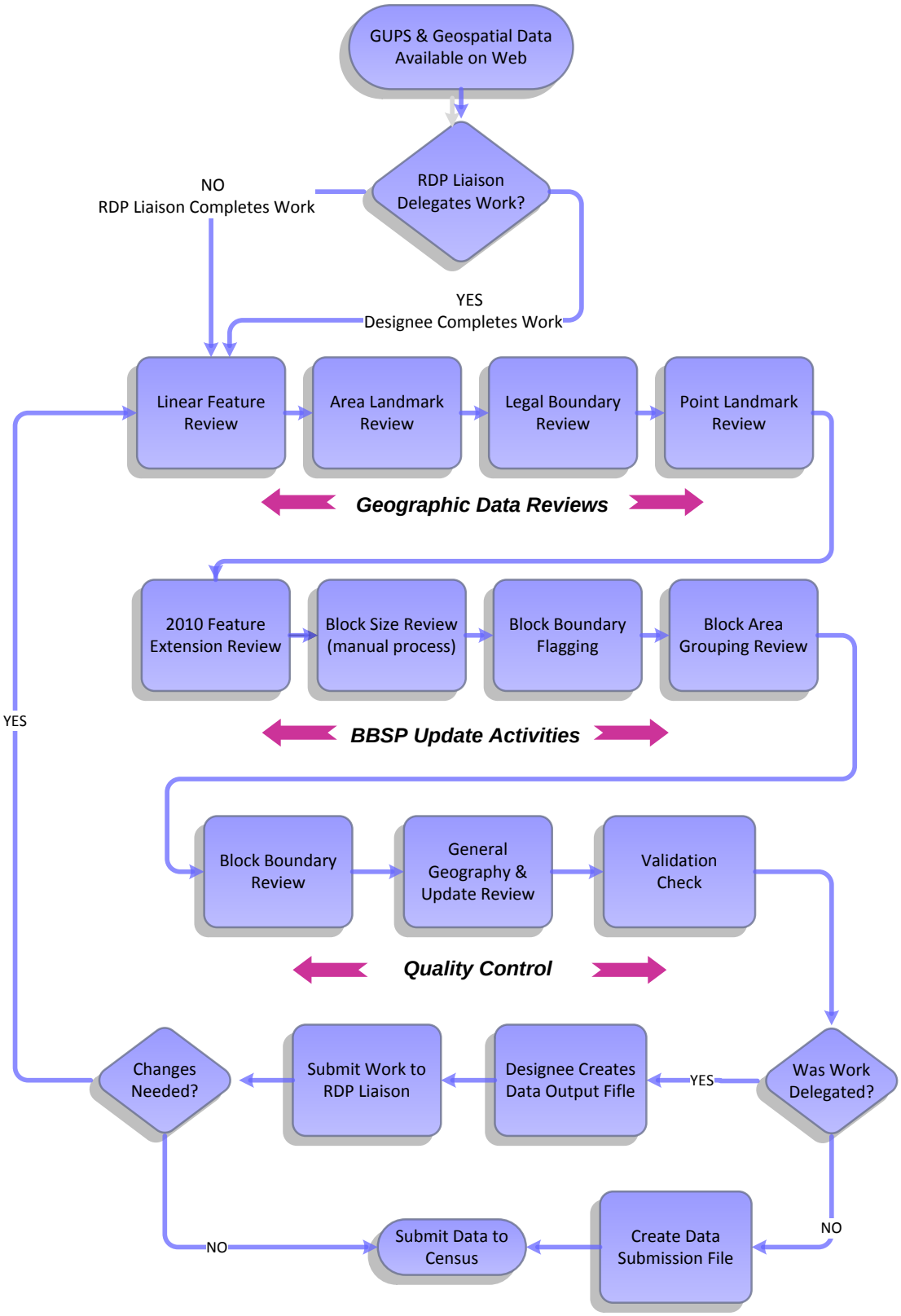


Figure 2.1 Suggested BBSP Workflow

2.1 Linear Feature Review

You should review the Census Bureau's linear features (all edges layer) to determine whether there are features missing or features that should be deleted. Pay particular attention to any areas that have experienced population growth, where there may be new housing or subdivisions that are not reflected in the Census Bureau's geospatial data.

The Census Bureau will also accept attribute updates (name, classification code, and address ranges) for selected features. Added road features with MTFCC S1100-Primary Road, or S1200-Secondary Road, require a feature name.

The GUPS will allow you to import street centerline, hydrographic, imagery and other user-provided geospatial data for reference and comparison against the Census Bureau data.

Please be aware that the Census Bureau will not process the wholesale spatial realignment of features to enhance spatial accuracy. If a feature is in the incorrect location in the Census Bureau's feature network, delete the feature and add it in the correct location. Take this action only if the feature is over 7.6 meters off or interferes with the relationship with other features.

Click here to review the GUPS technical instructions for Linear Feature Review.

Appendix A2: Linear Feature Updates Permitted, lists the feature updates the Census Bureau will accept.

2.2 Area Landmark and Area Hydrography Review

The Census Bureau accepts updates to area landmarks and area hydrography as part of the Block Boundary Suggestion Project.

Allowable updates include:
- Boundary corrections (adding and removing area).
- Creating a new area landmark or hydrographic area.
- Removing an area landmark or hydrographic area.
- Changing or adding a name.

If your state plans to reallocate prisoners during redistricting, you may wish to review the existing area landmarks with MTFCCs K1235, K1236, K1237, and K1238, which represent areas with prison populations.

Click here to review the GUPS technical instructions for Area Landmark Review (including hydrographic areas).

Appendix A1: Area Landmark Updates Permitted, lists the feature updates the Census Bureau will accept.

2.3 Legal Boundary Review and Update (New for 2020)

At the recommendation of many states, the Census Bureau is introducing a Boundary and Annexation Survey (BAS) review as part of Phase 1 (BBSP) and Phase 2 (VTD) of the Redistricting Data Program.

During the initial delineation phase and the subsequent verification phase of the Block Boundary Suggestion Project, state redistricting liaisons may provide legal updates (annexations, de-annexations, incorporations and dis-incorporations), including boundary corrections, and supporting documentation. The Census Bureau will assume the responsibility for reconciling the updates with the appropriate local governments as part of our 2016 and 2017 Boundary and Annexation Surveys.

You may submit legal boundary updates for county subdivisions, incorporated places, and consolidated cities. Although legal documentation (effective date, authority type, and ordinance number) is not *required* for boundary updates submitted through the BBSP, we strongly encourage you to submit the documentation to expedite our ability to reconcile and process any legal updates reported. Annexations, de-annexations, incorporations and dis-incorporations being submitted without documentation should all be submitted as boundary corrections.

Click here to review the GUPS technical instructions for Legal Boundary Updates.

2.4 Point Landmark Review

Point landmark review is an optional activity. Because many of the point landmarks contained in the Census Bureau's MAF/TIGER System originate from the Geographic Names Information System (GNIS), the official vehicle for names use by the Federal Government, permitted updates are very limited.

Click here to review the GUPS technical instructions for Point Landmark Review.

Appendix A3: Point Landmark Updates Permitted, lists the feature updates the Census Bureau will accept.

2.5 2010 Linear Feature Extension Review

All block boundary suggestions are contingent upon the lines intersecting to form a closed polygon at the time the Census Bureau creates tabulation blocks. As a result, all block boundary suggestions, when combined with other features and planned holds, must form a closed polygon.

For Census 2010, BBSP participants could place a "must-hold" on an existing feature that did not form a closed a polygon. By adding a feature extension to close the polygon, they then created a new block. The 2010 feature extensions are included in the 2020 BBSP files for review and update.

You are not required to review the 2010 feature extensions. However, please be aware that if you would like a 2010 feature extension held as 2020 block boundary, you must take an action on the feature extension.

If you choose to review the 2010 feature extensions, you may:

- ***Hold*** the feature extension for 2020. The feature from which the extension originates is automatically flagged as a must-hold block boundary, along with the extension.
- ***Delete*** the 2010 feature extension. The 2010 feature extensions marked for deletion by participants will help the Census Bureau remove features from the MAF/TIGER System that no longer serve a current data tabulation purpose.
- ***Ignore*** the 2010 feature extension. Be aware that 2010 feature extensions and the features with which they are associated may not be held as 2020 tabulation block boundaries. If you take no action on a 2010 feature extension, the Census Bureau will determine whether to hold the extension and the feature associated with it as a 2020 block boundary.

Click here to review the GUPS technical instructions for 2010 Linear Feature Extension Review.

2.6 Block Size Review (New for 2020)

To facilitate your block review, the Census Bureau has assigned a size indicator to the 2020 planned tabulation blocks. Each block is assigned a letter to indicate relative size, based on a range of *approximate* housing unit counts. Blocks with letters "A" through "H" represent potentially large blocks, blocks with a letter "I" represent medium-sized blocks, and blocks with the letter "Z" may contain no housing units.

There is not a specific GUPS tool for block size review. However, instructions for symbolizing and reviewing the blocks based on size category are listed in Part 2 of the guide.

Click here to review the technical instructions for Block Size Review.

2.7 Block Boundary Suggestion Flagging (Must Hold and Do Not Hold)

The Census Bureau has identified features planned as 2020 tabulation block boundaries, as reflected in the provided BBSP data files. You can refer to Section 1, Planned 2020 Tabulation Block Boundaries, for the complete feature list. The planned tabulation block boundaries may change if the criteria change, or if a feature's attributes are updated through other Census programs.

The Census Bureau has also identified features that are ineligible as 2020 block boundaries.

There are features with no block boundary status assigned. You are **not** required to assign a BBSP flag (must hold or do not hold) to every feature, including street features, in the file.

Assigning a Must Hold Flag:

You may assign a must hold flag to features to suggest them as 2020 tabulation block boundaries. Candidates for assigning a must hold block boundary suggestion flag are:

- Newly added features
- Features that are not currently planned as block boundaries (no status assigned)
- Features that are already planned as 2020 block boundaries but you want held should their status change

You may wish to assign a must hold flag to features that are planned 2020 block boundaries. If the block definition criteria change between the time Phase 1 BBSP occurs and when the Census Bureau creates 2020 census tabulation blocks, assigning a must hold to a planned block boundary feature will increase the likelihood that the feature will become a 2020 block boundary.

If you wish to hold a feature as a 2020 block boundary but the feature does not form a closed polygon, you may add a feature extension to close the polygon. (See feature extension tool) Feature extensions must meet the established criteria.

Be aware that assigning a must hold flag to a feature that is ineligible to be a block boundary does not ensure that the Census Bureau will honor your request but we will reevaluate the feature's status based on your suggestion.

All must hold block boundary suggestions are contingent upon the lines intersecting to form a closed polygon at the time the Census Bureau creates the 2020 tabulation blocks.

Assigning a Do Not Hold Flag:

You may assign "do not hold" flags to features that that you do not want to become 2020 tabulation block boundaries. Potential candidates for assigning a "do not hold" block boundary suggestion flag may include:

- Private roads, trails, and unimproved roads
- Hydrographic features with no area, shown as a single-line feature, such as a stream or creek.
- Any feature creating unnecessary blocks, such as highway ramps, traffic circles shown as open circles or "lollipops" in the Census geospatial files, and similar features.

Be aware that assignment of a "do-not-hold" flag to a feature that is a 2020 planned block boundary does not ensure that the Census Bureau will honor your request.

Click here to review the GUPS technical instructions for Block Boundary Suggestion Flagging.

2.8 Block Area Grouping Delineation (Updated for 2020)

During the 2020 Census tabulation block creation, the Census Bureau will automatically group islands to form a single tabulation block if they have no road features and the islands fall within a 5 kilometer radius.

You may also group specific islands to create a single 2020 Census tabulation block, called a Block Area Grouping (BAG). The criteria for creating a Block Area Grouping are:

- BAG must consist of two or more islands.
- BAG perimeter must be entirely over water.
- BAGs cannot overlap.
- BAGs cannot cross the boundary of other tabulation geographies, such as county or incorporated place boundaries.

Block Area Grouping delineation is optional, and probably most appropriate for states with hydrographic areas that contain a number of islands.

Note: Because the State of Washington was the only state to delineate Block Area Groupings for Census 2010, this is the only state with existing BAGs for review. All other states may delineate new Block Area Groupings for Census 2020.

Click here to review the GUPS technical instructions for Block Area Grouping Delineation.

2.9 Block Boundary Review

You can review your block boundary suggestions before submitting an updated county to the Census Bureau (if you are the designated State redistricting Liaison) or to the State (if you have been delegated by the state to perform work). The GUPS Block Boundary Review tool allows you to systematically traverse to features on the map by 2020 BBSP category (must hold and do not hold) for review and further update if desired.

Click here to review the GUPS technical instructions for the Block Boundary Review.

2.10 General Geography and Change Review

The GUPS provides two tools, not specific to the Block Boundary Suggestion Project, you can use for reviewing your updated layers.

The first tool is the **Review Change Polygons** tool. It provides the ability to view the transactions created from the edits you made to area landmarks, including area hydrography, and legal entities, including consolidated cities, MCDs, and incorporated places. You can review the transaction polygons that represent boundary changes,

new entities you added, or entities you deleted. The tool also provides the ability to make further changes to your updates as you review your original updates.

The second tool is the **Geography Review** tool. It provides the ability to review all shapefile layers, This tool also allows you to filter the layer based on field values in the attribute table. Please be aware that you cannot make changes using the Geography Review tool.

Click here to review the GUPS technical instructions for the General Geography and Change Review.

2.11 Validation Check

The GUPS contains a validation check tool that will identify any non-closed polygons. A non-closed polygon is a polygon where you have placed one or more "must-hold" block boundary flags on features but the features, when combined with the planned block boundaries, do not "close" to form a census block. The tool provides the opportunity for you to refine your suggested block boundaries if non-closed polygons are present.

Click here to review the GUPS technical instructions for the Validation Check.

2.12 Work Delegated?

The Census Bureau works with the State Redistricting Data Program nonpartisan Liaison who is designated by the governor and legislative leadership of the state. To maintain this nonpartisan relationship, the Census Bureau only accepts completed work from the designated State Restricting Data Program Liaison.

YES: Work was performed by someone other than the State Redistricting Data Program (RDP) Liaison.

Any work performed on behalf of the State Redistricting Data Program Liaison, such as by a county or a contractor, must be submitted to the State for review and approval. The State RDP Liaison will submit the work to the Census Bureau if they approve the work. If the State RDP Liaison determines that BBSP work completed by a designee requires changes or additional work, it is the State's responsibility to decide whether to make the changes at the state level or return the project to the original delineator for further updates.

NO: State RDP LIAISON performed the work.

The State RDP Liaison submits completed, county-level files on flow basis to the Census Bureau through the Bureau's Secure Web Incoming Module (SWIM). Do not hold files to submit all at once. Submit files as you complete them, especially at the beginning of the update process, so that the Census Bureau can provide feedback if there are errors, omissions, or other concerns.

3 File Submission Through SWIM

The Secure Web Incoming Module (SWIM) is a tool for U.S. Census Bureau partners to send their geospatial data to a Census Bureau server. For security reasons, we cannot accept files sent via email or through our former ftp site.

The Census Bureau provides each State Redistricting Data Program Liaison a SWIM token to establish a personal SWIM account. Once registered, you will no longer need the token to log into the system. You will use your SWIM account to submit updates for all phases of the 2020 Redistricting Data Program. If you are a participant for other Census Bureau geographic programs, you may use your SWIM account to submit files for these other geographic programs, too.

NOTE: For the Redistricting Data Program, including the Phase 1 Block Boundary Suggestion Project, the Census Bureau will only accept files submitted by the State RDP Liaison. If a county, agency, or contractor performs work on behalf of the state, the files must be sent to the State for review, approval, and submission.

Click here to review the technical instructions for submitting files through the Secure Web Incoming Module (SWIM).

PART 2:
MAKING BLOCK BOUNDARY SUGGESTIONS USING THE GUPS (Geographic Update Partnership Software)

Figure 4.1 on the following page depicts the *Suggested BBSP Workflow* for reviewing and updating Census Bureau data using the Geographic Update Partnership Software (GUPS). Step-by-step instructions for performing the workflow activities are outlined in separate headings in (this) Part 2 of the User's Guide. To help you determine where you are in the workflow process, a small, stylized version of the *Suggested BBSP Workflow* diagram with the section's activity highlighted, accompanies the section heading.

A state participating in the Block Boundary Suggestion Program may decide to perform the work in-house or delegate the work to their state's counties or a contractor. If the state delegates the work, completed files must be returned to the state for review, approval, and submission. Only the designated State Redistricting Data Program Liaison may submit completed work to the Census Bureau.

Section 5, GUPS Basics: Map Management, View and Tools, provides a general overview of the Geographic Update Partnership Software. The BBSP-specific updating activities, after the GUPS has been installed, starts in Section 6.

A BBSP participant is not required to perform all update activities shown in the workflow diagram. The area landmark, legal boundary, block area grouping, and point landmark reviews are all optional. We suggest, however, that you make the decision whether to perform each of these review/update activities based on your State's redistricting requirements and resources available. States with laws that require the re-allocation of prison populations for the purposes of redistricting may wish to review the area landmarks with the MTFCCs that represent prisons (K1235, K 1236, K1237, and K1238). Since legal boundaries are always tabulation block boundaries, all states may wish to review the legal boundaries, as reflected in the Census Bureau data, to ensure they are accurate as of the review date. States with numerous islands may wish to create block area groupings (BAGs) for 2020.

The Geographic Update Partnership Software contains a validation tool to ensure that BBSP updates meet the established criteria and submission files meet Census Bureau processing requirements. Although the validation tool is included as a later step in the BBSP workflow, the validation tool can be initiated at any time during update work. We suggest that the validation tool be utilized early during the review and update process and then periodically afterwards to lessen the possibility of extensive rework later.

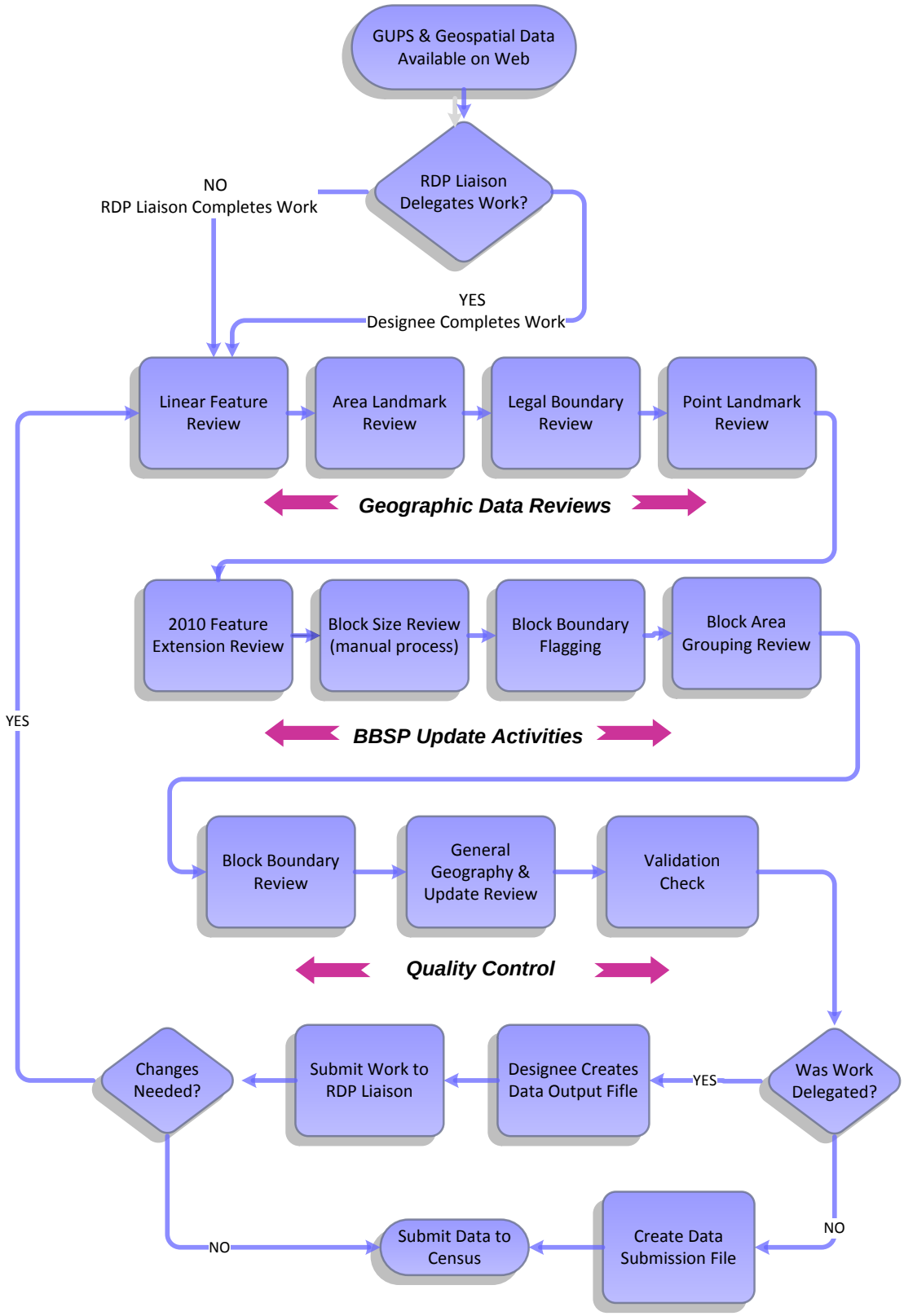


Figure 4.1 Suggested BBSP Workflow

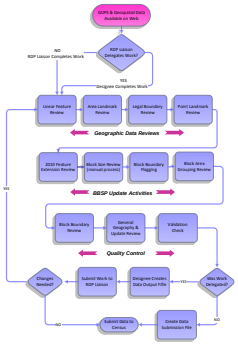
4 GETTING STARTED

4.1 System and Hardware Requirements

The Geographic Update Partnership Software (GUPS) was developed for use in a desktop PC or network environment. GUPS supports 64 bit Windows Operating Systems (Windows XP, Windows Vista, Windows 7, Windows 8). It can also be used with a Windows bridge from an Apple iOS. The suggested bridge software is Red Hat, available at http://www.redhat.com/download/howto_download.html+++.

Depending on your Windows OS version, the GUPS dialog boxes may have a different appearance than the screenshots contained in the user guide, although the content should be the same.

4.2 Acquiring the GUPS and Spatial Data; Installation and Access



This section will need to be rewritten to accommodate the GUPS webpage, when functional. To download the GUPS software, visit the Census Redistricting & Voting Rights Data Office website: http://www.census.gov/rdo/data/ and follow the directions posted.

To download the Census Bureau's partnership shapefiles for your state, visit:
http://www.census.gov/geo/partnerships/bas/bas_download.html
Choose the 2016 Partnership Shapefile.

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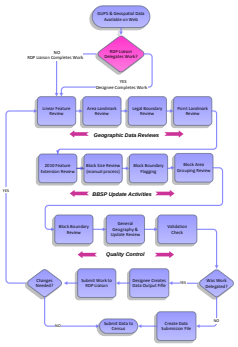
4.3 RDP Liaison Delegates Work?



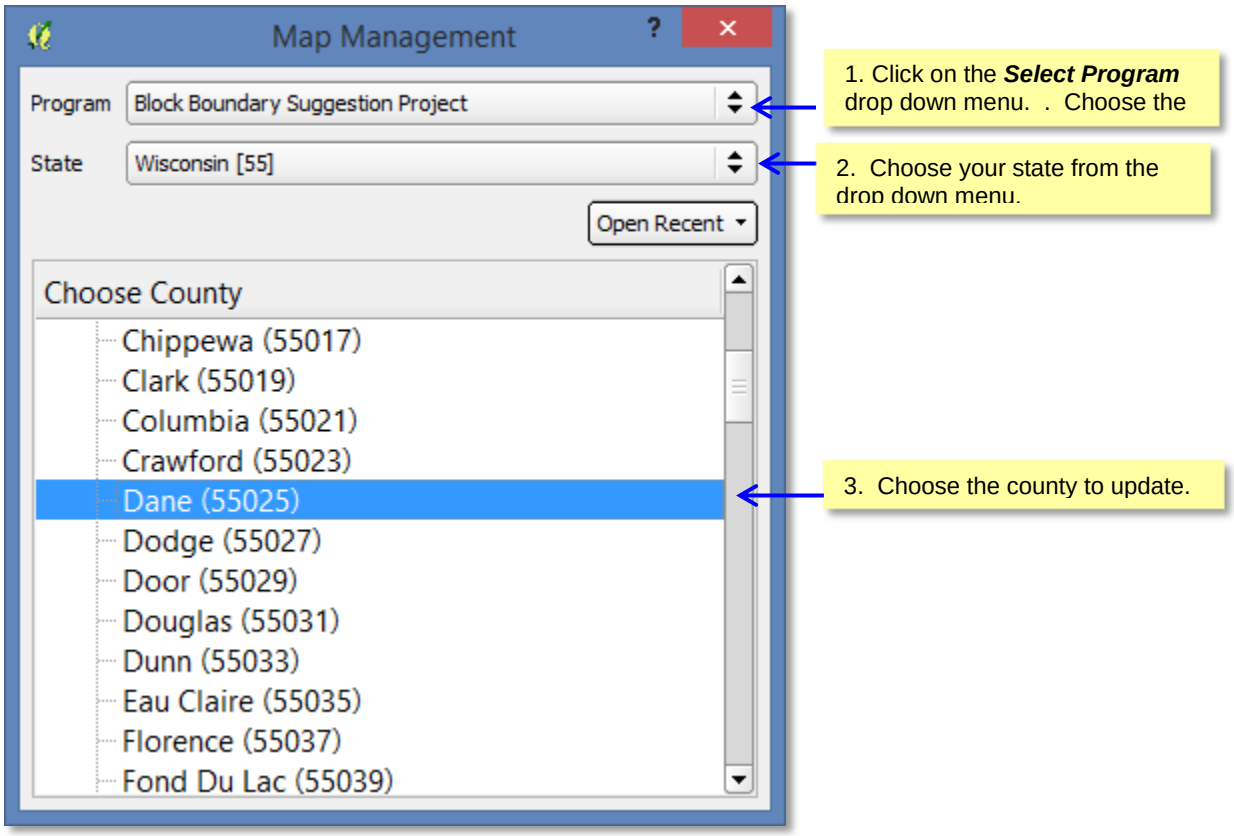
The State Redistricting Data Program Liaison may choose to delegate work to an agency, a county or counties, or a contractor. In this document, these persons as collectively referred to as designees. Regardless of who performs the BBSP work, the file updating process is the same. The difference is that only the State RDP Liaison may submit completed work to the Census Bureau. The GUPS software creates different data output files, depending on whether the work was completed by the RDP liaison or a designee. The information regarding the data output creation is contained in Section 6.

5 GUPS Basics: Map Management, View and Tools

5.1 Starting GUPS (Map Management)

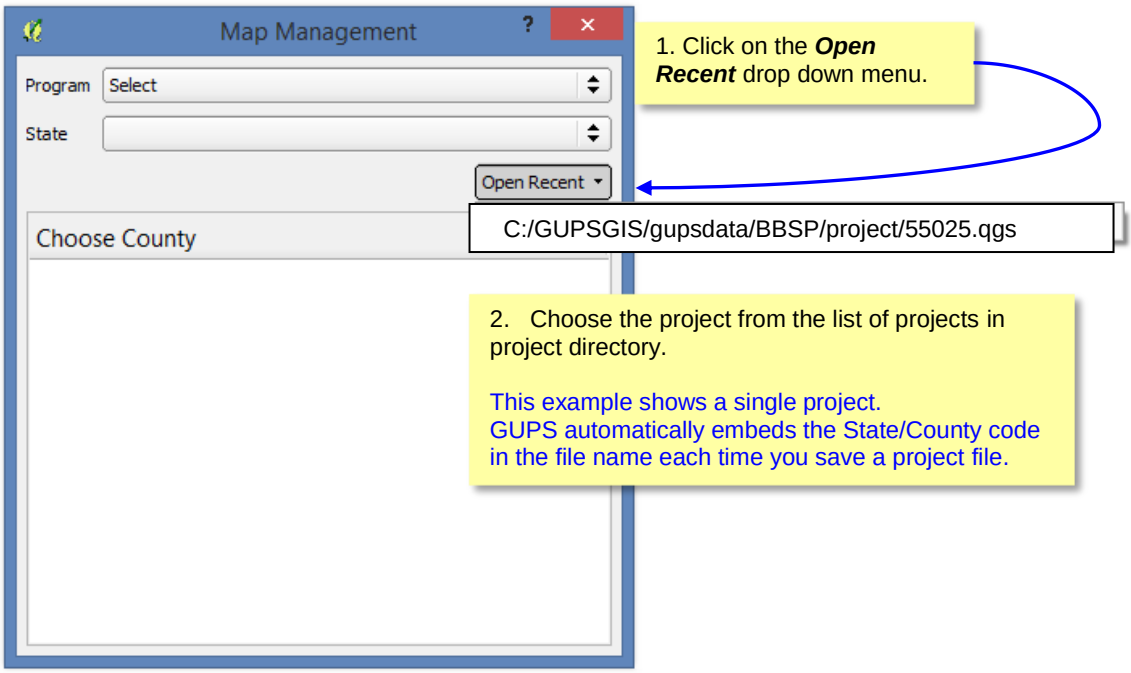
After successfully installing the Geographic Update Partnership Software you are ready to start your partnership program project. The **Map Management** dialog box automatically opens each time the GUPS starts.

If you have not yet started a GUPS project:



The GUPS automatically loads the default data layers for the project chosen and opens the map.

If you have already started a project on which you want to continue working:



5.2 Page Layout

Figure 5.1 below illustrates the GUPS page layout. The page components are labeled within the component boundaries, shown in blue, including the Menu & Toolbars, the Map View, the Table of Contents, the Side Toolbar, and the Status Bar.

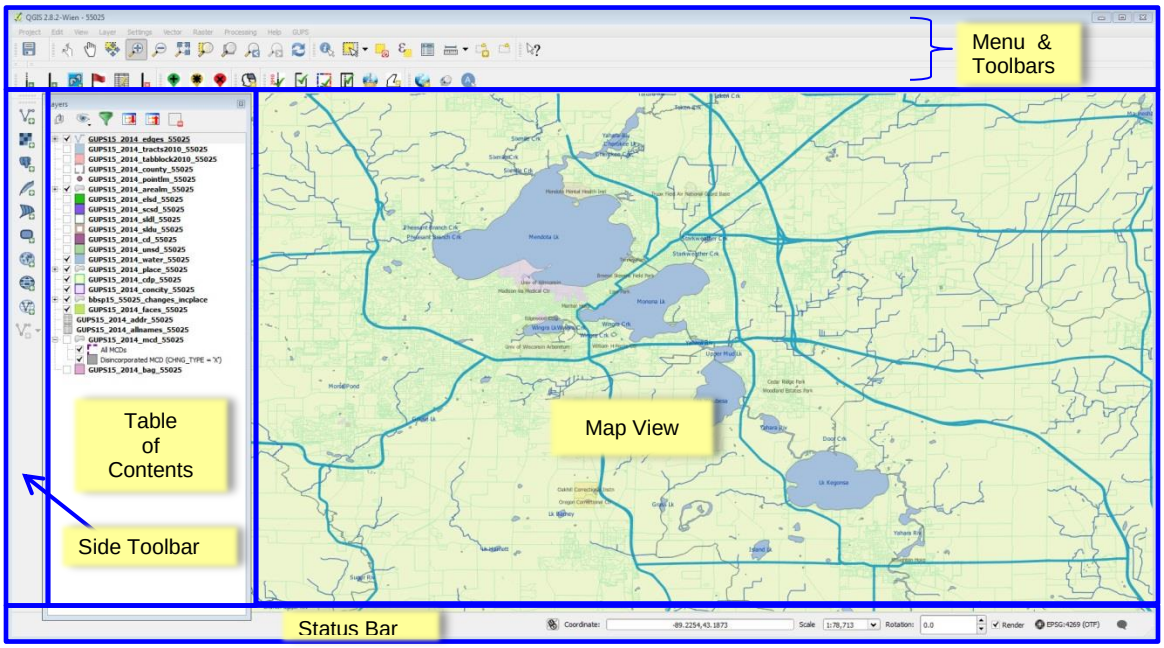


Figure 5.X GUPS Page Layout

5.1.1 Map View

This area displays the map of the data layers automatically loaded by the GUPS for the program you selected in Map Management. You can turn layers on and off, adjust their symbology, pan around the map or zoom in and out. The map and the table of contents are interdependent: changes you make in the table of contents are reflected on the map.

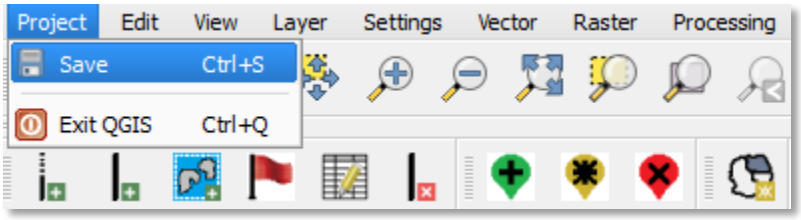
5.1.2 Menu and Toolbars

The menu bar at the very top of the page window allows you to access GUPS features using a standard hierarchical menu. The toolbar in the middle provides basic map navigation.
The toolbar at the bottom provides software functions specific to the Block Boundary Suggestion Program.

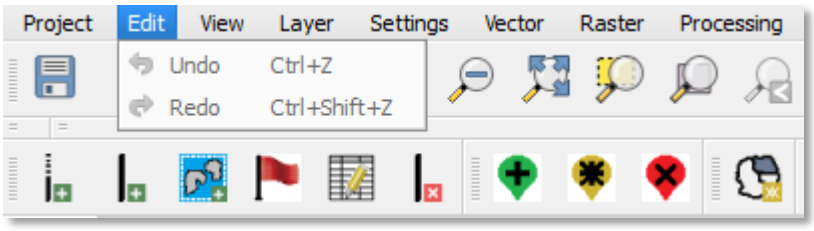
Figure 5.3 GUPS Menu/Toolbars

5.1.2.1 Menu Bar

The menu bar allows you to access GUPS using a standard hierarchical menu. The top-level menu, drop-down menus, and menu functions are listed below.

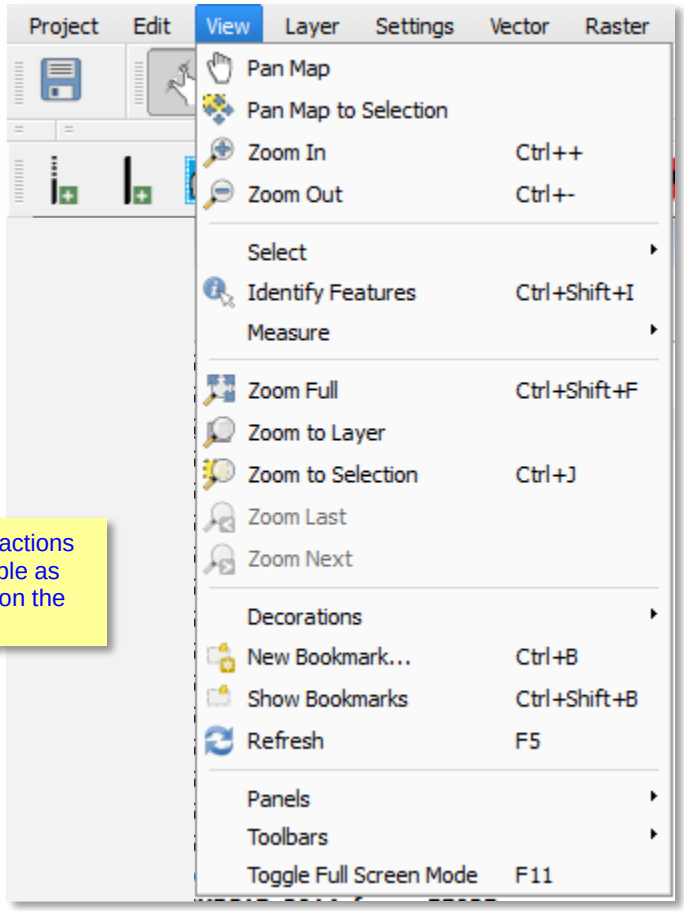


Project Each GUPS session is considered a project. GUPS works on one project at a time. Default settings are loaded each time you start a new project. If you change the default settings for a project, your changes will be automatically saved when you save your project. When you re-open a project, the map view automatically defaults to the map view when you last saved the project.



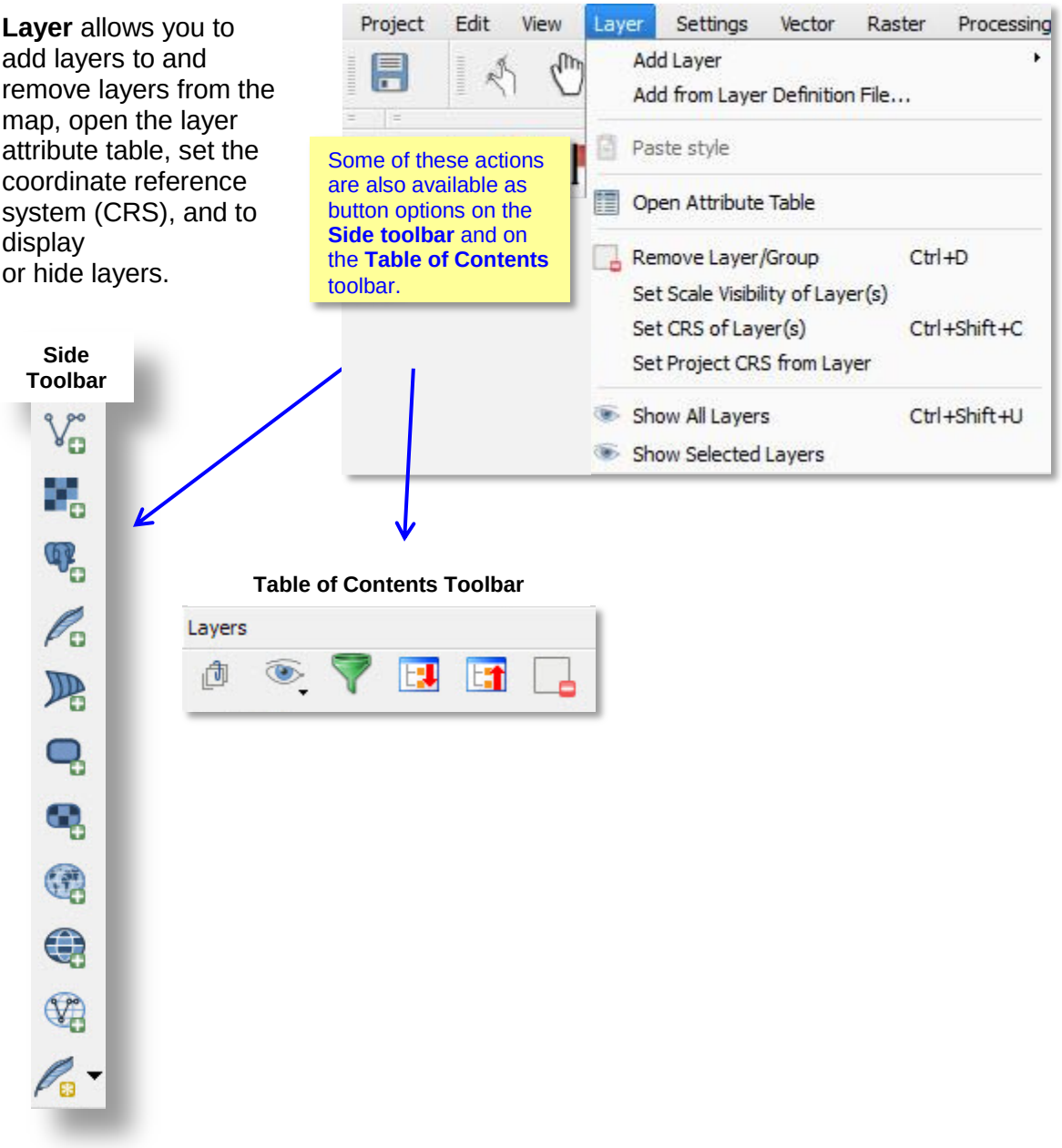
Edit allows you to Undo and Redo the last user actions.

View allows you to control the display of the map in the map window. You can view the attributes of features, measure distances and create spatial bookmarks to return to the same map view at a later time. You can refresh the map view. You can refresh the map view to restore it to the original map extent.



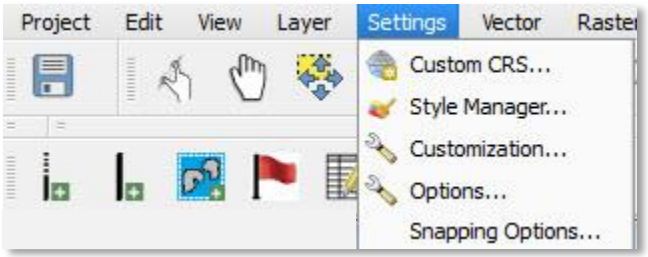
Many of these actions are also available as button options on the GUPS toolbar.

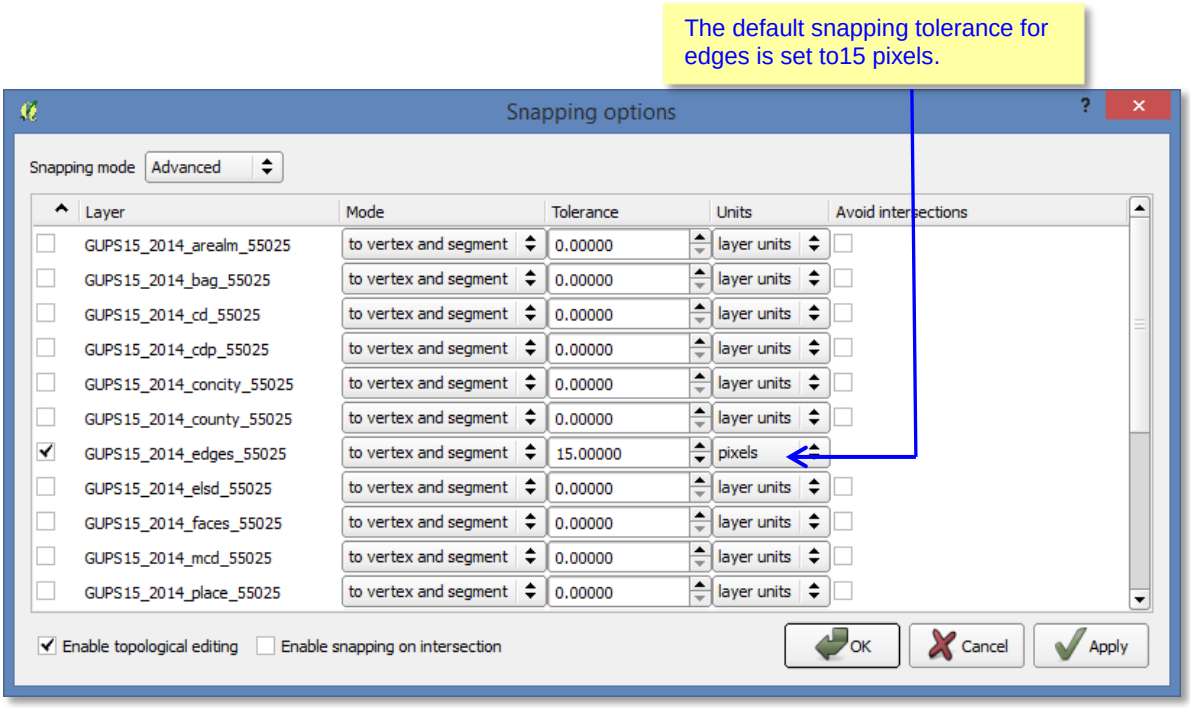
Layer allows you to add layers to and remove layers from the map, open the layer attribute table, set the coordinate reference system (CRS), and to display
or hide layers.



Settings allows you to customize the Coordinate Reference System, customize map display options, and set snapping tolerances.

The snapping tolerances in the GUPS are pre-defined by layer. The default snapping tolerance for edges is set to 15 pixels, as shown in the figure below.



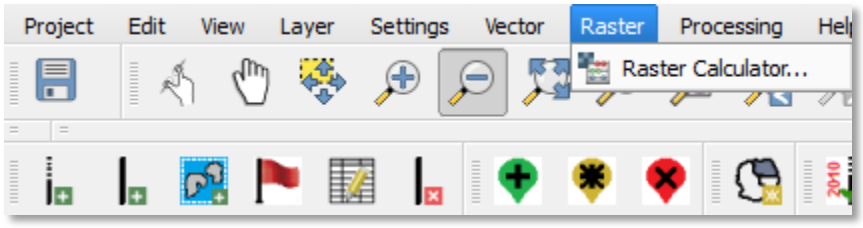


You can adjust the snapping tolerance for a layer. You may wish reset the snapping tolerances to make boundary corrections. Please be aware that we often cannot make small boundary adjustments submitted by participants because MAF/TIGER System is a fully integrated topological database.

Vector

The Vector Menu a includes a submenu for Geoprocessing Tools. The Geoprocessing Tools menu will allow you to create buffers around features, overlay areas so that you can create an intersection, union, or symmetrical difference, merge features, and perform other common geoprocessing actions.

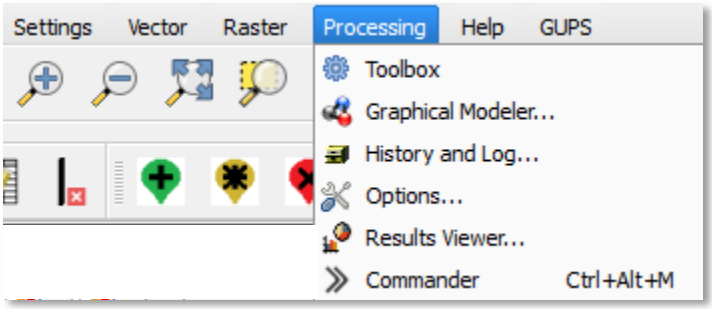
Raster



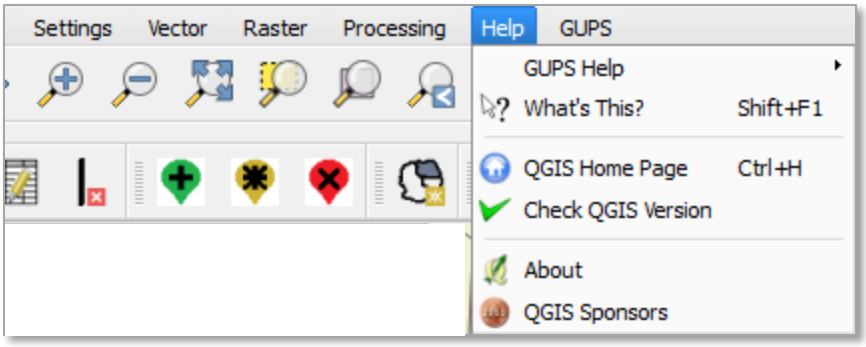
The Raster Calculator in the Raster menu allows you to perform calculations on the basis of existing

raster pixel values.

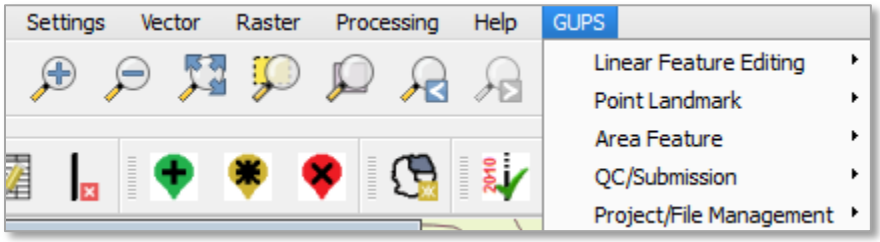
Processing
Although available to the GUPS user, the processing menu options are not required for Census Bureau geographic program participation. The sub menus all pertain to algorithms, creating models, viewing the results of algorithms executed, and history.



Help provides access to common GUPS questions by clicking on the GUPS help icon.



GUPS provides another way to access the tools for BBSP updating and file submission.



5.1.2.2 Toolbars

There are two toolbars for the Geographic Update Partnership Software, as shown in Figure 5.x. The top toolbar is the GUPS toolbar, which provides map navigation tools. The bottom toolbar provides the functionality needed to each geographic partnership program. The BBSP toolbar is shown in this example.

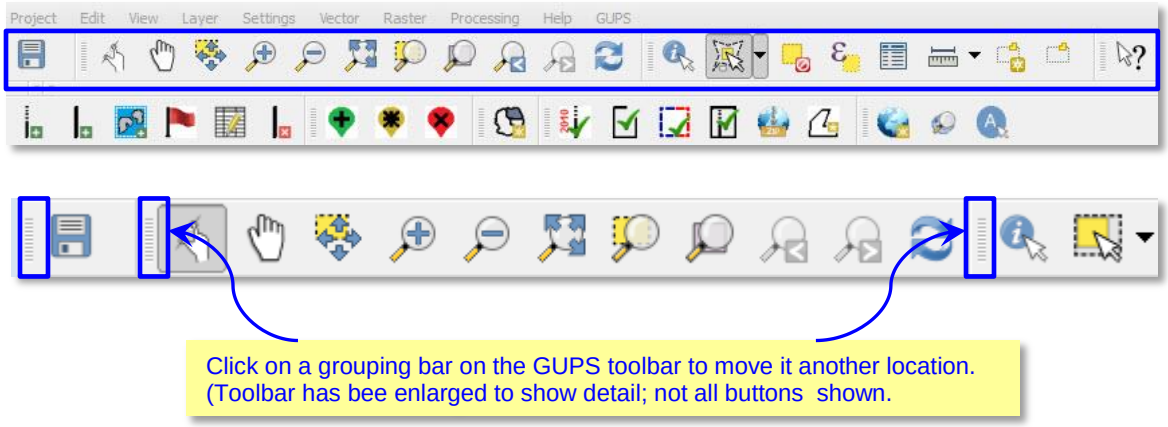
Figure 5.X GUPS Menu and Toolbars

You can resize the toolbars and reposition them by dragging to your desired location. They can float on the desktop or be docked along the outer edges of the GUPS page.

The GUPS toolbar and BBSP toolbar buttons, names, and functions are highlighted in separate sections below. If you hover your mouse over a button when you are in the GUPS application, you will see the tool description and how to use it.

GUPS Toolbar Functions

The GUPS toolbar provides the navigation tools needed to interact with the map and layers' attribute tables.
It is comprised of 4 separate toolbars, identified by the grouping bars on the tool. The first toolbar contains the button for saving projects, the second contains the tool buttons for map navigation, the third provides tools for selecting features, making measurements, creating spatial bookmarks, and working the layers' attribute tables, and the last contains the What's This? tool.



The toolbar buttons, names, and functions are shown below.

Button	Name	Function
	Save	Saves the current GUPS county project, including any user changes to layer properties, projection, last viewed extent, layers added.
	Touch Zoom and Pan	Designed for touchscreen computers. Enables user to zoom and pan the map using finger gestures.
	Pan Map	Shifts the map in the display window without changing the map scale.
	Pan Map to Selection	Shifts the map in the display window to the rows selected in the attribute table.
	Zoom In	Displays the map in the window at a larger scale.
	Zoom Out	Displays the map in the window at a smaller scale.
	Zoom Full	Zooms the map view to the full extent of the county.
	Zoom to Selection	Zooms the map view to the rows selected by query in the attribute table.

	Zoom to Layer	Zooms the map view to the extent of the layer.
	Zoom Last	Zooms the map view to the previous map extent.
	Zoom Next	Zooms the map view forward to the next map extent.
	Refresh	Displays map view to initial full display.
	Identify Features	Identifies the geographic feature on which the user clicks.
	Select Features	Enables user to select layer features in the map window with a single click, dragging a box, or drawing graphics on the screen.
	Deselect Features From all Layers	Deselects selected features from all layers.
	Select Features by Expression	Allows attribute table records request by querying the table based on table fields and/or values in the fields.
	Open Attribute Table	Opens the attribute table for the active layer displayed in the map window.
	Open Field Calculator	Enables user to edit attribute table field values to set a value for a single record or multiple records.
	Measure	Provides options to measure linear distance, area, and angles on the map.
	New Bookmark	Enables user to create and name a spatial bookmark of the current map view.
	Show Bookmarks	Displays all bookmarks created by the user.
	What's This?	Displays GUPS page information.

Figure 5.X GUPS Toolbar Buttons

Saving a Map Project

When you save a county map you have created in GUPS (all GUPS projects are, by default, created at the county or county-equivalent level), it is saved with the state and county FIPS code (ssccc) and a file name extension (.qgs) automatically appended to the name. For example, a project for Dane County (county FIPS 025), Wisconsin (state FIPS 55) is saved with filename 55025.qgs. Any settings changes you have made are also saved in the project and restored the next time you load the project.

You can return to working on a county at any time by clicking on the **Open Recent** button in the Map Management window you open GUPS You must first select a program.

Map Navigation: Zooming and Panning

You can use the various buttons on map navigation section of the toolbar to manipulate the map view.

A click on the **Touch and Zoom** button functions on a touchscreen computer. You can zoom in and out on the map to increase or decrease the map scale with finger gestures.

A click on the **Pan** button re-centers the map at the location you click on the map.

A click on the **Pan to Selection** button after selecting a feature on the map re-centers the map based on the selected feature(s).

A click on the **Zoom-in** button increases the map scale when you click on the map.

A click on the **Zoom-out** button decreases the map scale when you click on the map.

A click on the **Zoom Full** button allows you to view the full extent of your map.

A click on the **Zoom to Selection** button after selecting a feature on the map allows you to view the feature at a greater map scale.

A click on the **Zoom to Layer** button after selecting a layer in the table of contents zooms the map view to the layer's extent.

A click on the **Zoom Last** button will return you to the previous map view extent.

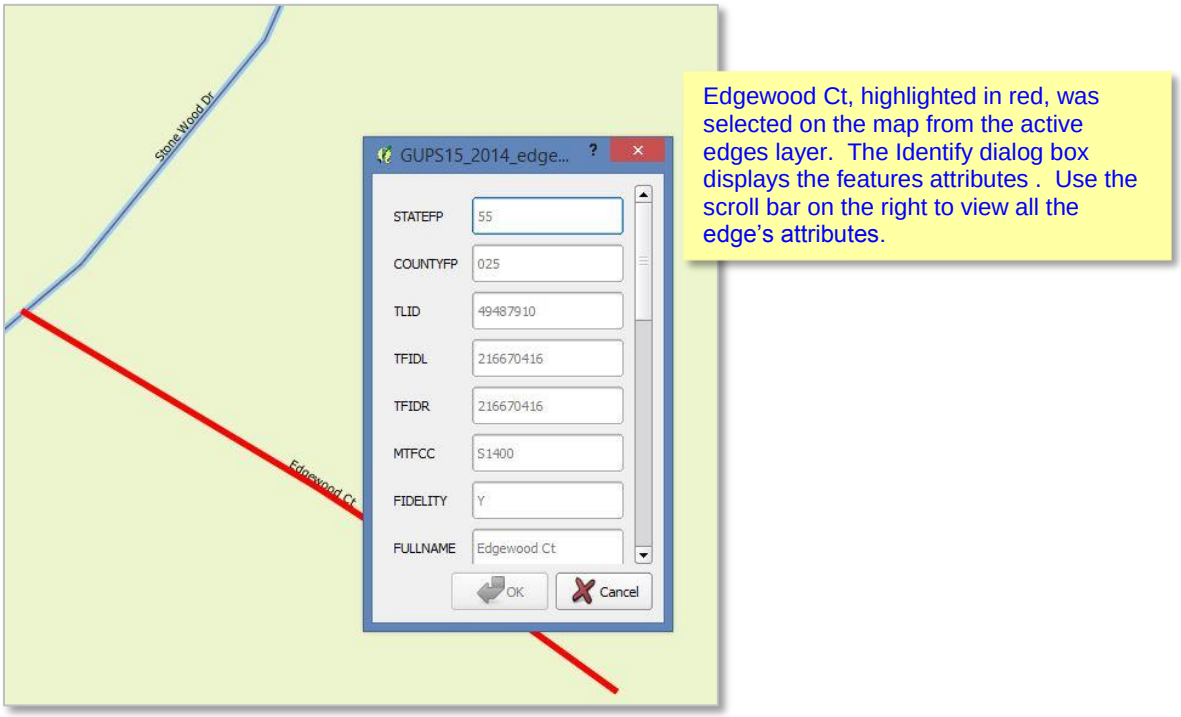
A click on the **Zoom Next** button allows you to go forward to the next map view extent.

A click on the **Refresh View** button

Before editing a layer, you should always zoom in to your area of interest to ensure that any updates you make are spatially accurate.

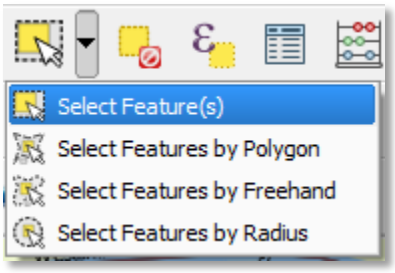
Selecting and Identifying Features, Making Measurements, Creating Spatial Bookmarks, and Working With the Attribute Table

A click on the **Identify** button, followed by a click on a feature on the map identifies the feature at the location. Results are displayed in the Identify window.



Selecting and Deselecting Features

A click on the **Select Features** button allows you to select features several ways.



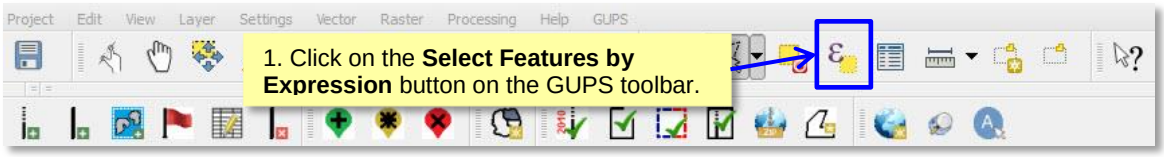
To select a single feature, click the **Select Features** button, choose **Select Feature(s)** from the drop down menu, and click the feature on the map. To select

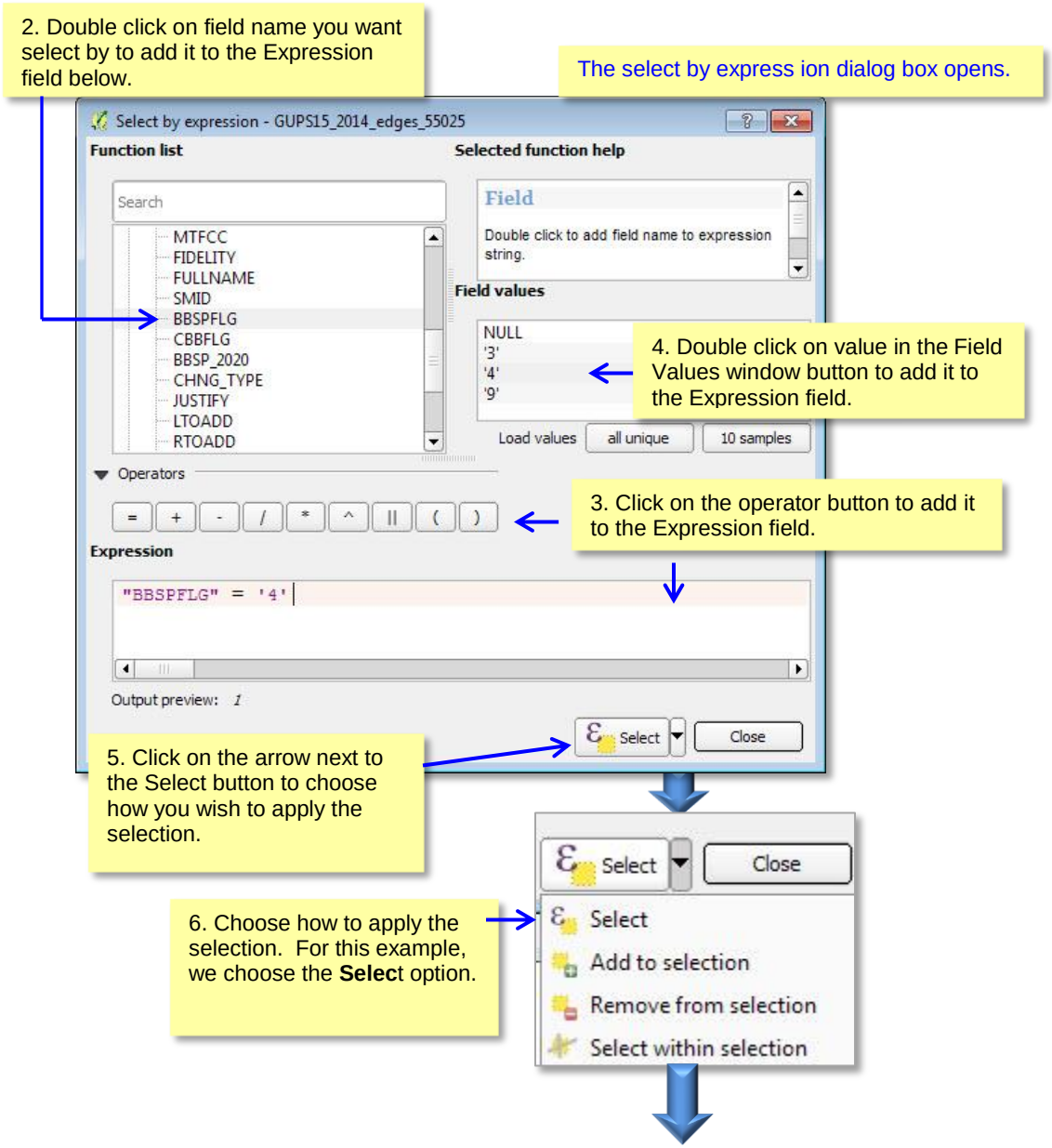
multiple features, hold down the SHIFT key as you select the features. To remove one or more features from a selection of multiple features, hold down the SHIFT key and click the feature(s) again.

You can also select multiple features graphically dragging a box around them. You can also use Select Features by Polygon, Select Features by Freehand, and Select Features by Radius tools to select features using graphics you draw on the screen.

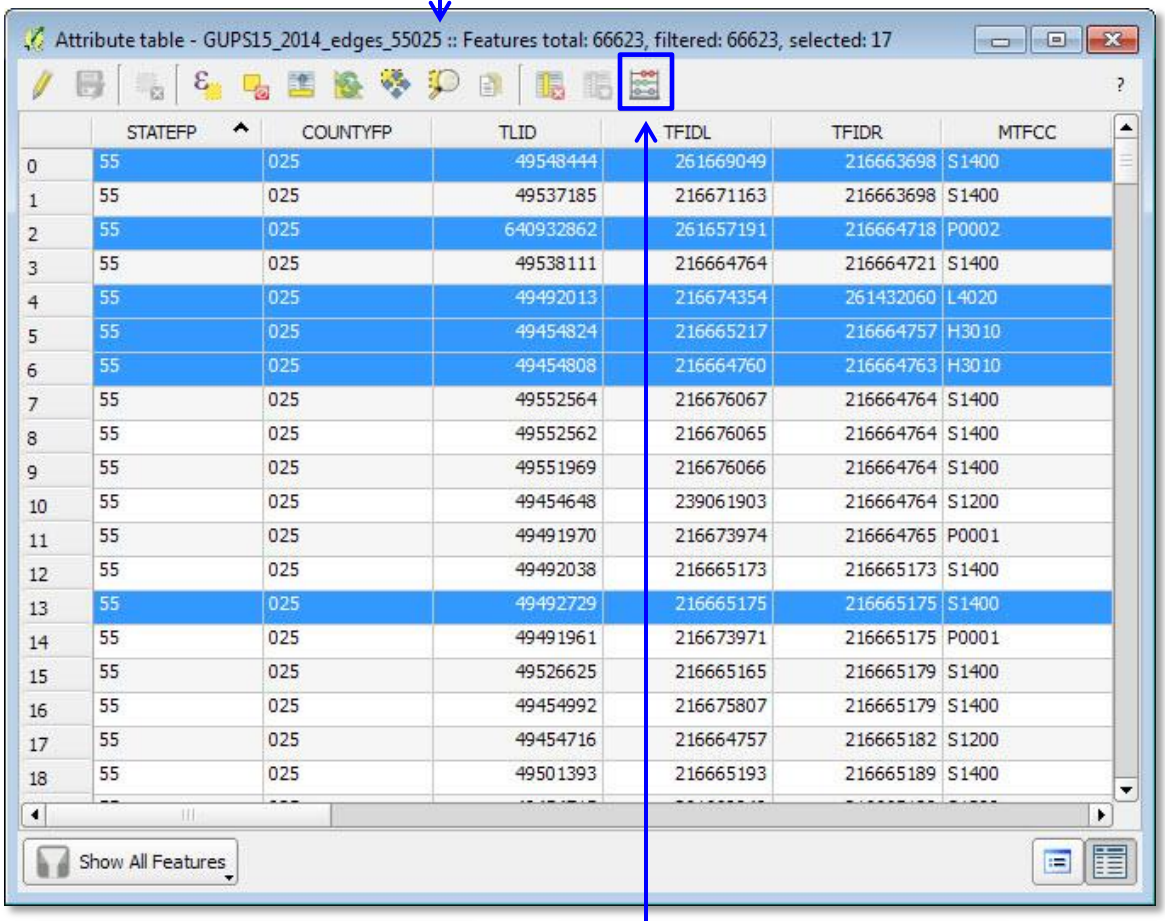
A click on the **Deselect Features** button deselects the selected features in all layers in a single action.

A click on the **Select Features by Expression** button allows you to select features by querying the attribute table.

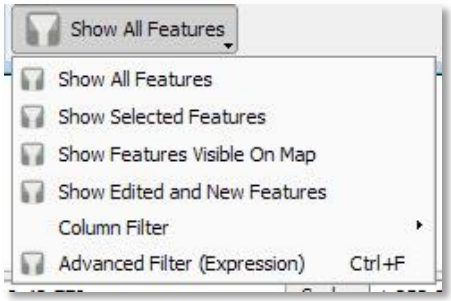




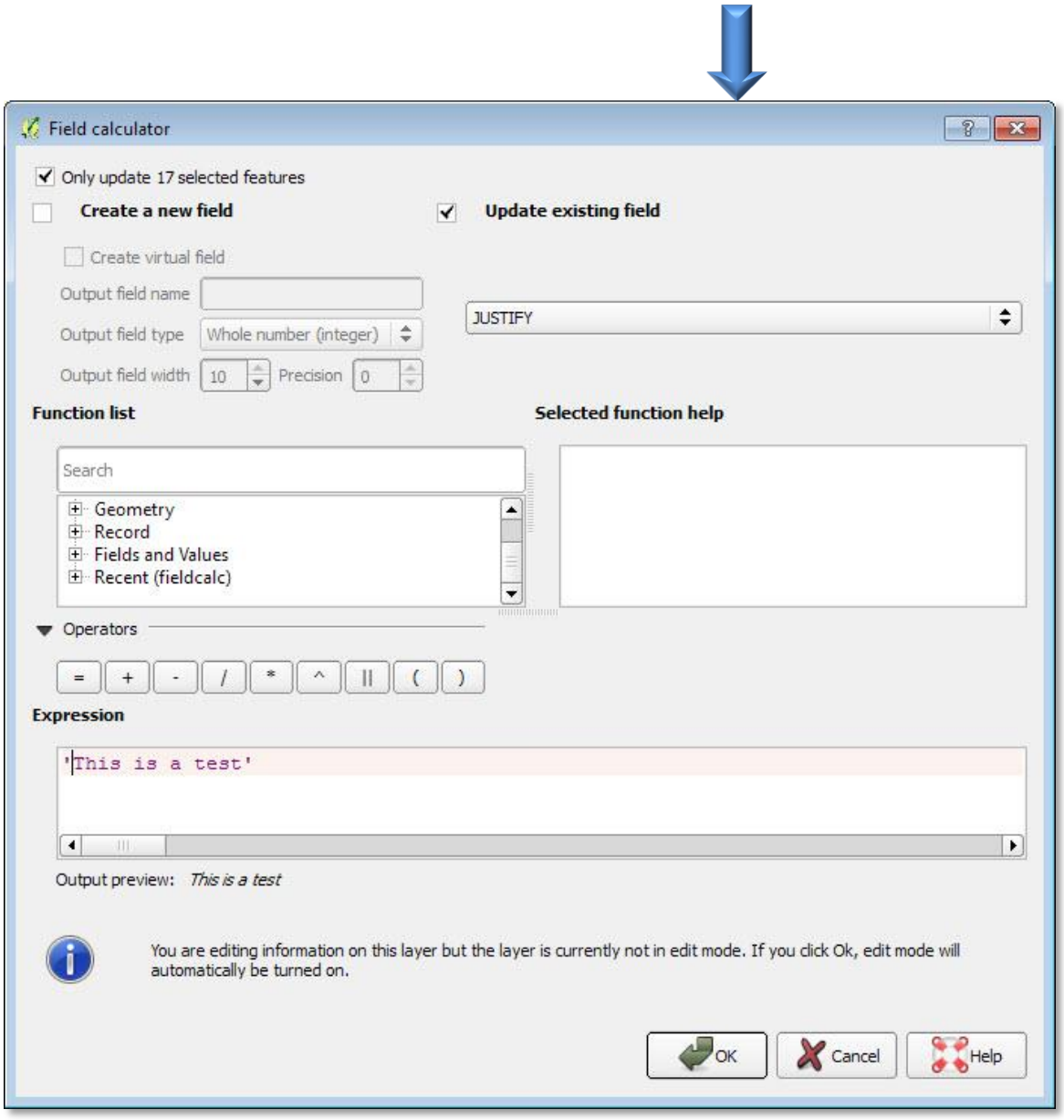
The attribute table for the edges layer opens. There are 17 edges in the file that meet the expression BBSP = 4.



	STATEFP	COUNTYFP	TLID	TFIDL	TFIDR	MTFCC
0	55	025	49548444	261669049	216663698	S1400
1	55	025	49537185	216671163	216663698	S1400
2	55	025	640932862	261657191	216664718	P0002
3	55	025	49538111	216664764	216664721	S1400
4	55	025	49492013	216674354	261432060	L4020
5	55	025	49454824	216665217	216664757	H3010
6	55	025	49454808	216664760	216664763	H3010
7	55	025	49552564	216676067	216664764	S1400
8	55	025	49552562	216676065	216664764	S1400
9	55	025	49551969	216676066	216664764	S1400
10	55	025	49454648	239061903	216664764	S1200
11	55	025	49491970	216673974	216664765	P0001
12	55	025	49492038	216665173	216665173	S1400
13	55	025	49492729	216665175	216665175	S1400
14	55	025	49491961	216673971	216665175	P0001
15	55	025	49526625	216665165	216665179	S1400
16	55	025	49454992	216675807	216665179	S1400
17	55	025	49454716	216664757	216665182	S1200
18	55	025	49501393	216665193	216665189	S1400



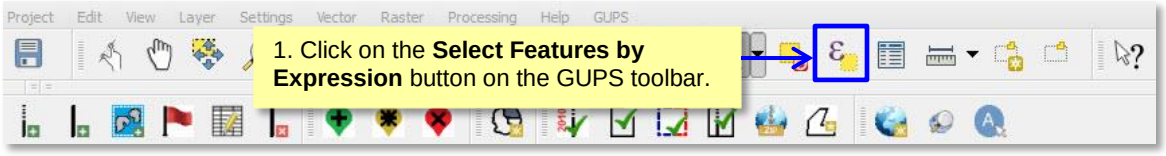
The Field Calculator button on the toolbar allows you to take a number of actions on the expression results, if you choose to do so.



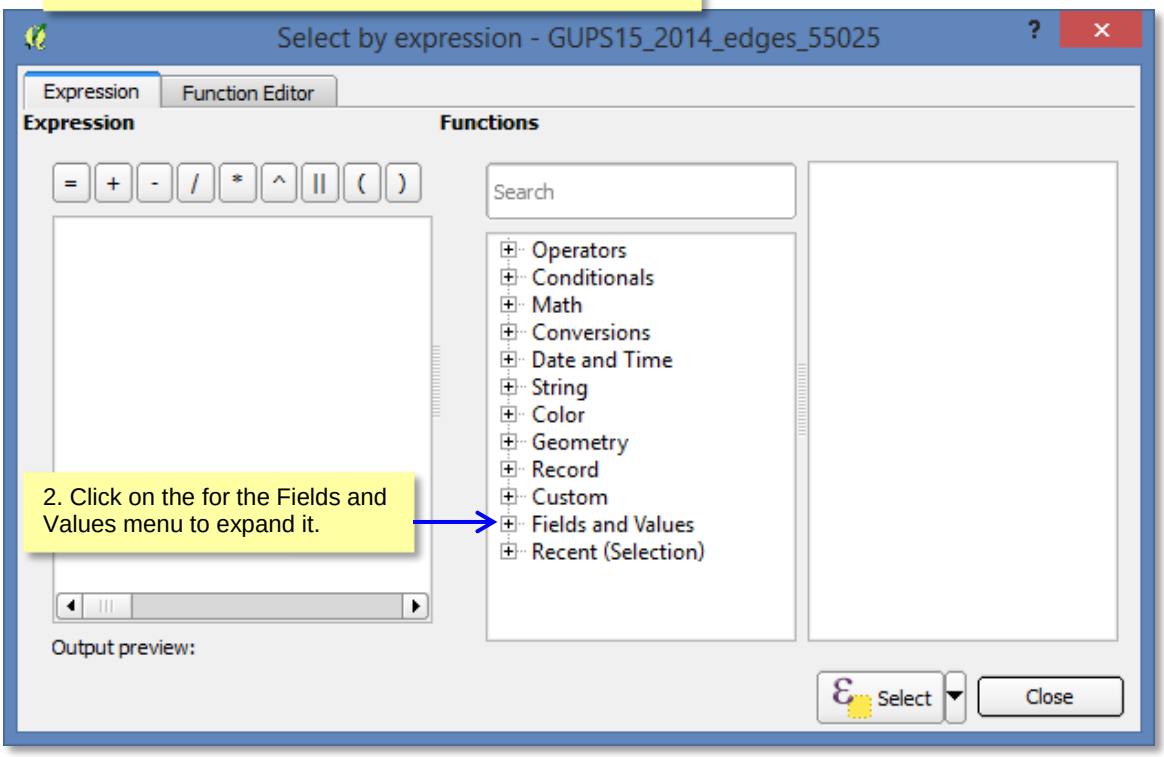
A click on the **Field Calculator** button allows you to create a new field from the records selected or update an existing field. You can apply the expression to just the selected records or to all the records in the table.

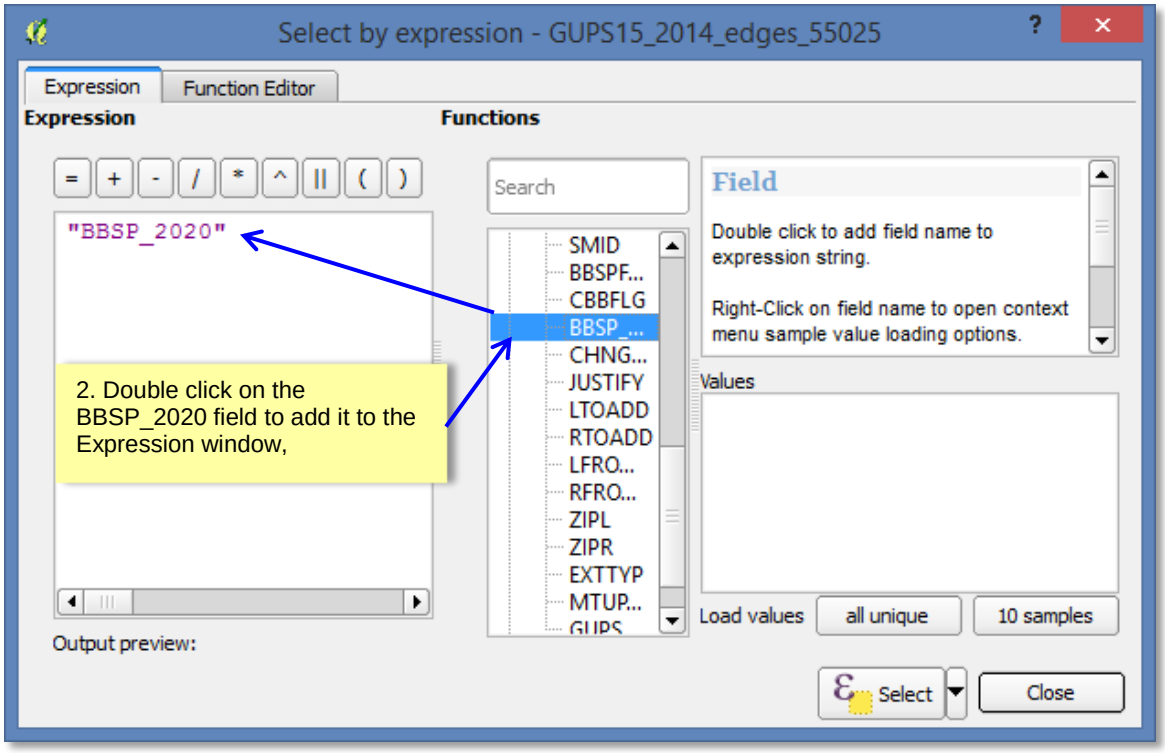
A click on the **Select Features by Expression** button allows you to select features by querying the attribute table.

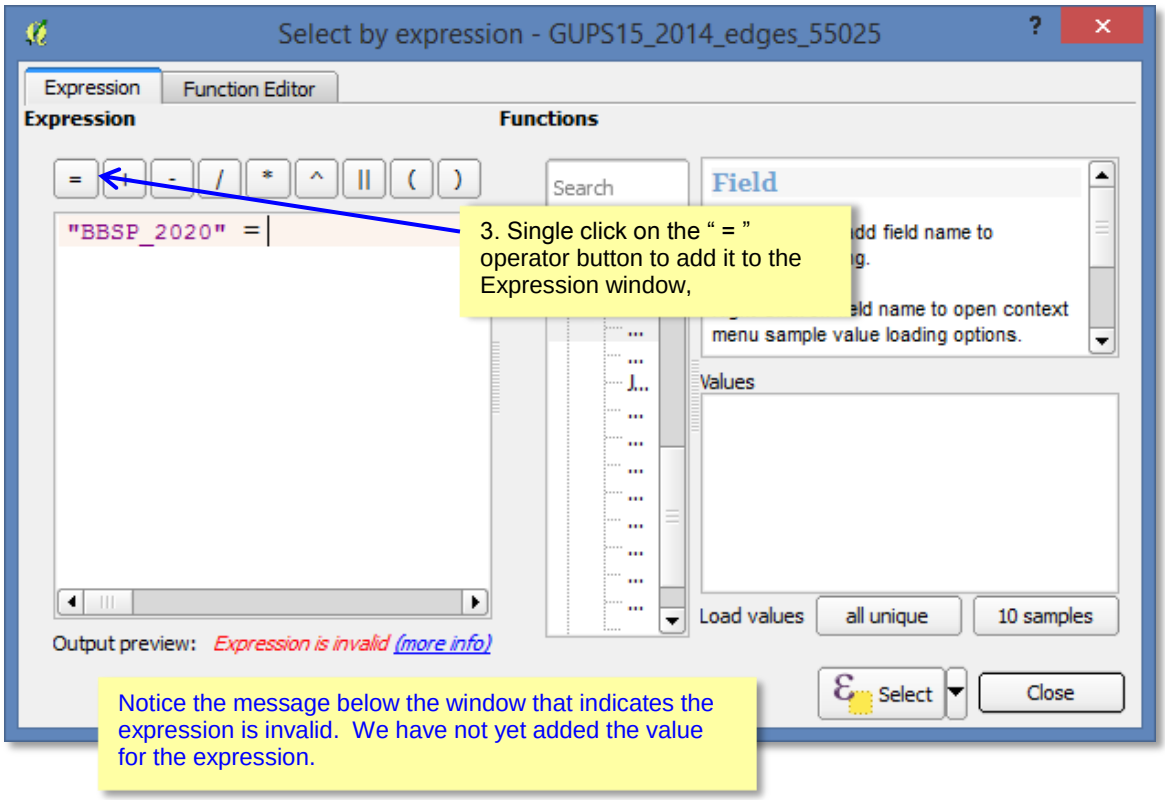
In this example, we want to view the features we have a assigned a *do not hold* flag.

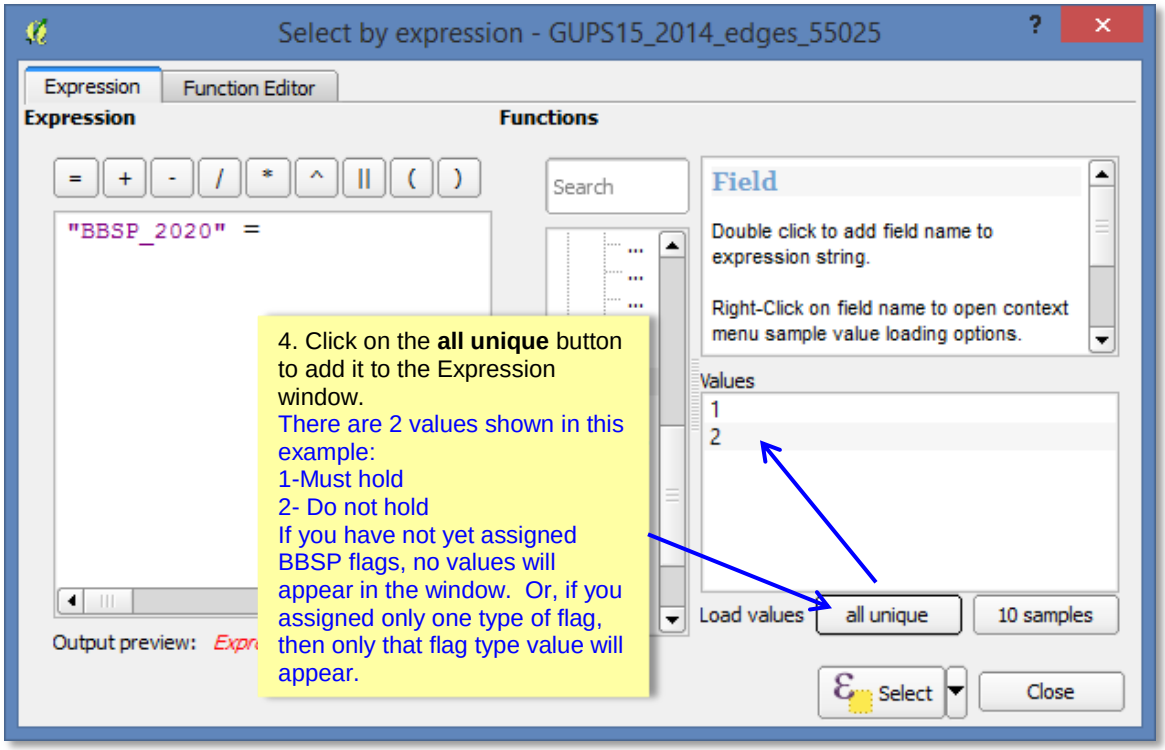


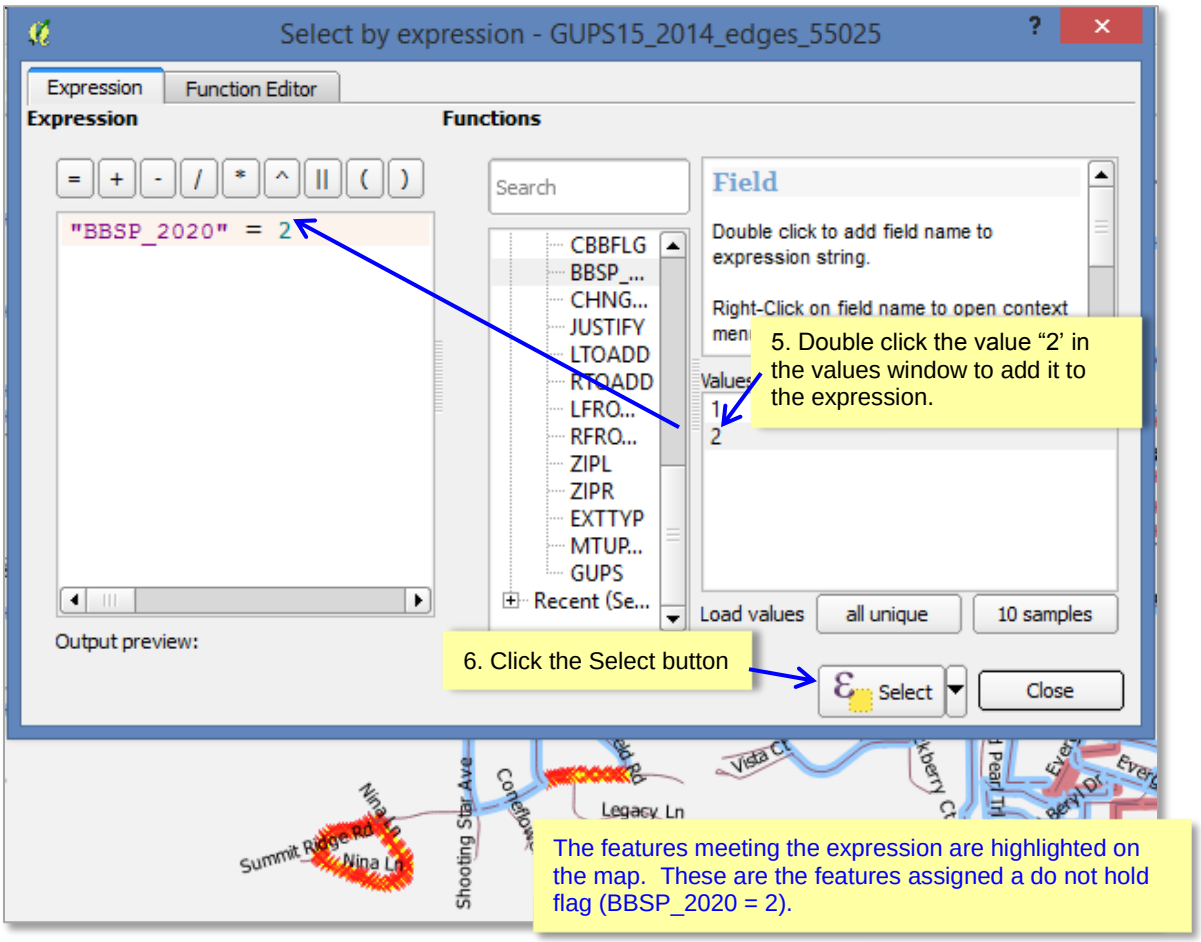
The **Select by Expression** dialog box opens.



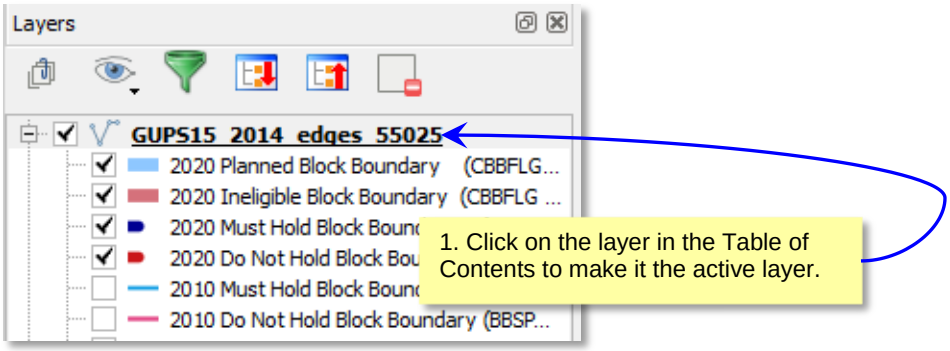

Select by expression - GUPS15_2014_edges_55025
Expression
Function Editor
Expression
Functions
"BBSP_2020"
Search
SMID
BBSPF...
CBBFLG
BBSP_...
CHNG...
JUSTIFY
LTOADD
RTOADD
LFRO...
RFRO...
ZIPL
ZIPR
EXTTYP
MTUP...
Field
Double click to add field name to expression string.
Right-Click on field name to open context menu sample value loading options.
Values
Load values
all unique
10 samples
Output preview:
Select
Close
2. Double click on the BBSP_2020 field to add it to the Expression window,

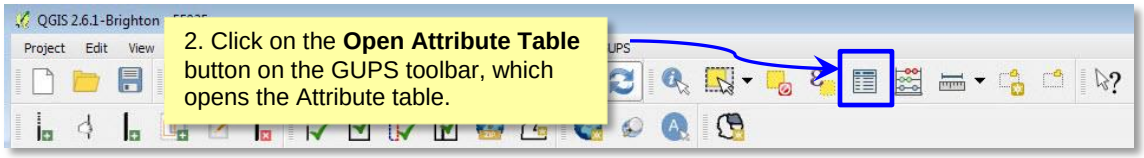

Select by expression - GUPS15_2014_edges_55025
Expression
Function Editor
Expression
Functions
"BBSP_2020" =
Search
Field
Values
Load values
all unique
10 samples
Output preview: Expression is invalid (more info)
Select
Close
3. Single click on the " = " operator button to add it to the Expression window,
Notice the message below the window that indicates the expression is invalid. We have not yet added the value for the expression.

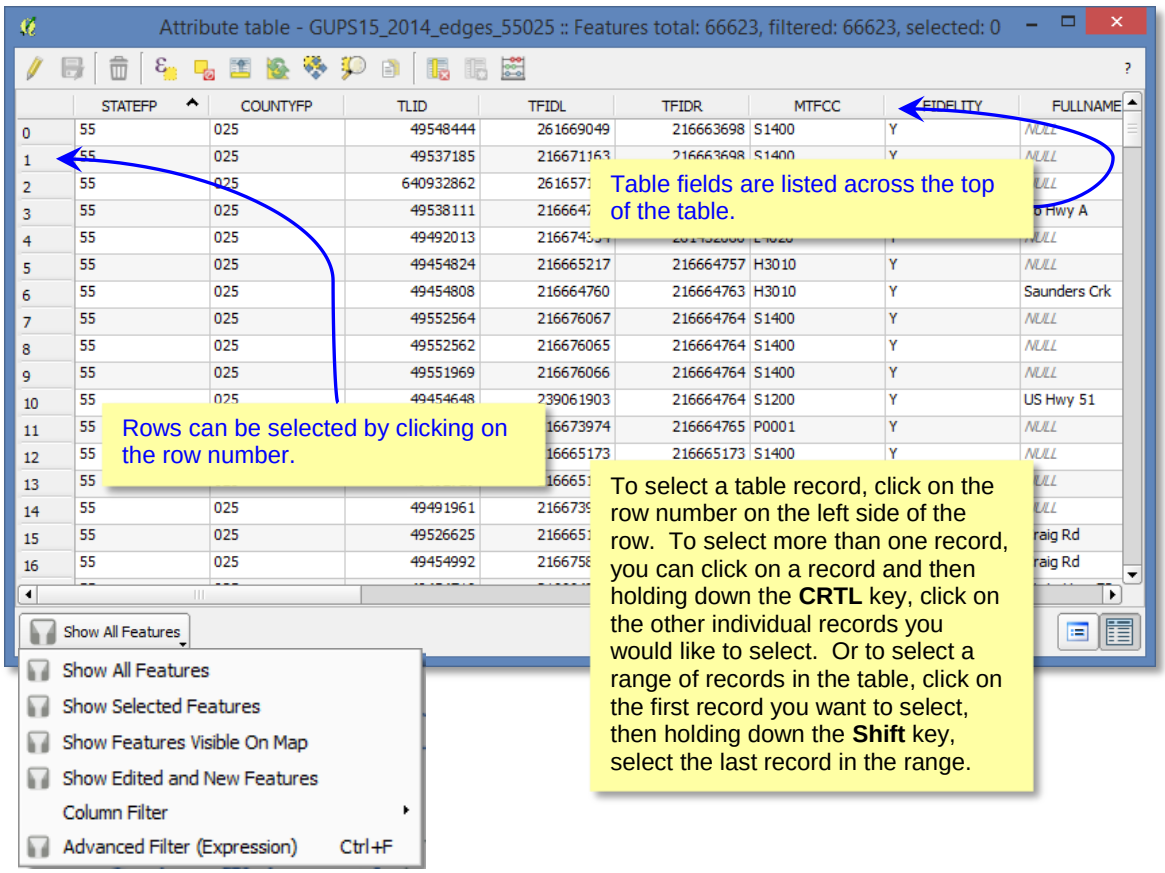

Select by expression - GUPS15_2014_edges_55025
Expression
Function Editor
Expression
Functions
= + - / * ^ || ( )
"BBSP_2020" =
Search
Field
Double click to add field name to expression string.
Right-Click on field name to open context menu sample value loading options.
Values
1
2
Load values
all unique
10 samples
Output preview:
Select
Close
4. Click on the **all unique** button to add it to the Expression window.
There are 2 values shown in this example:
1-Must hold
2- Do not hold
If you have not yet assigned BBSP flags, no values will appear in the window. Or, if you assigned only one type of flag, then only that flag type value will appear.


Select by expression - GUPS15_2014_edges_55025
Expression
Function Editor
Expression
Functions
= + - / * ^ || ( )
"BBSP_2020" = 2
Search
CBBFLG
BBSP_...
CHNG...
JUSTIFY
LTOADD
RTOADD
LFRO...
RFRO...
ZIPL
ZIPR
EXTTYP
MTUP...
GUPS
Recent (Se...
Field
Double click to add field name to expression string.
Values
1
2
Load values
all unique
10 samples
Output preview:
Select
Close
5. Double click the value "2' in the values window to add it to the expression.
6. Click the Select button
Summit Ridge Rd
Nina Ln
Shooting Star Ave
Legacy Ln
Vista Ct
The features meeting the expression are highlighted on the map. These are the features assigned a do not hold flag (BBSP_2020 = 2).

A click on the **Open Attribute Table** button allows you to view the attribute table for a layer on the map.







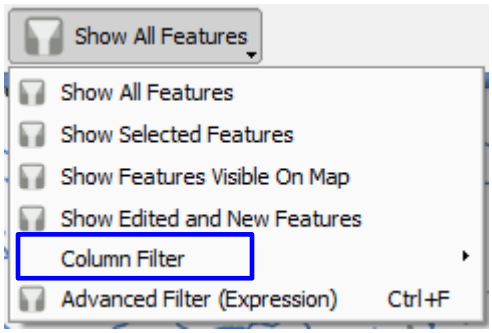
Using the Attribute Table Toolbars

THIS SECTION UNDER CONSTUCTION…

A click on the **Toggle Editing Mode button** enables you to… It also activates the **Save Edits** button and the XXXX Button.

The **Save Edits** button…

A click on the **Select Features Using an Expression** button allows you to select features by querying the attribute table. For a **simple search by attributes** on only one column, choose **Column Filter** from the menu in the bottom left corner of the attribute table. Select the field (column) on which the search should be performed from the drop-down menu, and click the **Apply** button. Then, only the matching features are shown in the attribute table.



A click on the **Unselect All** button…

A click on the **Move Selected to Top** button …

A click on the **Invert Selection** button…

A click on the **Pan to Selection** button…

A click on the **Zoom to Selection** button after selecting a feature on the map allows you to view the feature at a greater map scale.

Clicking on the **Copy to Clipboard** button allows you to…

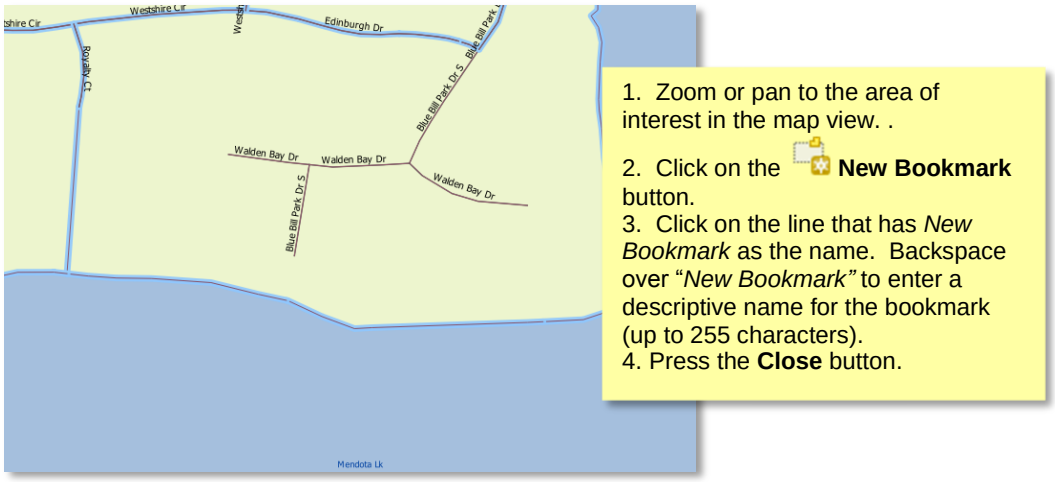
A click on the **Delete Attributes** …

A click on the **Add Column** button …

A click on the **Calculate Field** button allows calculations to be quickly applied to attributes visible in the table. This button uses the same expressions as the **Field Calculator** button on the main GUPS toolbar.

A click on the **Measure** button allows you to determine distance between two or more points on the map. Select the layer in the Table of Contents on which you want to measure to make it the active layer. Click on the first point on your map and continue clicking on points until you reach the final point. Each segment length, as well as the total length, appears in the Measure window.

A click on the **New Bookmark** button allows you to create and save geographic locations in your map view and return to them later. To create a bookmark:



1. Zoom or pan to the area of interest in the map view. .
2. Click on the **New Bookmark** button.
3. Click on the line that has *New Bookmark* as the name. Backspace over "*New Bookmark"* to enter a descriptive name for the bookmark (up to 255 characters).
4. Press the **Close** button.

A click on the **Show Bookmarks** buttons allows you to view and manage your spatial bookmarks. You cannot edit the bookmark name or coordinates. To zoom a bookmark, click on a bookmark name in the Geospatial Bookmarks dialog box and then click the **Zoom to** button. To delete a bookmark, click on the bookmark name , then press the Delete button.

A click on the **What's This?** button followed by a click in the page view indicates which part of the page you are viewing.

BBSP Toolbar

The BBSP toolbar provides the software functionality to complete the activities outlined in the Suggested BBSP Workflow diagram. The detailed explanations for using the BBSP toolbar buttons are contained in Section 6.

Button	Name	Function
	Add Feature Extension	Enables user to add a 2020 linear feature extension to create a closed polygon for a suggested 2020 tabulation block.
	Add Line	Enables user to add a linear feature to the Census Bureau's partnership shapefile.
	Add Block Area Grouping	Enables user to create a Block Area Grouping over water.
	Assign BBSP Flag	Enables user to assign a "must hold" or "do not hold" flag to a linear feature selected in the map window.
	Edit Attributes	Enables user to edit attribute fields for a selected feature.
	Delete Line	Enables user to delete a linear feature.
	Add Point Landmark	Enables user to add a point landmark.
	Edit Point Landmark	Enables user to modify the attributes of a point landmark.
	Delete Point Landmark	Enables user to Delete a point landmark.
	Modify Area Feature	Enables user to select faces (polygons) for adding and deleting area from area landmarks and legal entities, or to create a new entity or delete an existing one.
	Review 2010 Feature Extensions	Enables user to systematically review 2010 linear feature extensions to take an action for 2020 (Hold, Delete, Ignore).
	Closed Polygon Validation Check	Initiates a validation check to identify any non-closed polygons.
	Block Boundary Review	Enables user to systematically review features by BBSP category (Hold, Do not Hold, NULL?).
	Geography Review	Enables user to review the attribute table by field values for all data layers.

	Export to .zip File	Creates the .zip file containing all required data and shapefiles to be submitted to the Census Bureau.
	Review Change Polygons	Enables user to review the transaction polygons for area landmarks, area hydrography, and legal geography updates and make further updates
	Map Management	Allows the user to choose the geographic participant program in GUPS. Automatically loads the default map display layers based on program chosen.
	Search	Enables user to search the map.by census tract, block, landmark or street name and be zoomed to the feature.
	Display All Names	Displays all names for a street with multiple names assigned in the MAF/TIGER System..

Figure 5.X BBSP Toolbar Buttons

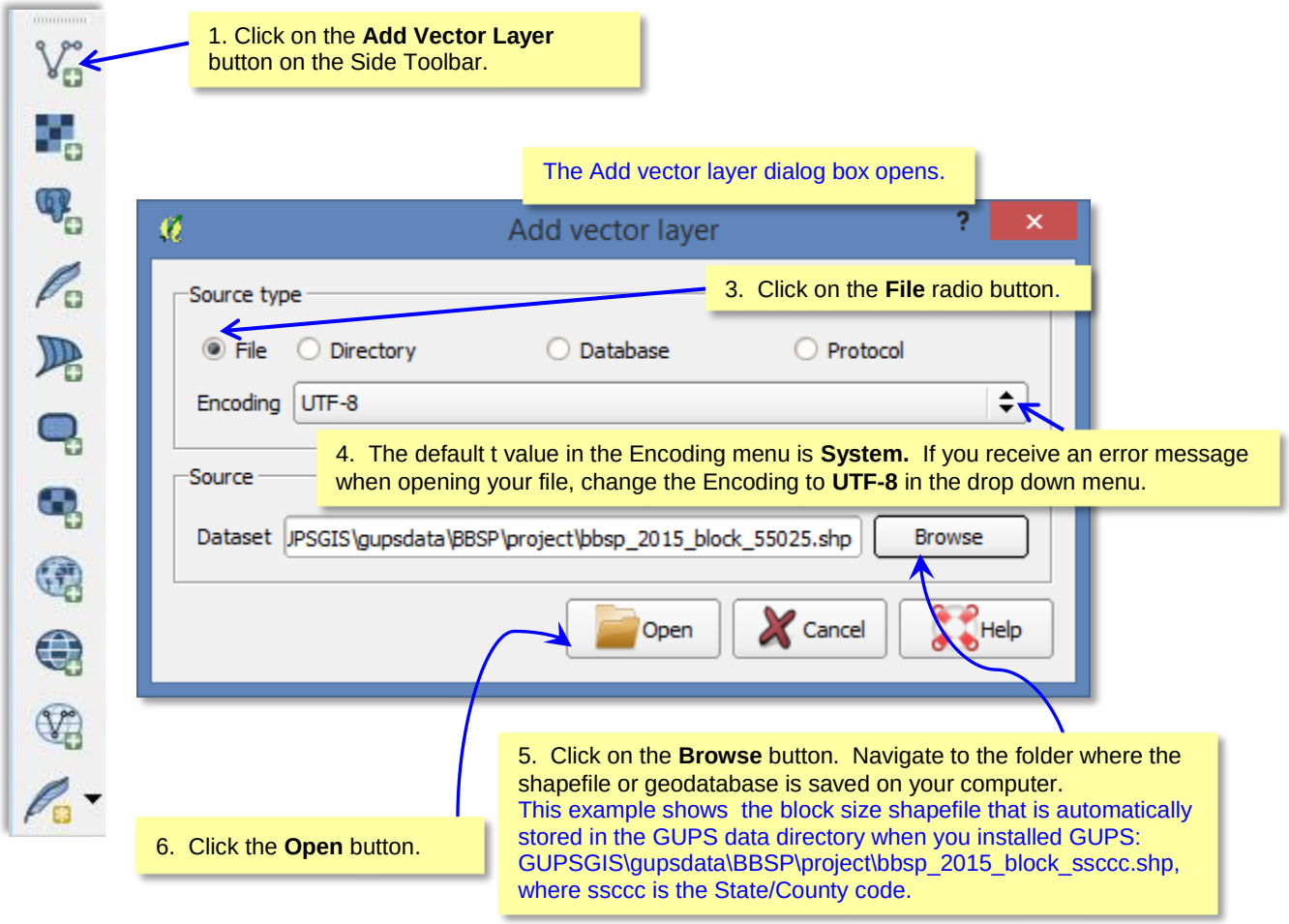
SideToolbar

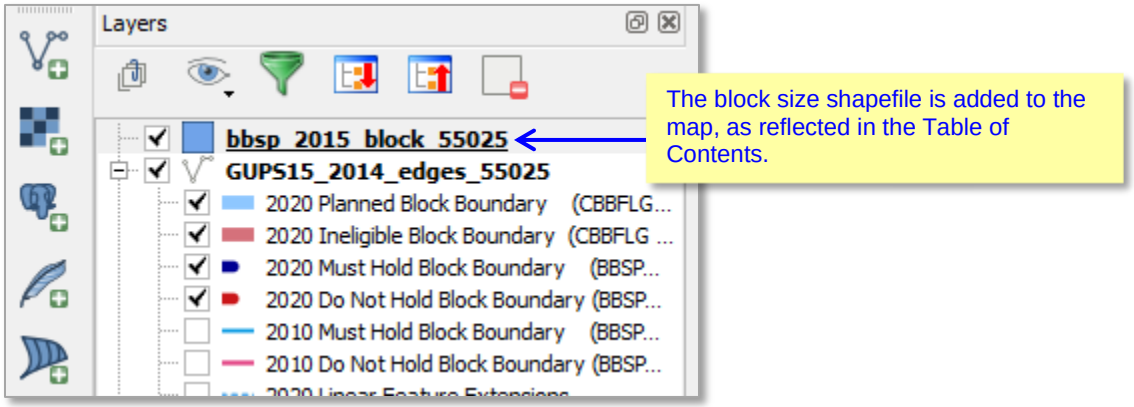
The Side Toolbar allows you to add vector and raster data layers and import data tables.

Name	Function
Add Vector Layer	Enables user to add shapefiles and geodatabase files to the GUPS project.
Add Raster Layer	Enables user to add raster datasets such as imagery.
Add PostGIS Layer	Enables user to add PostGIS layer.
Add SpatialLite layer	Enables user to add a data from a SpatialLite database.
Add MSSQL Spatial Layer	Enables user to add a MS SQL 2008 Spatial data.
Add Oracle Spatial Layer	Enables user to add data from a Spatial
Add Oracle GeoRaster Layer	Enables user to add raster imagery from an Oracle database.
Add WM(T)S layer	Enables user to add Web Mapping Services and Web Mapping Tile Services. Publicly accessible and secured WMS services are supported.
Add WCS layer	Enables User to add Web Coverage Services, which provides access to raster data useful for client-side map rendering.
Add WFS Layer	Enables user to add Web Feature Services.
Create New SpatialLite Layer	Enables user to create a new SpatialLite layer from an existing layer.

Adding Data

A click on the **Add Vector Layer** button allows you to add shapefile and geodatabase files to your GUPS project.



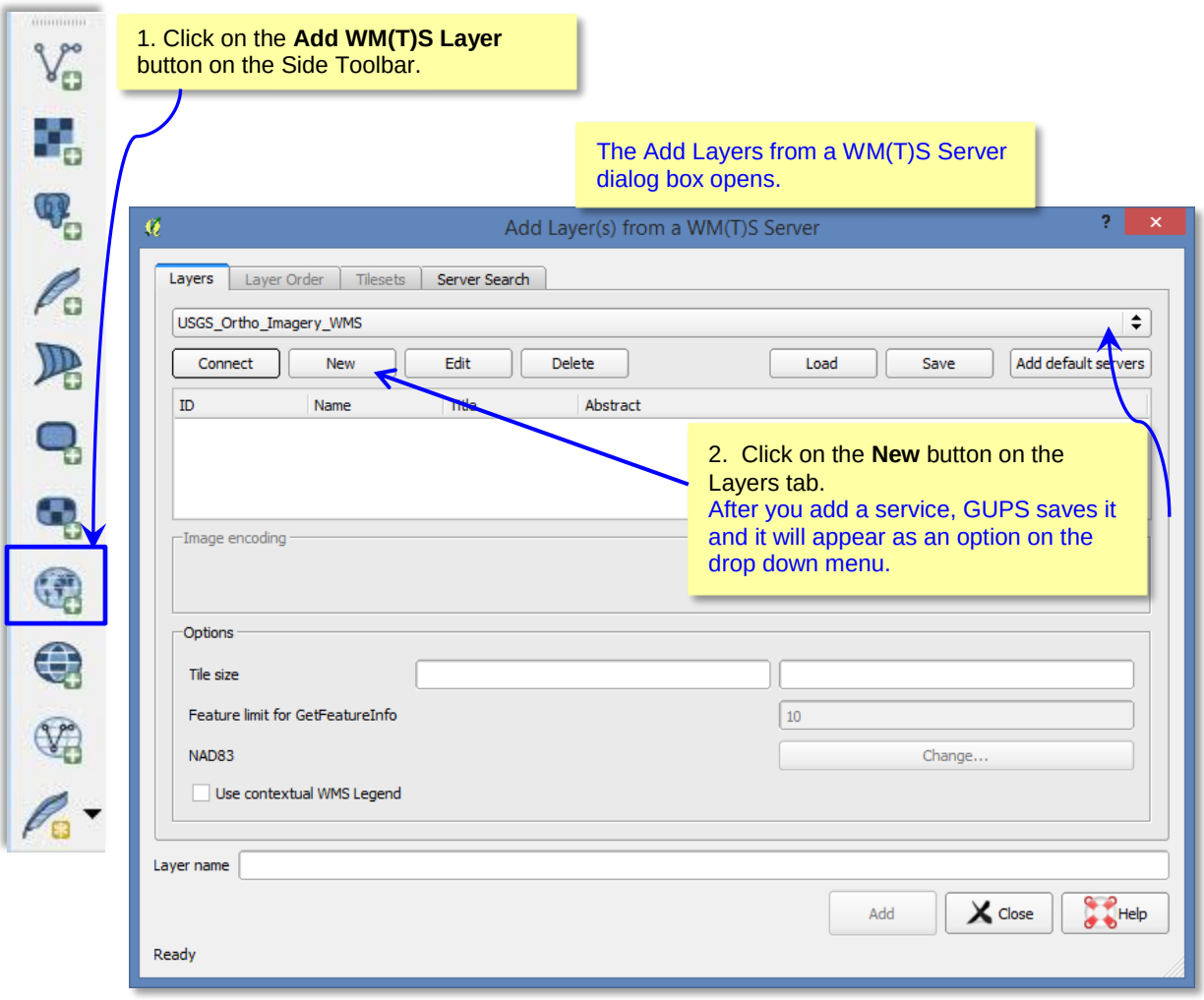


Adding a Web Mapping Service:

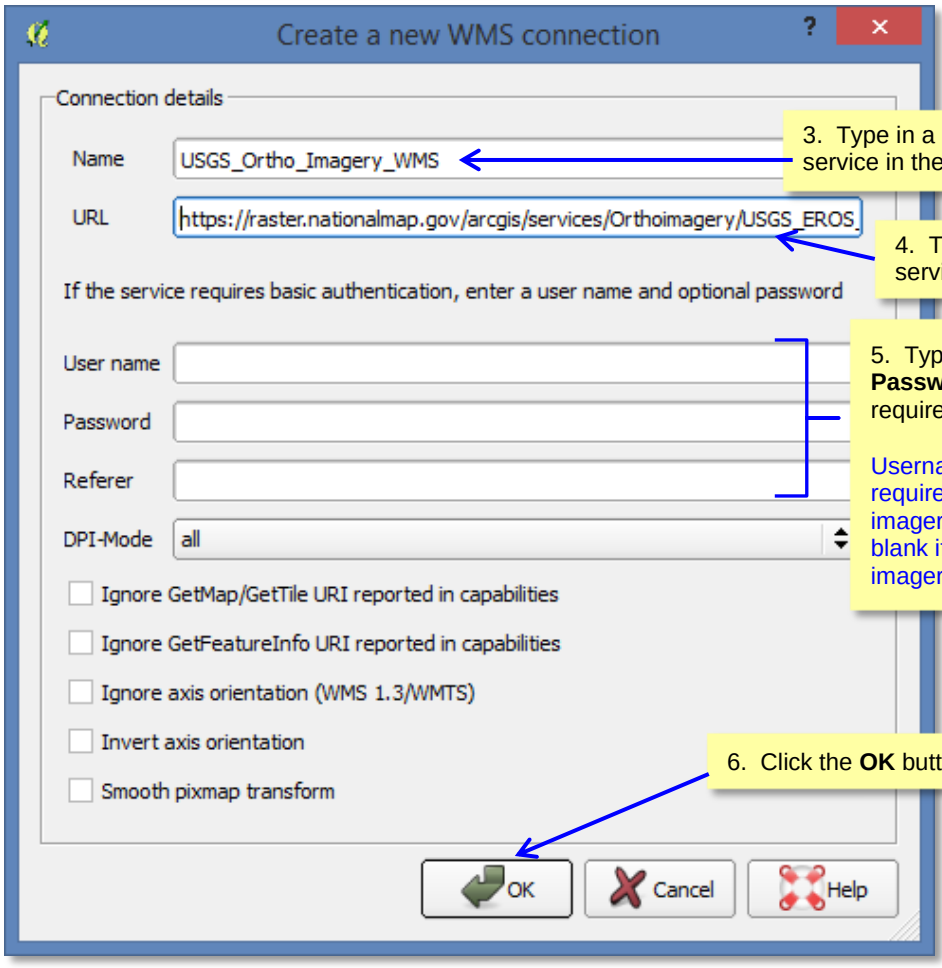
A click on the **Add WM(T)S Layer** button allows you to add a Web Mapping Service to your GUPS project.

If you do not have a state-wide or county web mapping service, one imagery option may be the National Agricultural Imagery Service (NAIP) supplied in web mapping service format by the U.S. Geological Survey. It is available at the URL: http://raster.nationalmap.gov/arcgis/services/Orthoimagery/USGS_EROS_Ortho/ImageServer/WMSServer

The instructions below for adding a web mapping service to GUPS use the URL for the USGS NAIP imagery.



The Create a new WMS Connection dialog box opens.



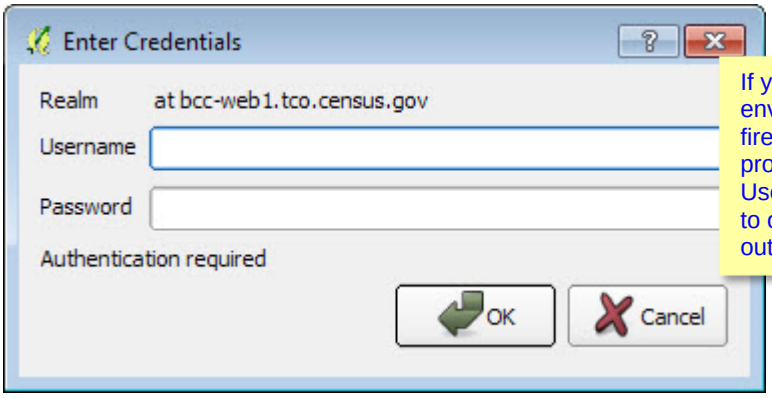
3. Type in a name for the imagery service in the **Name** field.

4. Type in the URLof the imagery service in the **URL** field.

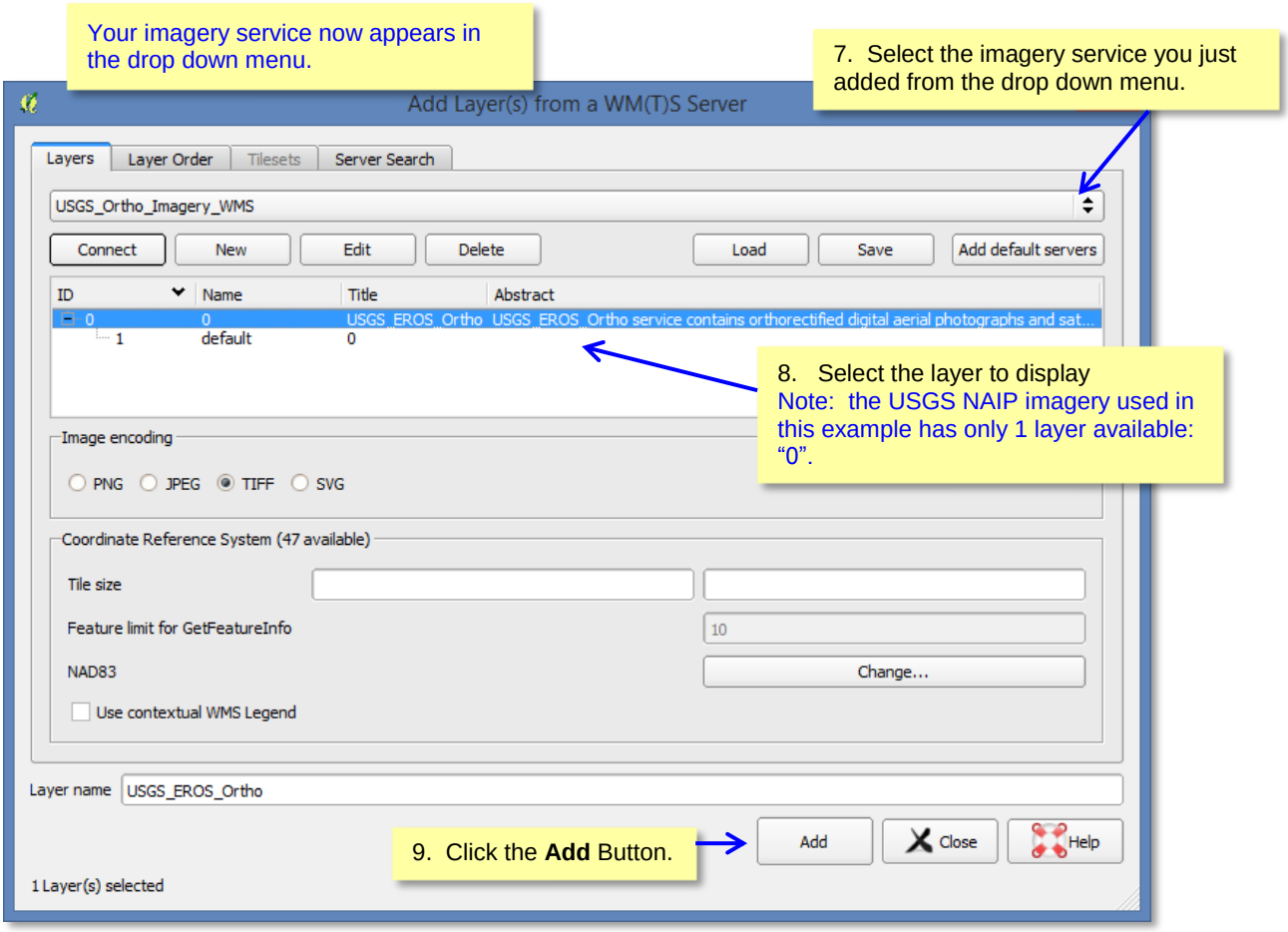
5. Type in a **Username** and **Password** if your imagery service requires it.

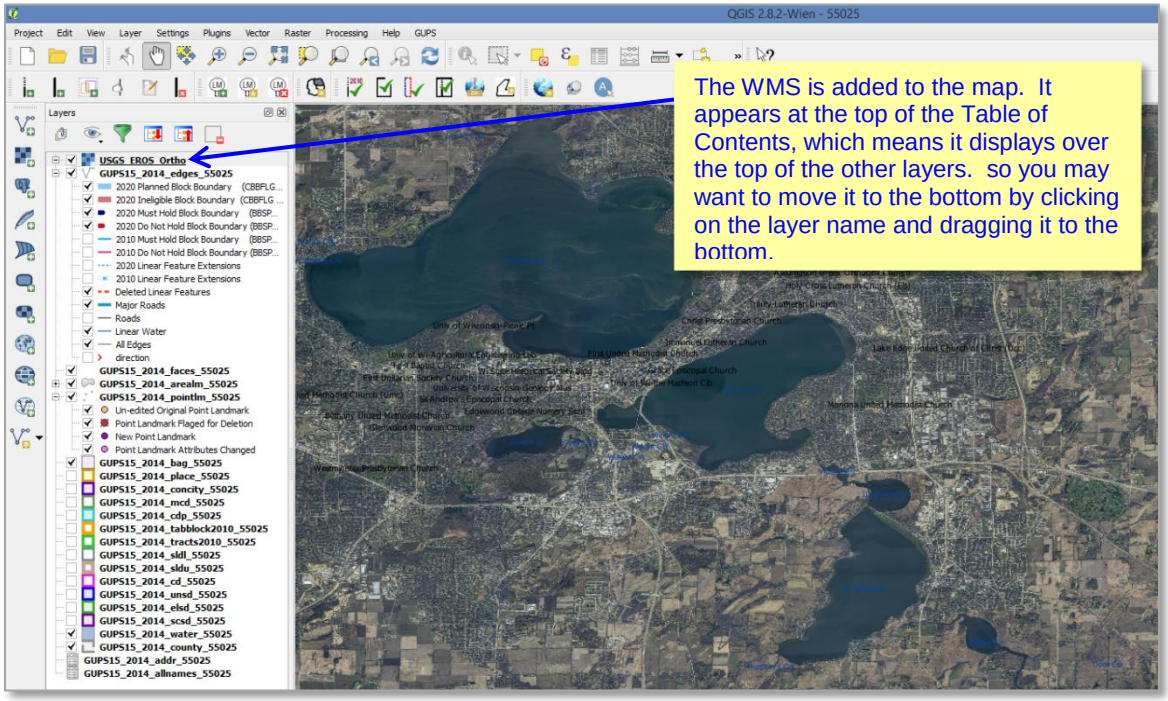
Username/Password is not required for the USGS NAIP imagery, so leave these fields blank if connecting to USGS NAIP imagery.

6. Click the **OK** button.



If your working environment is inside a firewall, you may be prompted for your Username and Password to obtain resources from outside the firewall.


Your imagery service now appears in the drop down menu.
7. Select the imagery service you just added from the drop down menu.
Add Layer(s) from a WM(T)S Server
Layers
Layer Order
Tilesets
Server Search
USGS_Ortho_Imagery_WMS
Connect
New
Edit
Delete
Load
Save
Add default servers
ID
Name
Title
Abstract
0
0
USGS_EROS_Ortho
USGS_EROS_Ortho service contains orthorectified digital aerial photographs and sat...
1
default
0
8. Select the layer to display
Note: the USGS NAIP imagery used in this example has only 1 layer available: "0".
Image encoding
PNG
JPEG
TIFF
SVG
Coordinate Reference System (47 available)
Tile size
Feature limit for GetFeatureInfo
10
NAD83
Change...
Use contextual WMS Legend
Layer name
USGS_EROS_Ortho
9. Click the Add Button.
Add
Close
Help
1 Layer(s) selected


QGIS 2.8.2-Wien - 55025
The WMS is added to the map. It appears at the top of the Table of Contents, which means it displays over the top of the other layers. so you may want to move it to the bottom by clicking on the layer name and dragging it to the bottom.

A click on the **Add Raster Layer** button allows you to add imagery to your GUPS project if you do not have access to a web mapping service, if your have a less-than-ideal internet connection, or an oppressive firewall. If you do not have a county or state imagery dataset, you can download the USGS imagery on a county-per county basis.

After clicking on the Add Raster layer button, the **Open a GDAL Supported Raster Data Source** dialog box opens. Navigate to the folder on your computer where the imagery file is stored. Click on the file name in the window and **Open.**

5.1.3 Table of Contents

The Table of Contents shows the layers on the map and the features represented by the layer. The GUPS will automatically load and display a set of default data layers defined by the Census Bureau for each geographic participant program. You can reorder the layers to change the map display, add and remove layers, including user-provided data, display or hide layers,and change the layer symbology and labeling

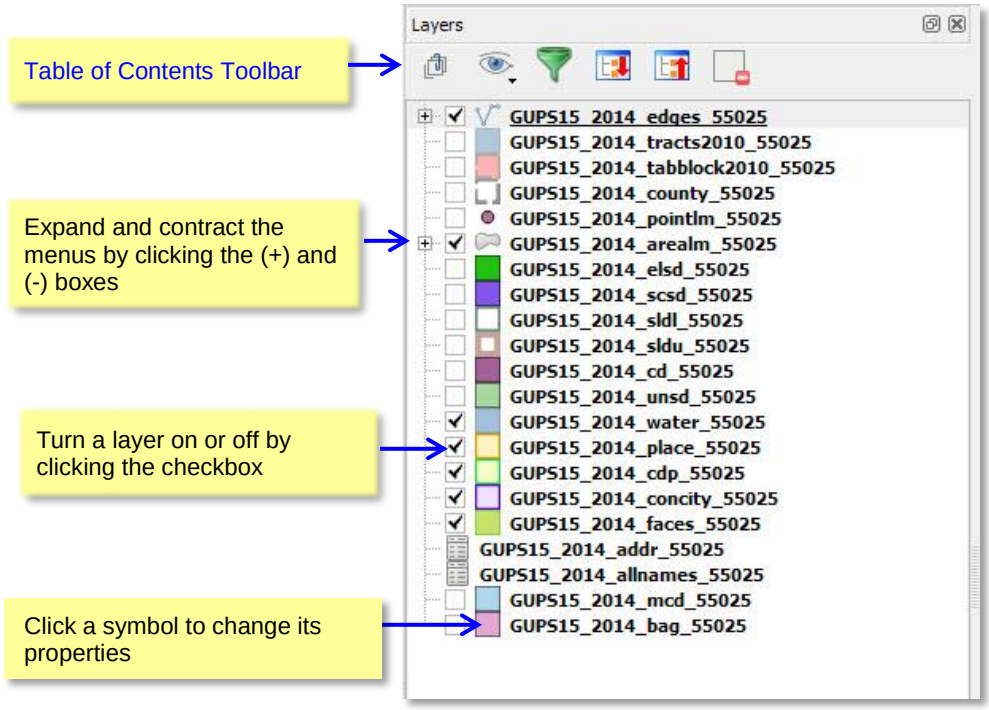


Figure 5.2 GUPS Table of Contents

The toolbar buttons at the top of the Table of Contents allow you to add and remove layers or groups, manage layer visibility, filter the legend by map content, and expand and contract the menus by clicking on the (+) and (-) symbol

	Add New Group	Allows layers in the Table of Contents to be organized into groups
	Manage Layer Visibility	Allows preset layer views created by the user
	Filter Legend by Map Content	Displays in the Table of Contents only the map layers in the current map view.
	Expand All Menus (+)	Expands to show all menus
	Collapse All Menus (-)	Collapses all menus
	Remove Layer or Group	Removes layer or group from the Table of Contents

Add New Group

Layers in the Table of Contents can be organized into groups. You can do this in two ways:

1. Click on the button on the Table of Contents Toolbar to add a new group. Type in a name for the group and press the Enter key. Click on an existing layer and drag it into the group you just created.

or

2. Select one or more layers in the Table of Contents, right click in the Table of Contents window, and choose *Group Selected*. The selected layers are automatically placed in a new group. To select more than one layer or group at the same time, hold down the CTRL key while selecting the layers with the left mouse button.

To remove a layer from a group, you can click on the layer and drag it out of the group or you can right click on the layer and choose *Make toplevel item.*

Groups can also be nested inside other groups.

You can show or hide all the layers in the group with a single click in the group's checkbox

Manage Layer Visibility (and Preset Views)

You can add preset views in the Table of Contents by clicking on the button on the Table of Contents Toolbar. You can choose to display a layer with specific categorization and add this view to the Presets list. To add a preset view, click on the button, choose *Add Preset* from the drop down menu, and assign a name to the preset view. By clicking on the button, you can view the list of all preset views that you have established and from which you can choose.

A layer can be selected and dragged up or down in the Table of Contents to change the order in which layers are drawn. Layers are drawn in the reverse order in which they appear in the table contents. Layers that appear at the bottom of the table of contents are drawn first and the layers near the top are drawn "over" the layers near the bottom.

Filter Legend by Map Content

You can remove from the Table of Contents display any layers which are not currently in the map view extent by clicking on the button. This feature ensures that the Table of Contents does not contain entries for items not currently in the map view.

Expand All Menus

You can display all layers in a group by clicking on the button on the Table of Contents toolbar.

Collapse All Menus

You can turn off the visibility of layers in a group by clicking on the button on the Table of Contents toolbar.

Remove Layer or Group

You can remove a layer or a group in the Table of Contents clicking on the Remove Layer or Group button. To remove a layer, click on the layer you want to remove , and while holding down the CTRL key, click the button. To remove a group, follow the same process, first selecting the group to be removed, and while holding down the CTRL key, click the button.

Re-ordering the Data Layers

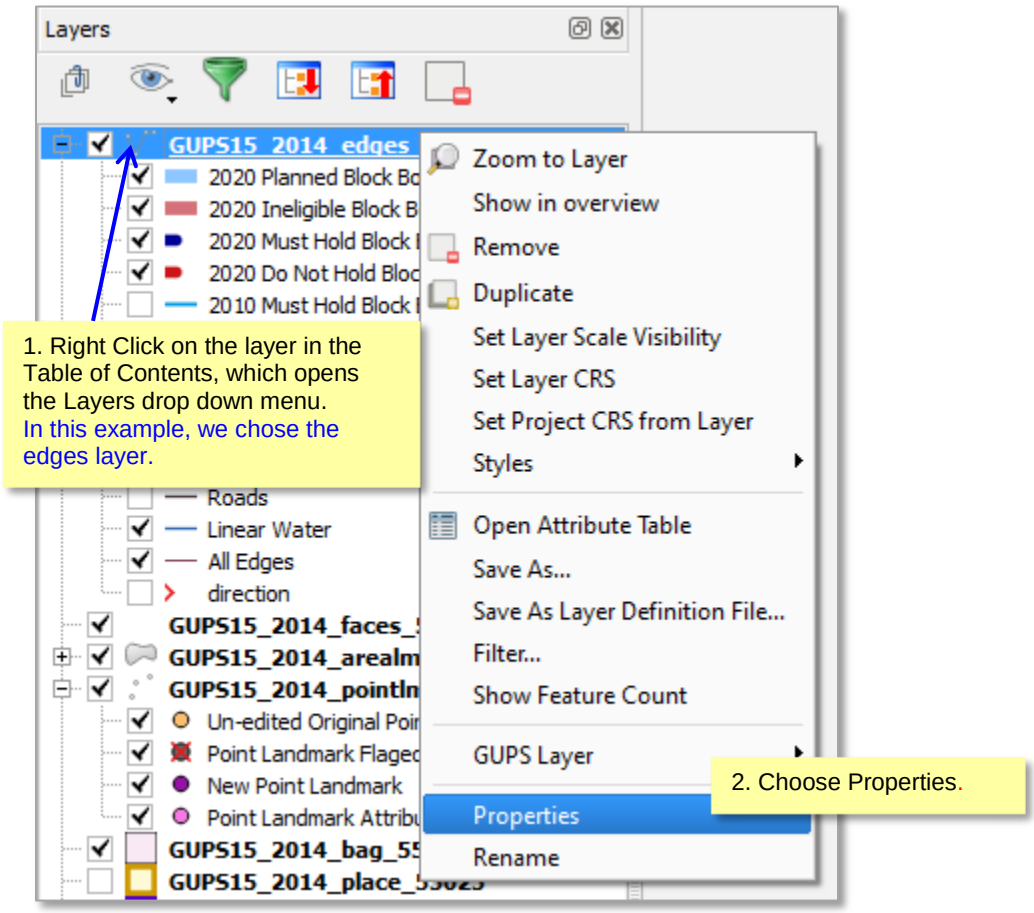
In the Table of Contents, the order in which the layers are listed determines how the layers are drawn on the map. The layers at the top draw on top of those below them. A layer can be selected and dragged up or down in the table of contents to change the drawing order.

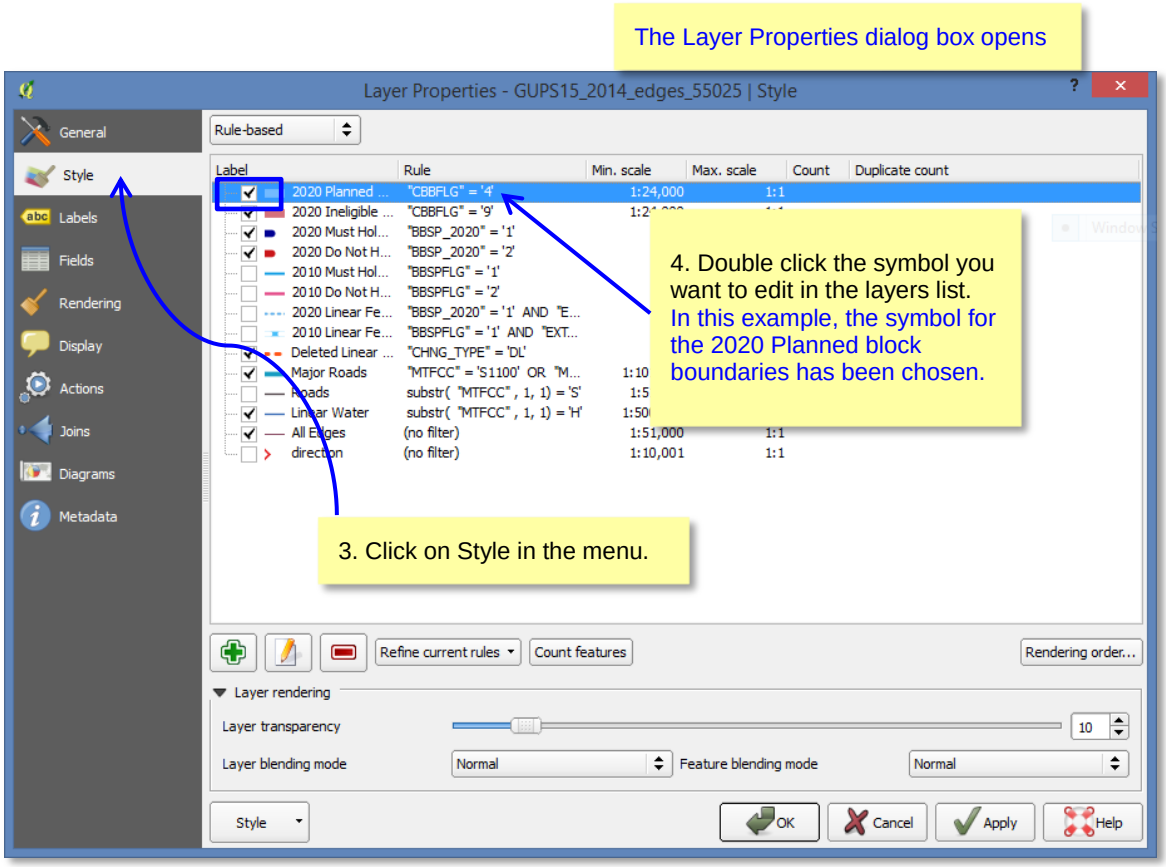
To move a layer up or down: Click the mouse on the layer and drag the layer to the desired position in the layer list. Release the mouse button to place the layer in its new position.

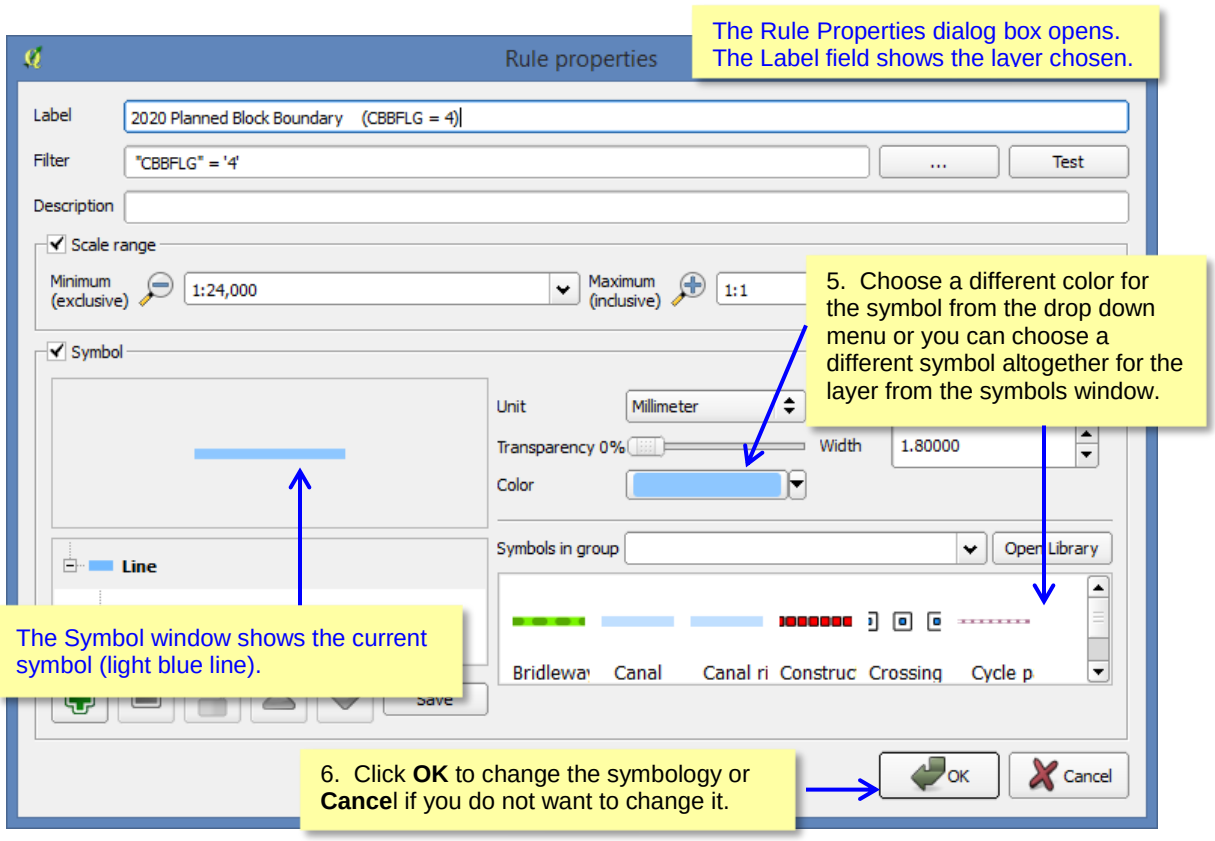
Setting Layer Symbology

The GUPS loads a default layer symbology established for each Census Bureau geographic partnership program. You can change the default symbology to suit your preferences.

To change the default symbology for a layer in GUPS:

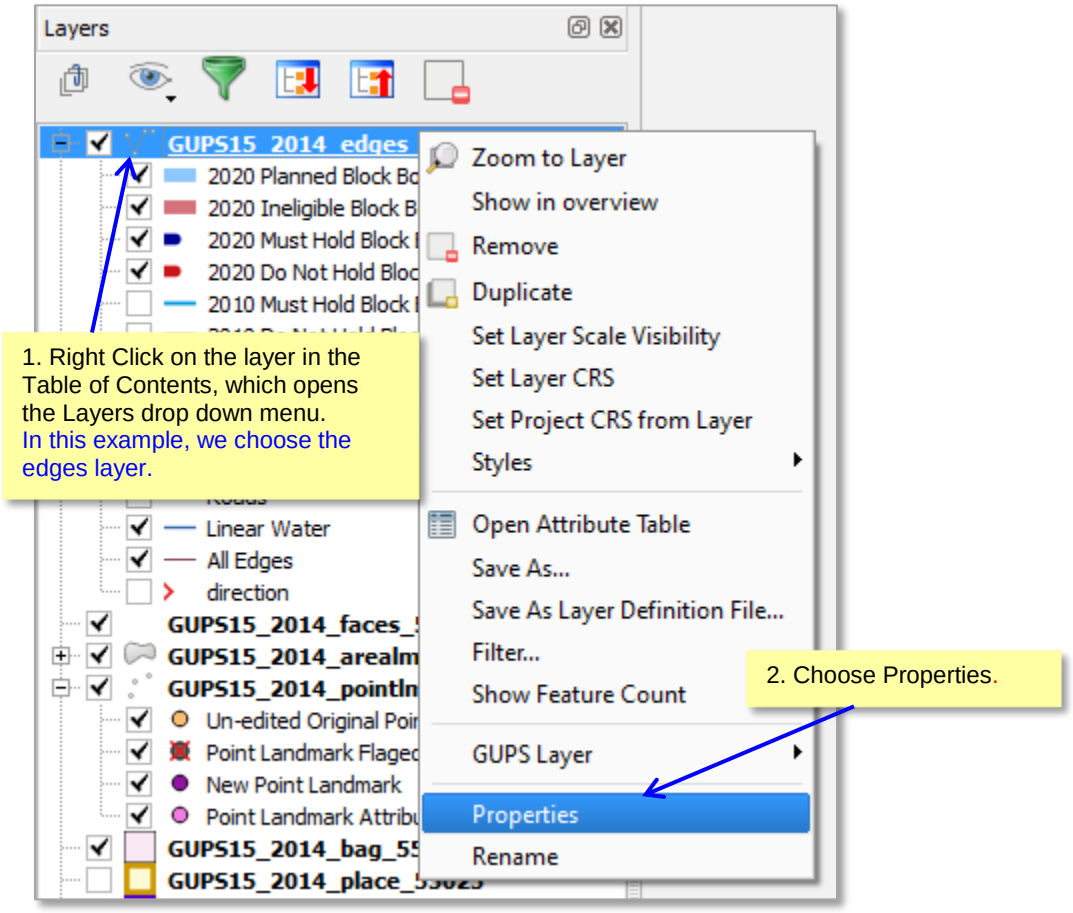


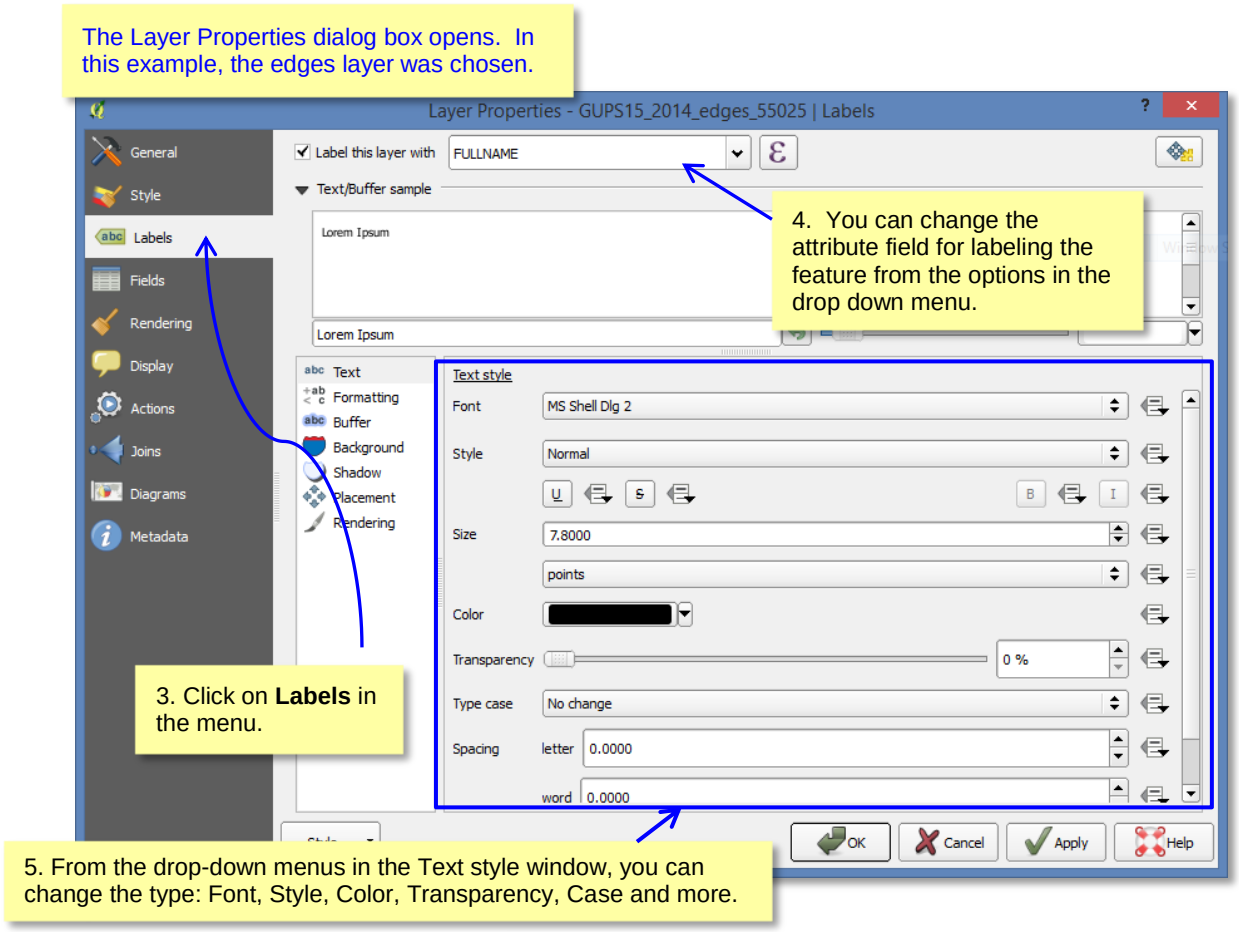

The Layer Properties dialog box opens
Layer Properties - GUPS15_2014_edges_55025 | Style
General
Style
Labels
Fields
Rendering
Display
Actions
Joins
Diagrams
Metadata
Rule-based
Label
Rule
Min. scale
Max. scale
Count
Duplicate count
2020 Planned ...
"CBBFLG" = '4'
1:24,000
1:1
2020 Ineligible ...
"CBBFLG" = '9'
2020 Must Hol...
"BBSP_2020" = '1'
2020 Do Not H...
"BBSP_2020" = '2'
2010 Must Hol...
"BBSPFLG" = '1'
2010 Do Not H...
"BBSPFLG" = '2'
2020 Linear Fe...
"BBSP_2020" = '1' AND "E...
2010 Linear Fe...
"BBSPFLG" = '1' AND "EXT...
Deleted Linear ...
"CHNG_TYPE" = 'DL'
Major Roads
"MTFCC" = 'S1100' OR "M...
1:10
Roads
substr("MTFCC", 1, 1) = 'S'
1:5
Linear Water
substr("MTFCC", 1, 1) = 'H'
1:50
All Edges
(no filter)
1:51,000
1:1
direction
(no filter)
1:10,001
1:1
4. Double click the symbol you want to edit in the layers list. In this example, the symbol for the 2020 Planned block boundaries has been chosen.
3. Click on Style in the menu.
Refine current rules
Count features
Rendering order...
Layer rendering
Layer transparency
10
Layer blending mode
Normal
Feature blending mode
Normal
Style
OK
Cancel
Apply
Help

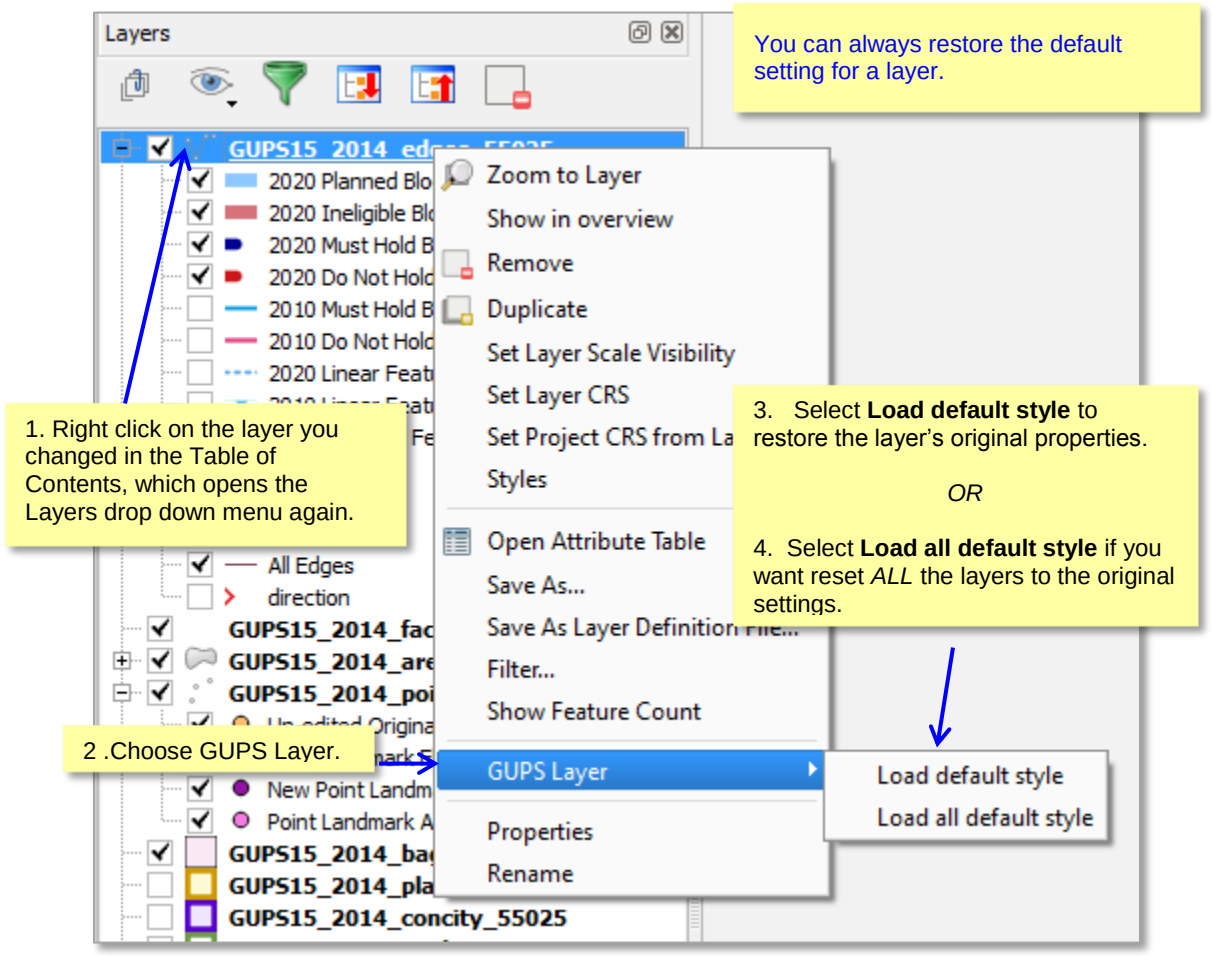

The Rule Properties dialog box opens. The Label field shows the layer chosen.
Rule properties
Label
2020 Planned Block Boundary (CBBFLG = 4)
Filter
"CBBFLG" = '4'
...
Test
Description
Scale range
Minimum (exclusive)
1:24,000
Maximum (inclusive)
1:1
Symbol
Unit
Millimeter
Transparency 0%
Width
1.80000
Color
Symbols in group
Open Library
Line
Bridlewa
Canal
Canal ri
Construc
Crossing
Cycle p
Save
5. Choose a different color for the symbol from the drop down menu or you can choose a different symbol altogether for the layer from the symbols window.
The Symbol window shows the current symbol (light blue line).
6. Click **OK** to change the symbology or **Cancel** if you do not want to change it.
OK
Cancel

Label Display

You can change the default GUPS labeling display for features.
To change the default labeling for a layer in GUPS:

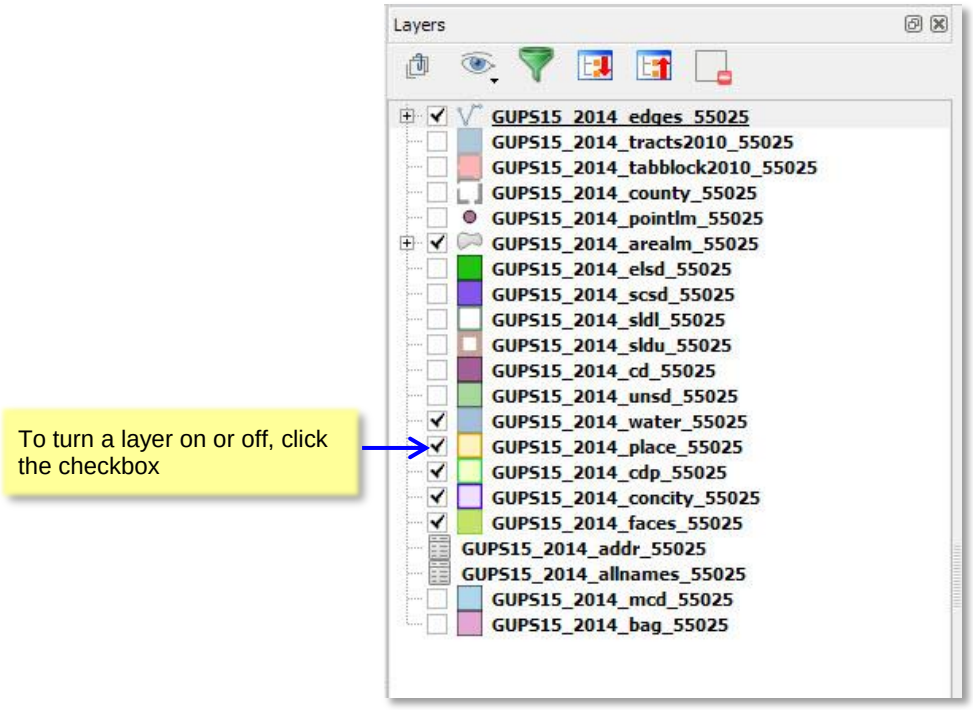



The Layer Properties dialog box opens. In this example, the edges layer was chosen.
Layer Properties - GUPS15_2014_edges_55025 | Labels
General
Style
Labels
Fields
Rendering
Display
Actions
Joins
Diagrams
Metadata
Label this layer with
FULLNAME
Text/Buffer sample
Lorem Ipsum
Lorem Ipsum
4. You can change the attribute field for labeling the feature from the options in the drop down menu.
Text
Formatting
Buffer
Background
Shadow
Placement
Rendering
3. Click on Labels in the menu.
Text style
Font
MS Shell Dlg 2
Style
Normal
Size
7.8000
points
Color
Transparency
0 %
Type case
No change
Spacing
letter
0.0000
word
0.0000
OK
Cancel
Apply
Help
5. From the drop-down menus in the Text style window, you can change the type: Font, Style, Color, Transparency, Case and more.


You can always restore the default setting for a layer.
1. Right click on the layer you changed in the Table of Contents, which opens the Layers drop down menu again.
2 .Choose GUPS Layer.
3. Select **Load default style** to restore the layer's original properties.
OR
4. Select **Load all default style** if you want reset *ALL* the layers to the original settings.
Layers
Zoom to Layer
Show in overview
Remove
Duplicate
Set Layer Scale Visibility
Set Layer CRS
Set Project CRS from La
Styles
Open Attribute Table
Save As...
Filter...
Show Feature Count
GUPS Layer
Properties
Rename
Load default style
Load all default style
All Edges
direction
GUPS15_2014_concity_55025

Layer Display

The checkbox for each of the data layers indicates whether the layer is displayed or hidden.



Adding and Removing Layers

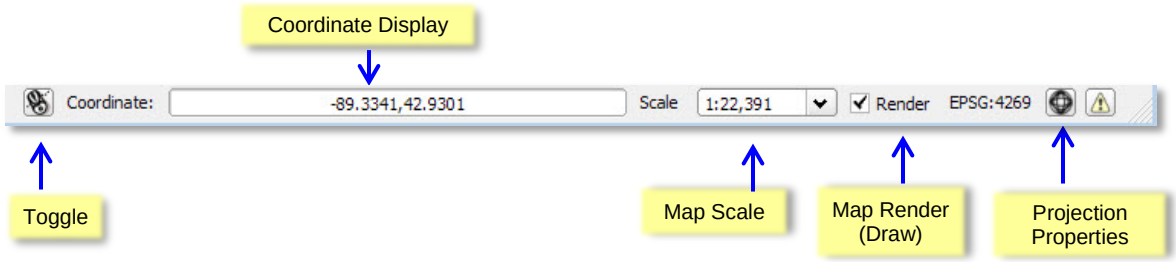
GUPS automatically loads a default set of data layers specified by the Census Bureau for each geographic partnership program. You can add other data layers from the Census Bureau's partnership shapefile that are not in the default data layer set, or you can add user-provided data.

A click on the **Add Vector Layer** button on the Side toolbar allows you to add shapefile and geodatabase files to your GUPS project. More detailed instructions with accompanying graphics, are included under the Side toolbar section. (insert a hyperlink)

To remove a layer, click on the layer you want to remove , and while holding down the CTRL key, click the **Remove Layer or Group** button on the Table of Contents menu.

5.1.5 Status Bar

The Status Bar displays information about the map. It allows you to adjust the map scale and see the mouse cursor's coordinates on the map.



Toggle	Allows you to toggle between the mouse's coordinate position or the map view extents as you pan and zoom in and out on the map.
Coordinate Display	Shows your current position in map coordinates (default is decimal degrees for GUPS) as your map cursor is moved across the map.
Map Scale	Shows your current position in map coordinates (default is decimal degrees for GUPS) as your map cursor is moved across the map.
Map Render (Draw)	Allows you to temporarily prevent layers from drawing by clicking the checkbox immediately to the left of "Render".
Projection Properties	Clicking on the icon will open the projection properties for the current map.

6 BBSP Suggested Workflow

Figure 6.1 on the following page depicts the *Suggested Block Boundary Suggestion Project Workflow* for reviewing and updating Census Bureau data using the Geographic Update Partnership Software (GUPS). Step-by-step instructions performing the workflow activities using GUPS is outlined in a separate heading.

A state participating in the Block Boundary Suggestion Program may decide to perform the work in-house or delegate the work to their state's counties or a contractor. If the state delegates the work, completed files must be returned to the state for review, approval, and submission. Only the designated State Redistricting Data Program Liaison may submit completed work to the Census Bureau.

A BBSP participant is not required to perform all update activities shown in the workflow diagram. The area landmark, legal boundary, block area grouping, and point landmark reviews are all optional. We suggest, however, that you make the decision whether to perform each of these review/update activities based on your state's redistricting requirements and available resources. States with laws that require prison populations to be re-allocated for the purposes of redistricting may wish to review the area landmarks with the MTFCCs that represent prisons (K1235, K 1236, K1237, and K1238). Since legal boundaries are always tabulation block boundaries, all states may wish to review the legal boundaries, as reflected in the Census Bureau data, to ensure they are accurate as of the review date. States with numerous islands may wish to create block area groupings (BAGs) for 2020.

The Geographic Update Partnership Software contains a validation tool to ensure that BBSP updates meet the established criteria and submission files meet Census Bureau processing requirements. Although the validation tool is shown as a later step in the BBSP workflow, the validation tool can be initiated at any time during update work. We suggest that the validation tool be utilized early during the review and update process and then periodically afterwards to lessen the possibility of extensive rework later.

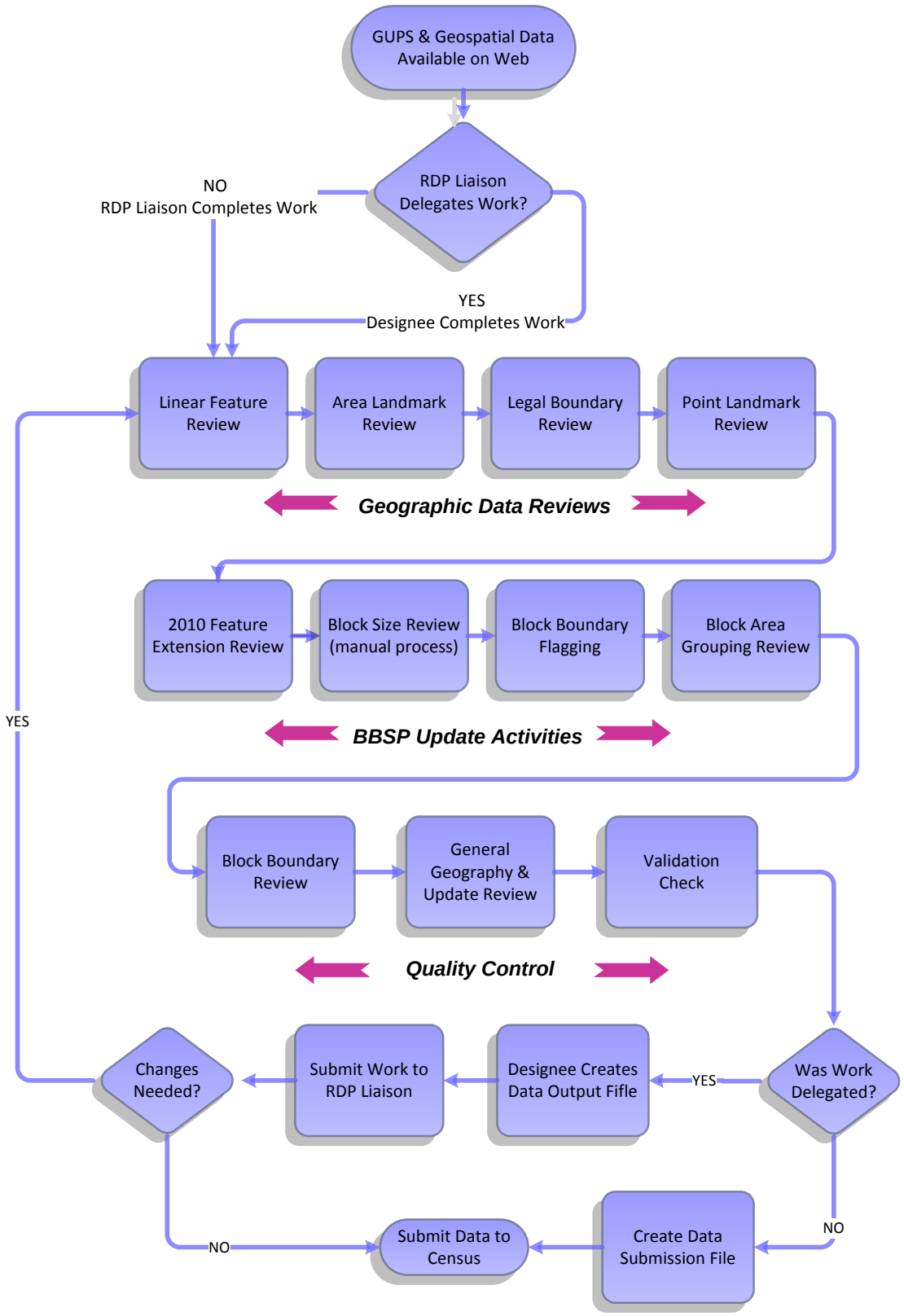
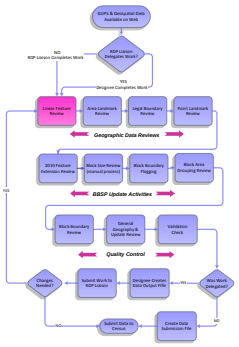


Figure 6.1 Suggested BBSP Workflow

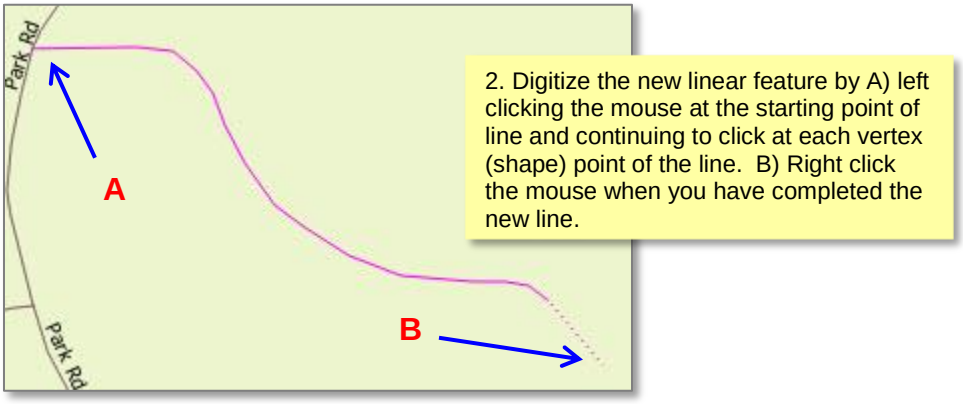
6.1 Linear Feature Review

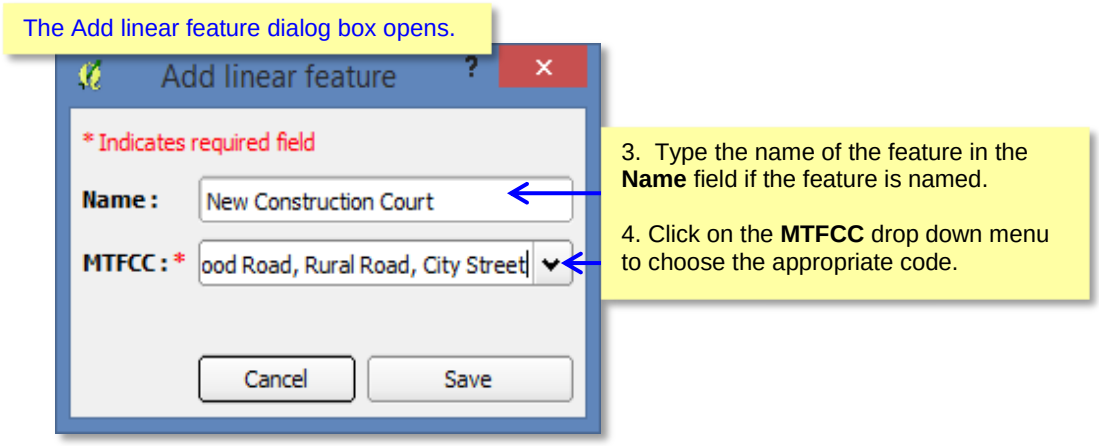


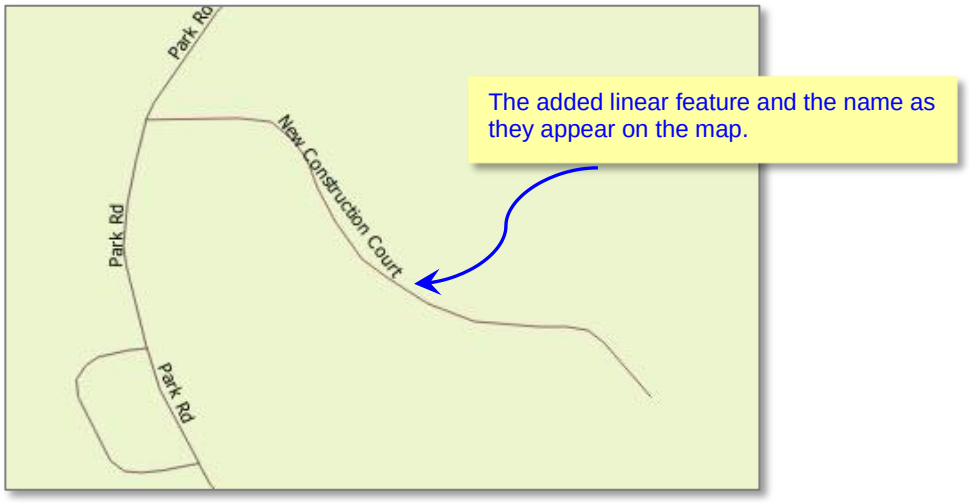
We recommend that you review the linear features in the Census Bureau file to determine whether there are missing features or existing features that should be deleted. You can import your own shapefiles, geodatabases, Web Mapping Services and/or imagery for comparison against Census Bureau data. If you plan to import data for reference purposes, follow the directions for importing user-provided geospatial data and/or web mapping services listed in the Side Toolbar section. Then return to this section for instructions for adding and deleting features or changing a feature's attribution.

Click *Appendix A2: Linear Feature Updates Permitted*, for the list of feature updates the Census Bureau will accept.

To Add a Linear Feature:

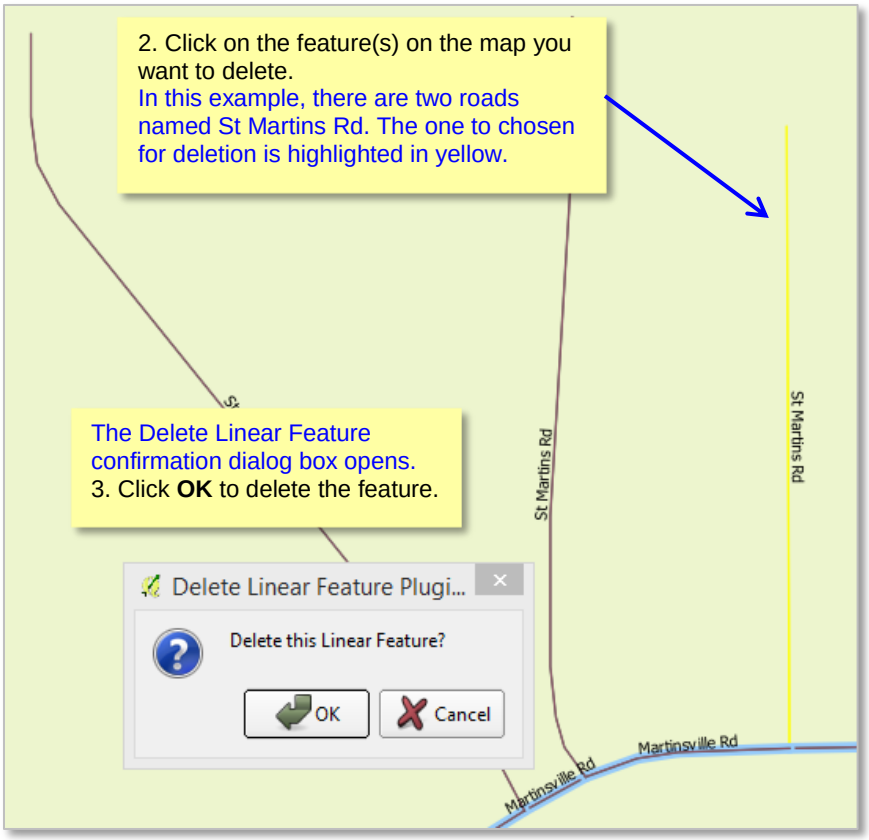


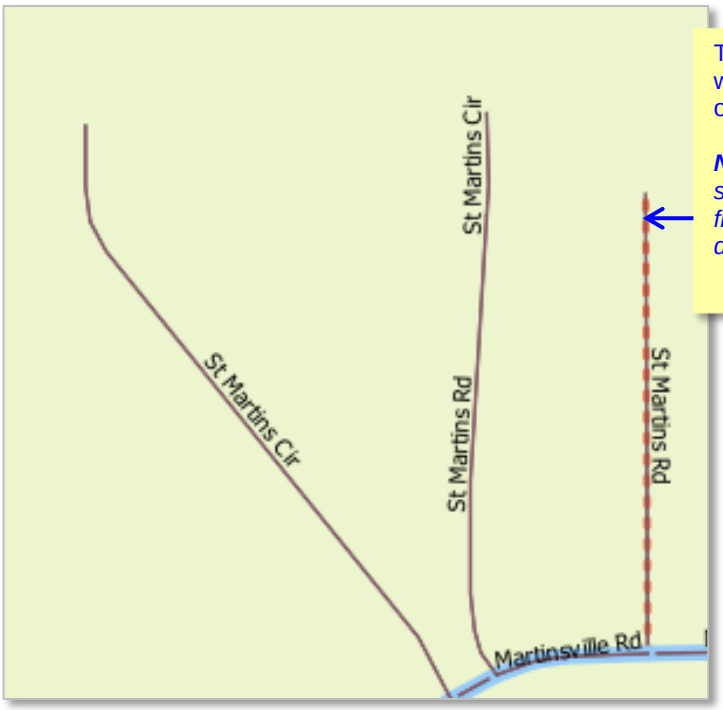



Park Rd
New Construction Court
Park Rd
Park Rd
The added linear feature and the name as they appear on the map.

To Delete a Linear Feature:

Note: You are not actually "deleting" a feature in the Census Bureau file. The software assigns a change type to the feature in the attribute table. The feature is processed for deletion after the Census Bureau receives the BBSP file. The feature flagged for deletion will still appear in the GUPS map with a heavier weight orange dashed symbology on top of the feature's original symbology.



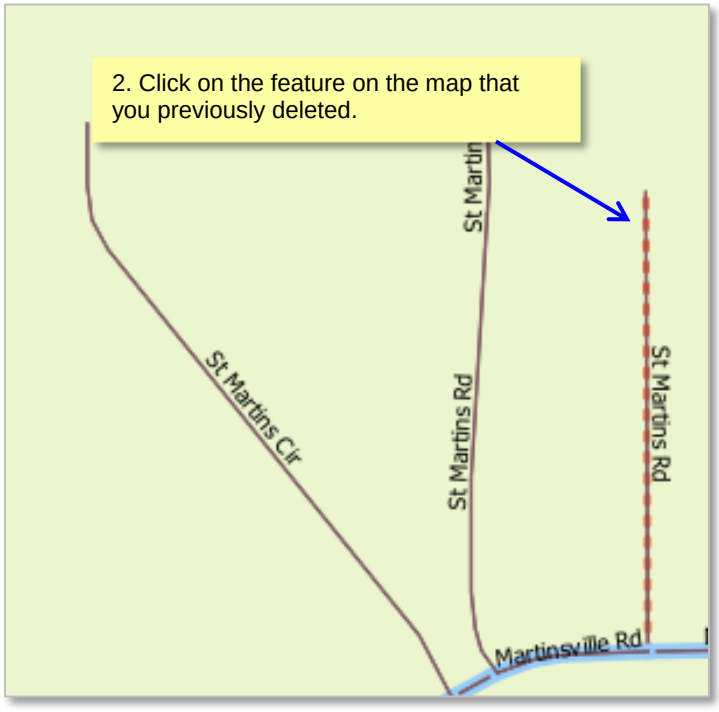


The deleted feature appears on the map with a dashed orange line symbology on top of the original feature symbology.

Note: *The line is not actually deleted in the shapefile, which means it is not removed from the map. It has been assigned a deletion flag for Census Bureau processing.*

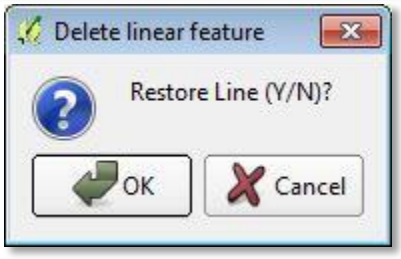
To Restore a Deleted Linear Feature:

1. Click on the **Delete Line** button on the BBSP toolbar. (Yes, this is correct)



2. Click on the feature on the map that you previously deleted.

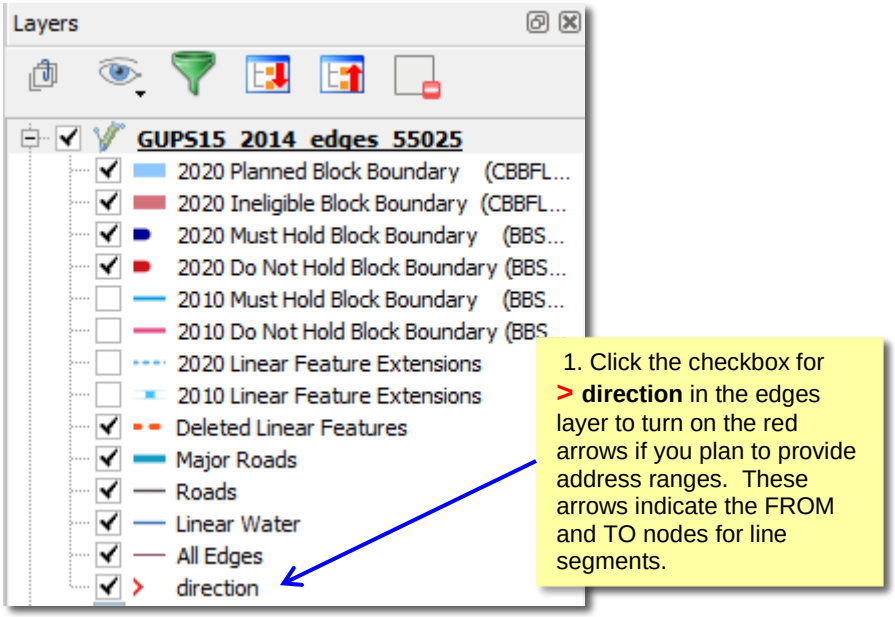
The Delete Linear Feature dialog box opens with a confirmation to Restore the line. Click the OK button.



The Delete Line flag is removed from the attribute table and the line is restored.

To Change the Attribution of a Linear Feature (Name, MTFCC, add Address Range)

Depending on the attribute update actions you intend to initiate, there a few steps that we suggest you take first before editing a linear feature.



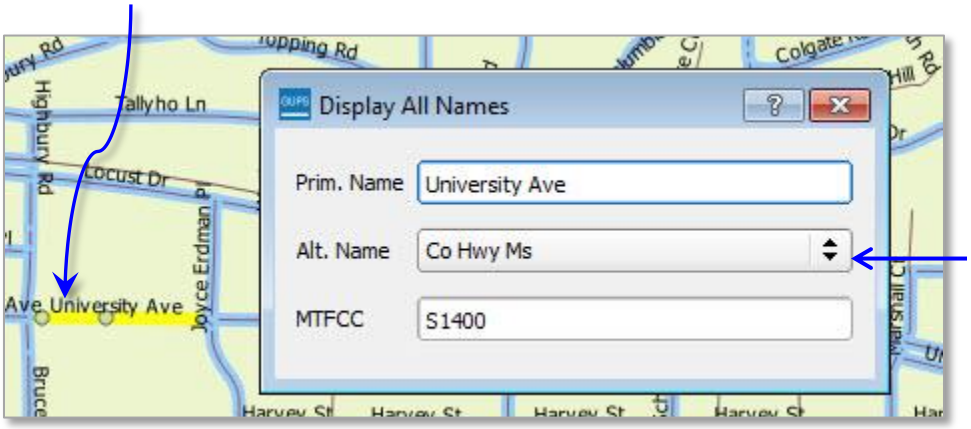
Before changing the name of a linear feature, check to see whether the feature has an alternative name in the TIGER shapefile.

2. Select the feature in the map with the **Select Feature(s)** button on the GUPS toolbar.

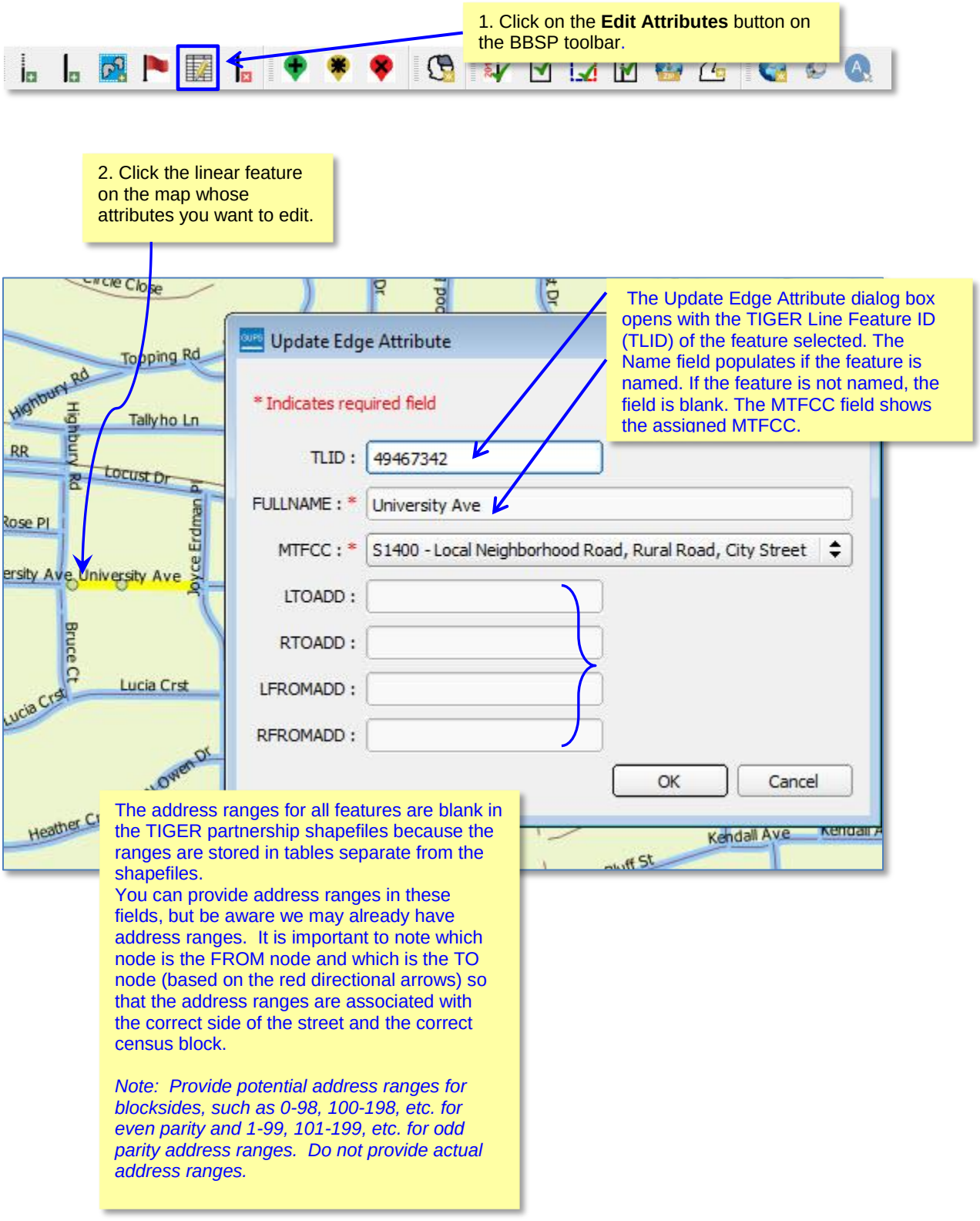
3. Click on the **Display All Names** button on the BBSP toolbar.

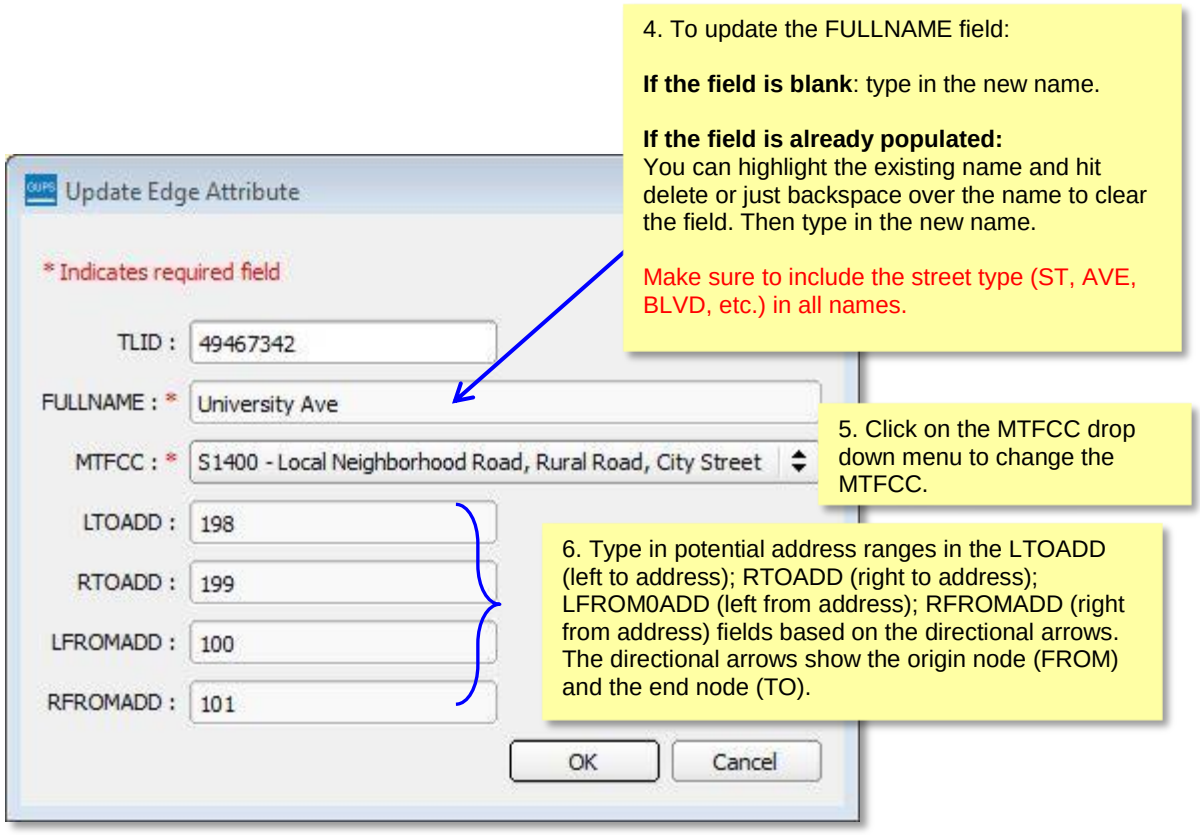
The Display all names dialog box opens, displaying the primary name of the feature. The Alt. Name field shows the alternate name for the feature, if one is present.

4. Click on the drop down menu of the Alt. Names fields to see a third alternative name, if one is present.



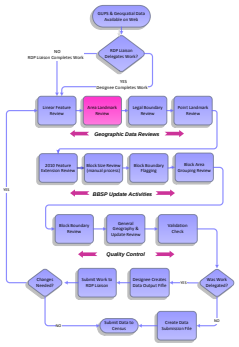
To edit a linear feature:





Include a diagram with From and To nodes with the address ranges.

6.2 Area Landmark Review



The Census Bureau accepts updates to area landmarks, including hydrographic areas, as part of the Block Boundary Suggestion Project.

Allowable updates include:

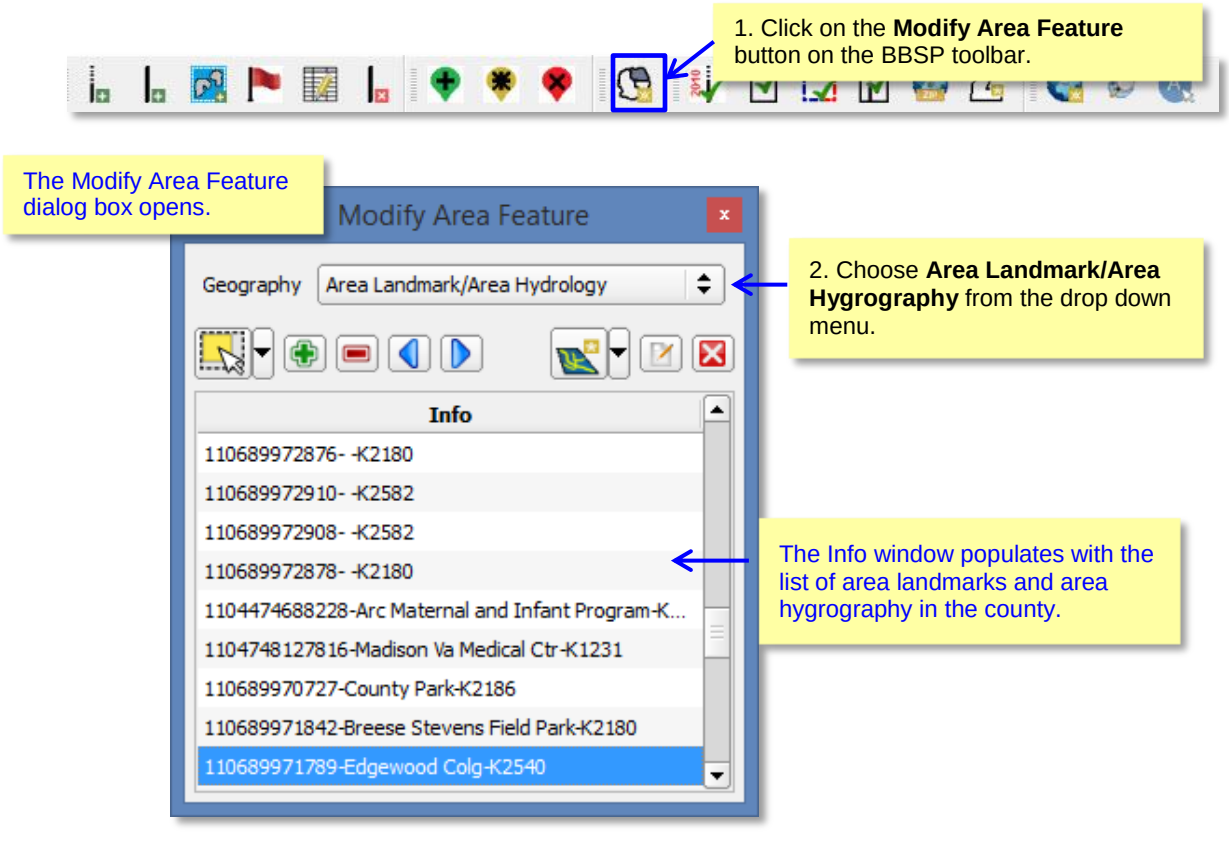
- Boundary corrections (adding and removing area)
- Creating a new area landmark or hydrographic area
- Removing an area landmark or hydrographic area
- Changing or adding a name

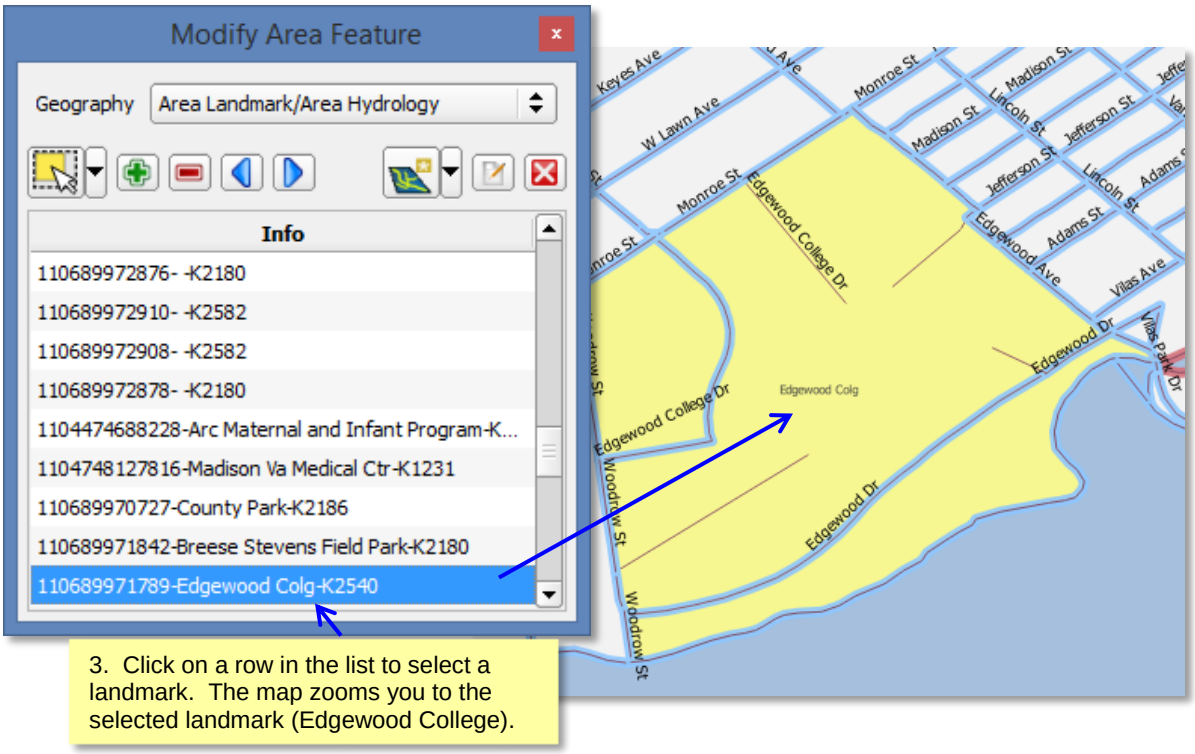
Adding or removing area from an area landmark, including areal hydrography, is accomplished by selecting the face or faces (polygons) that comprise the area of change. If a face boundary does not already reflect the area needed for a boundary update, you must digitize a linear feature to split the face and assign it the proper MTFCC. Instructions for adding linear features are contained in Section 6.1.

There are some restrictions to area landmark updates. *Appendix A1: Area Landmark Updates Permitted*, lists the feature updates the Census Bureau will accept.

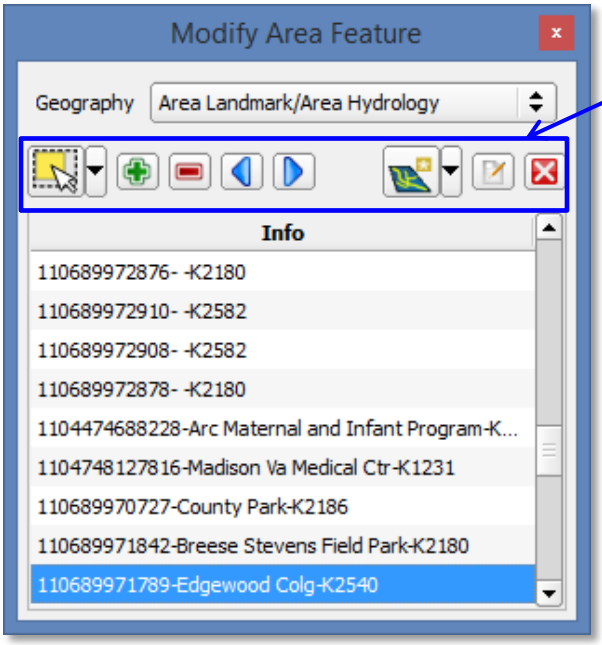
If your state plans to reallocate prisoners during redistricting, you may wish to review the existing area landmarks with MTFCCs K1235, K1236, K1237, and K1238, which represent areas that contain prison populations.

To Review Area Landmarks, including area hydrography:





3. Click on a row in the list to select a landmark. The map zooms you to the selected landmark (Edgewood College).

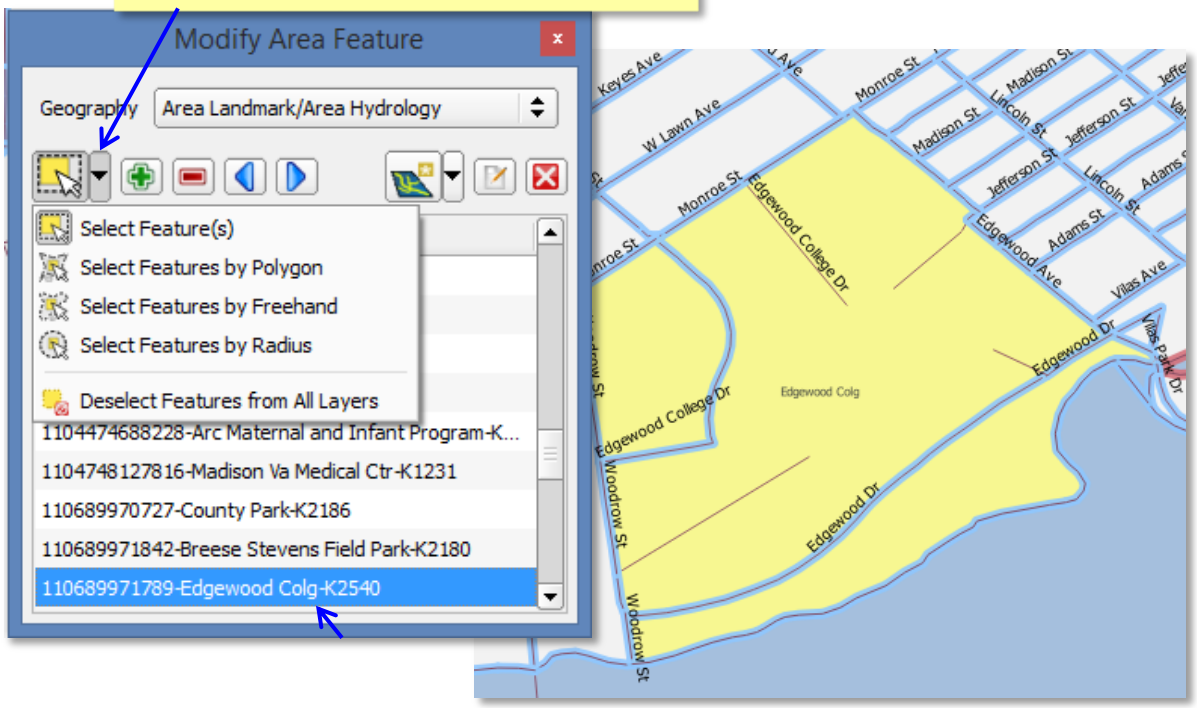


You can make changes to the selected area landmark with the tools above the Info Window.

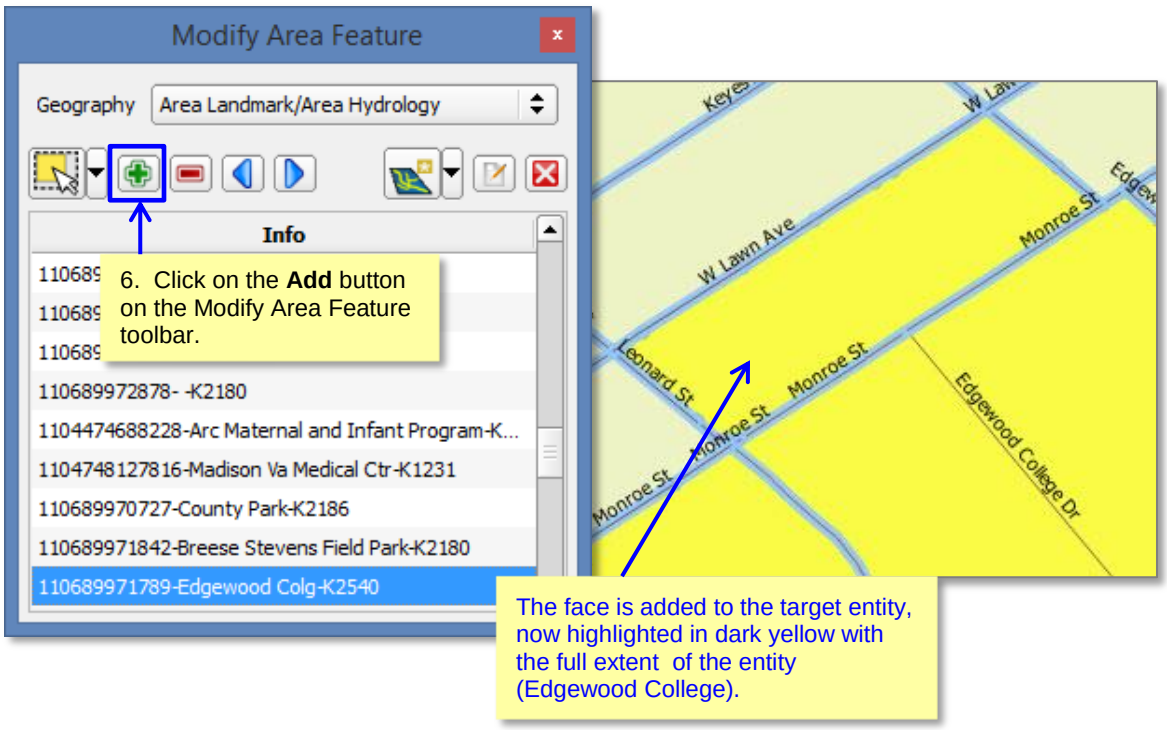
- Select Feature(s)
- Add selected faces to target entity
- Remove selected faces from target entity
- Select and zoom to previous entity on the list
- Select and zoom to next entity on the list
- Add new entity
- Modify attributes of target entity
- Delete selected entity

To Add Area to an Area Landmark:

4. Click on the Select Feature(s) button on the toolbar. Choose the method you want to use to add the faces (polygons) to the landmark.

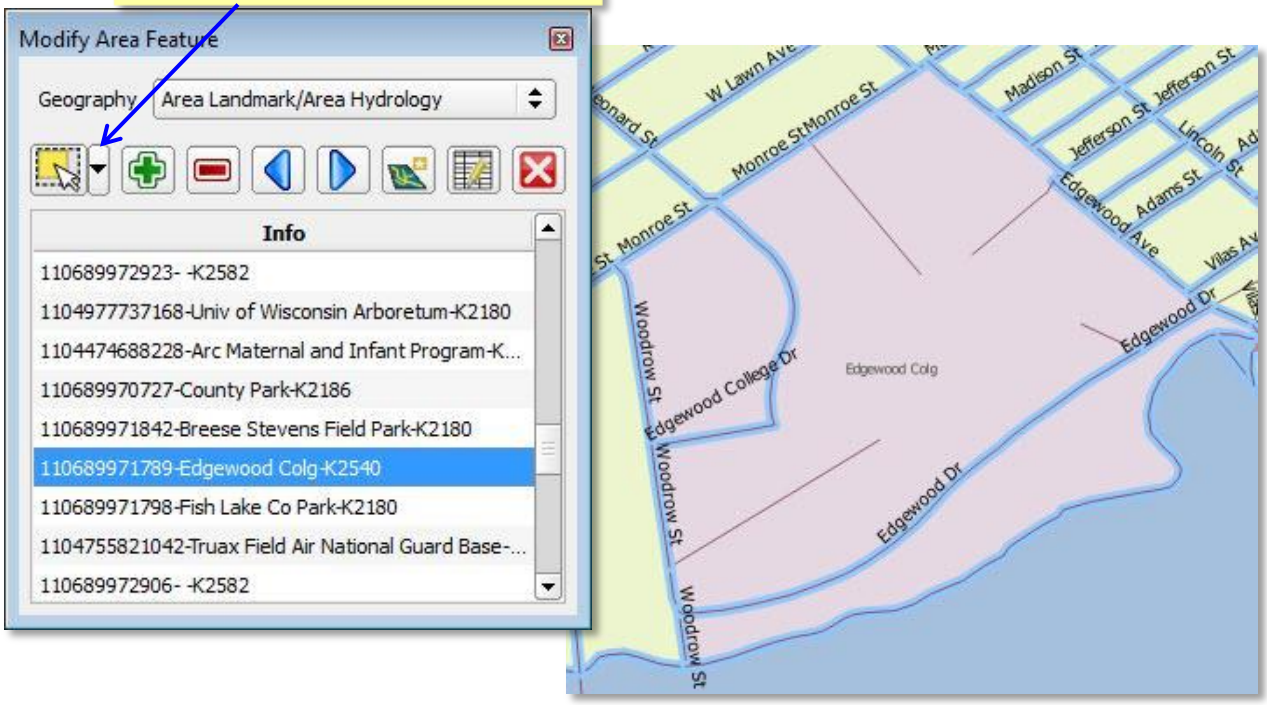


5. Click on the face(s) in the map you want to add to the area landmark. Selected face(s) are shown in light yellow. To add more than one face, click on the first face, hold down the CTRL key, and continue clicking on the other faces you want to add.

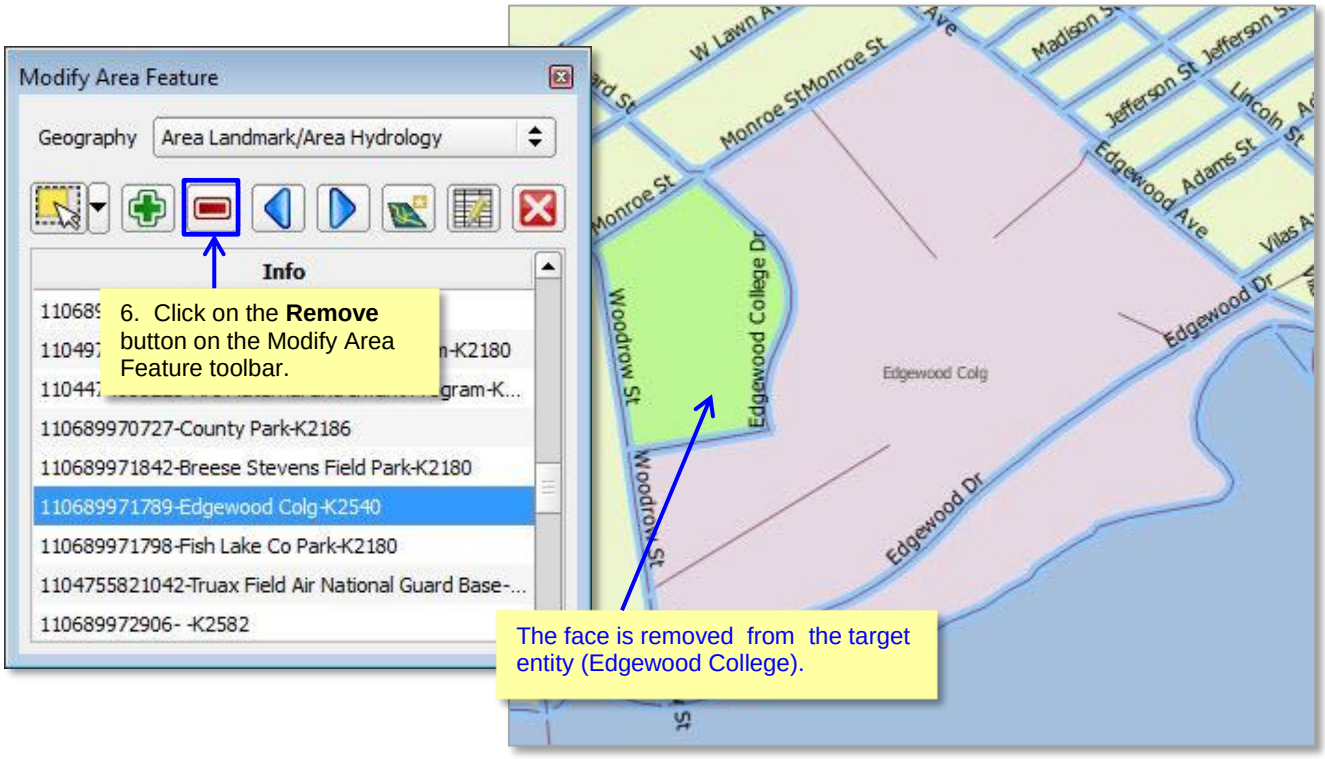

Modify Area Feature
Geography
Area Landmark/Area Hydrology
Info
110689
110689
110689
110689972878- -K2180
1104474688228-Arc Maternal and Infant Program-K...
1104748127816-Madison Va Medical Ctr-K1231
110689970727-County Park-K2186
110689971842-Breese Stevens Field Park-K2180
110689971789-Edgewood Colg-K2540
6. Click on the **Add** button on the Modify Area Feature toolbar.
W Lawn Ave
Monroe St
Leonard St
Monroe St
Monroe St
Edgewood College Dr
The face is added to the target entity, now highlighted in dark yellow with the full extent of the entity (Edgewood College).

To Remove Area from an Area Landmark:

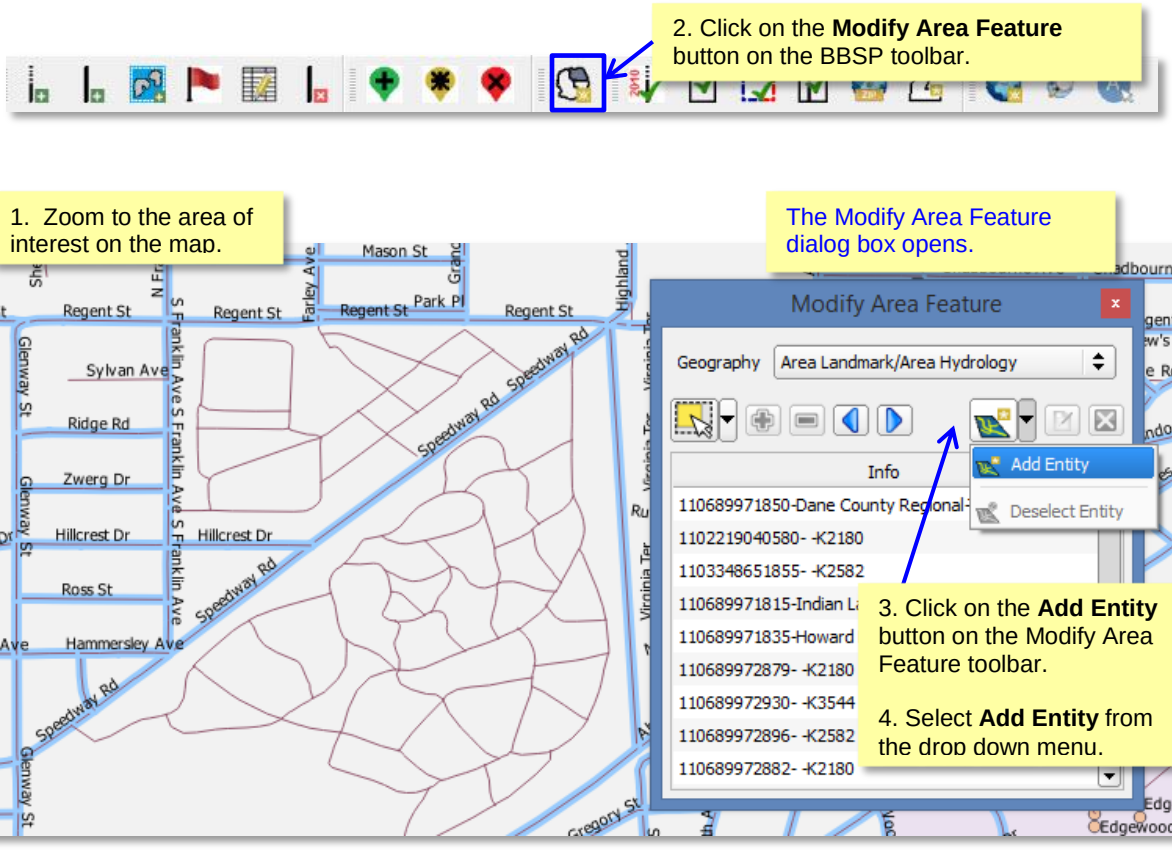
4. Click on the Select Feature(s) button on the toolbar. Choose the method you want to remove the faces (polygons) from the landmark.



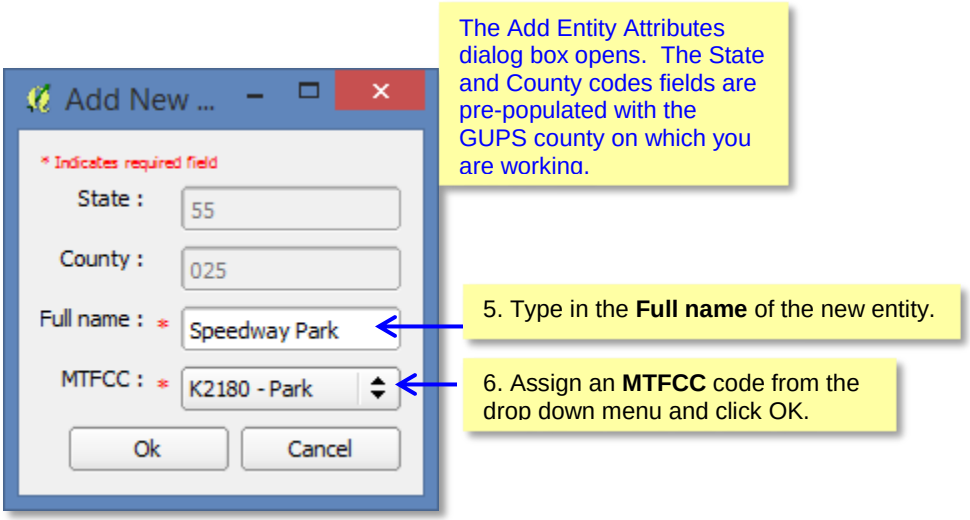
5. Click on the face or faces in the map you want to remove from the area landmark. The selected face(s) are highlighted. To remove more than one face, click on the first face, hold down the CRTLkey, and click on the remaining faces you want to remove.

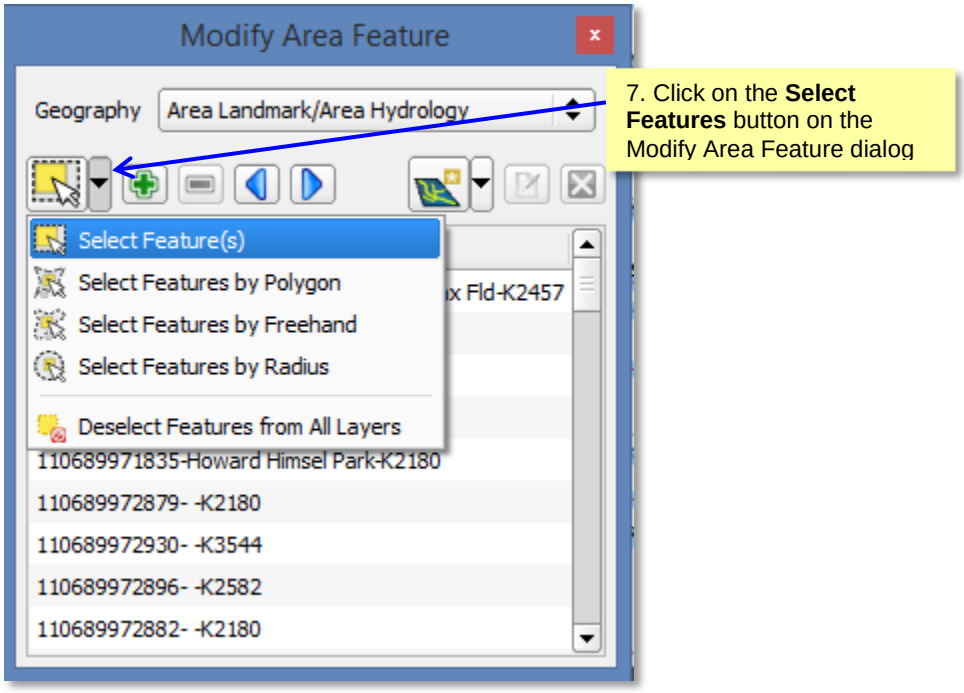

Modify Area Feature
Geography
Area Landmark/Area Hydrology
Info
110689970727-County Park-K2186
110689971842-Breese Stevens Field Park-K2180
110689971789-Edgewood Colg-K2540
110689971798-Fish Lake Co Park-K2180
1104755821042-Truax Field Air National Guard Base-...
110689972906- -K2582
6. Click on the **Remove** button on the Modify Area Feature toolbar.
The face is removed from the target entity (Edgewood College).
Monroe St
Edgewood College Dr
Woodrow St
Edgewood Colg
Edgewood Dr
Edgewood Ave
Jefferson St
Adams St
Madison St
Lincoln St

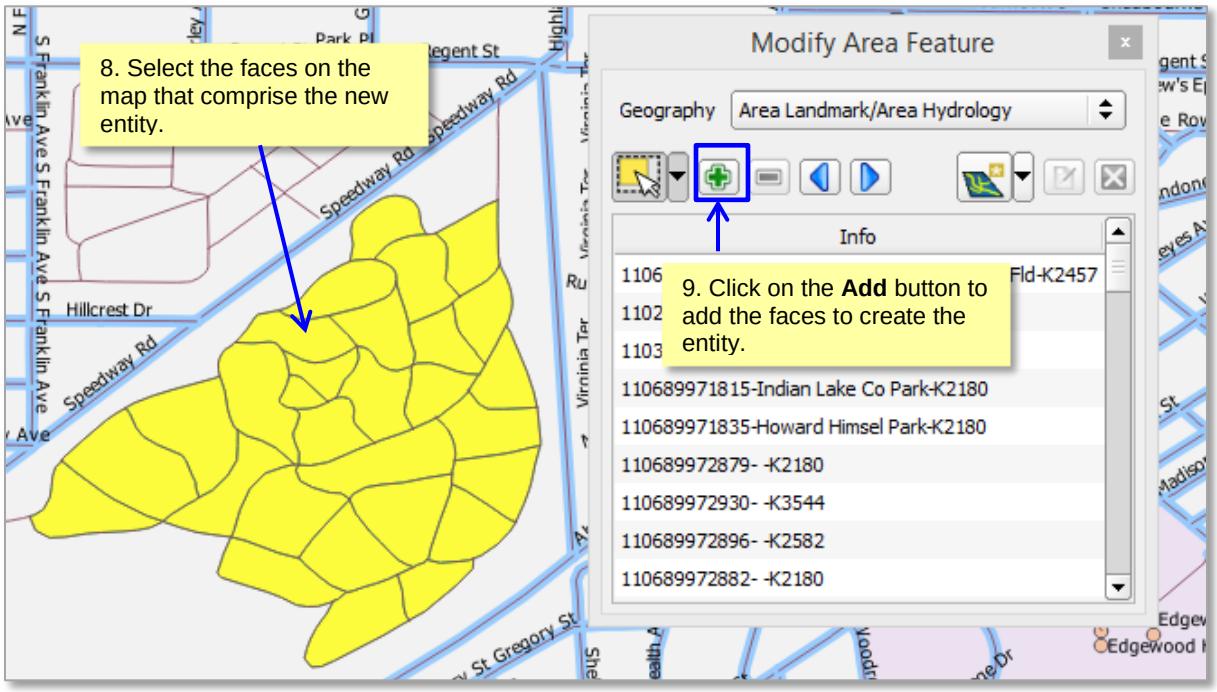
To create a new Area Landmark:



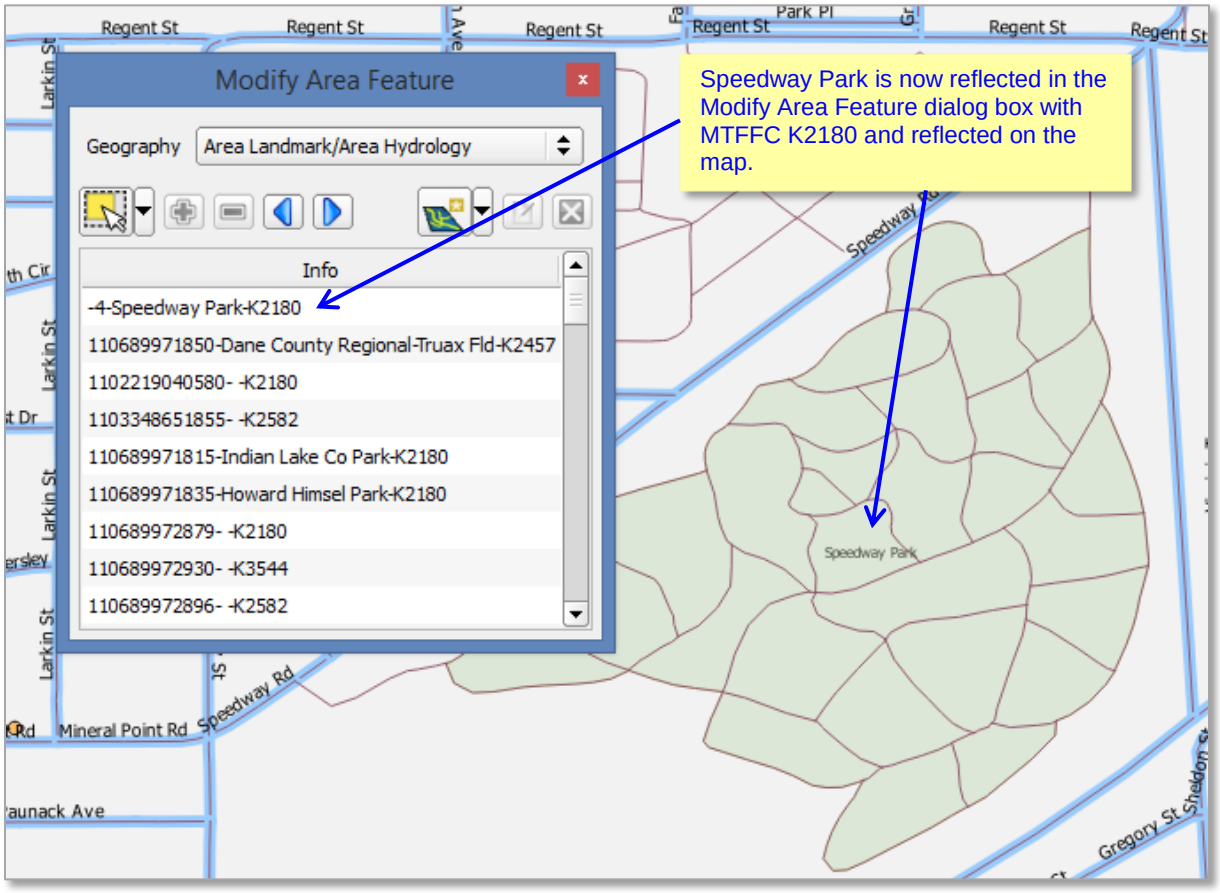
.



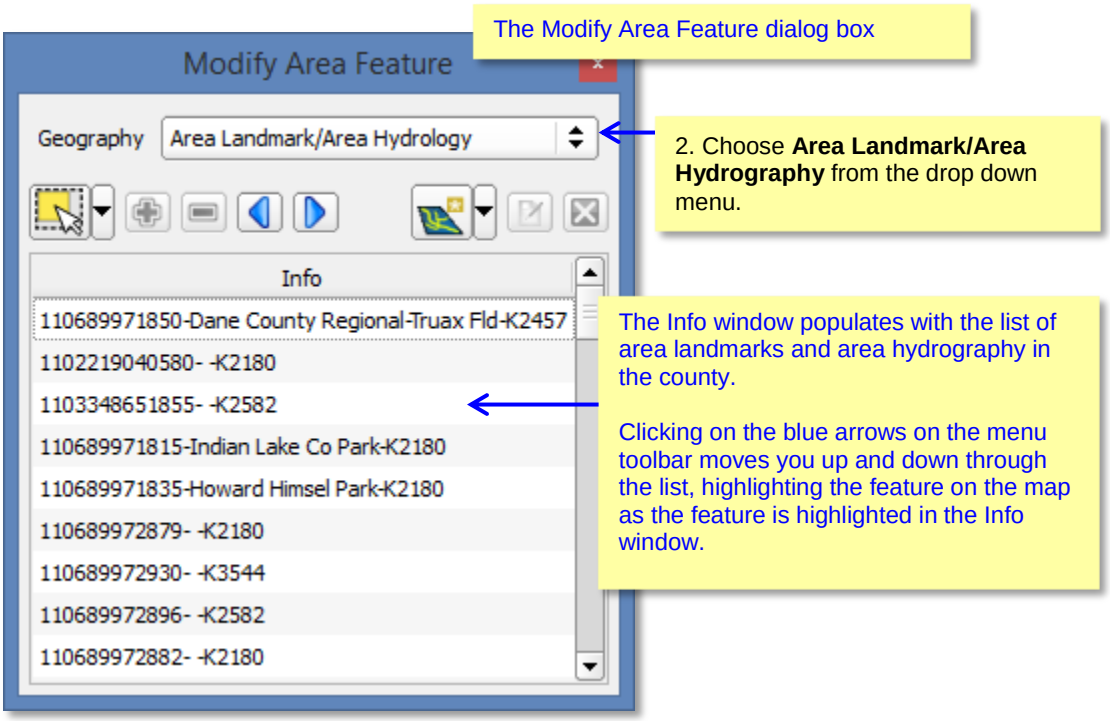


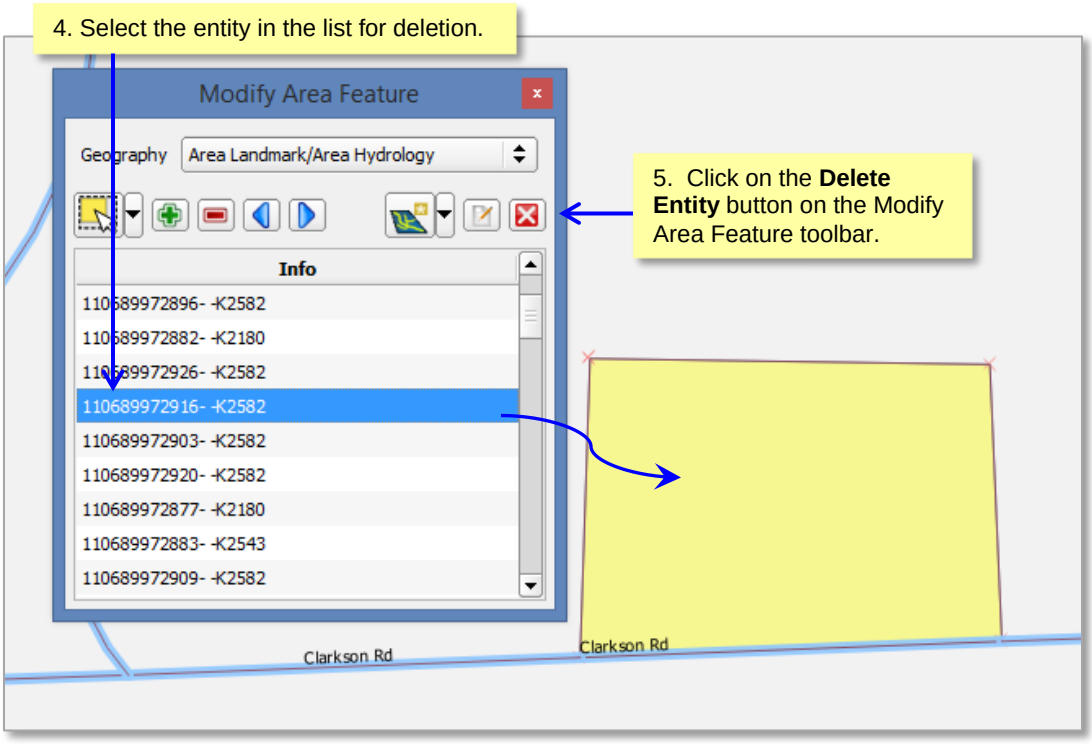


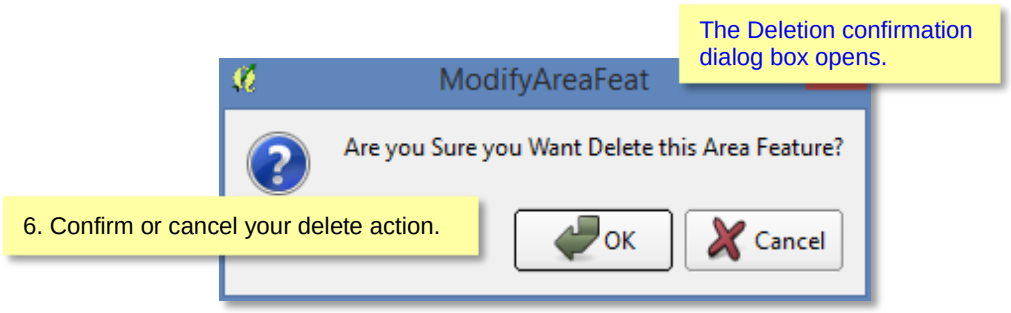
Because all areal features are comprised of faces (polygons), you may need to "split" a face to accurately reflect an entity's boundary. To split a face, digitize a new line that represents the boundary's location and assign it the appropriate MTFCC. This splits the original face into two faces. You can now select the face (polygon) you need to add to the new entity. Click here for more information on adding a linear feature.


Modify Area Feature
Geography
Area Landmark/Area Hydrology
Info
-4-Speedway Park-K2180
110689971850-Dane County Regional-Truax Fld-K2457
1102219040580- -K2180
1103348651855- -K2582
110689971815-Indian Lake Co Park-K2180
110689971835-Howard Himsel Park-K2180
110689972879- -K2180
110689972930- -K3544
110689972896- -K2582
Speedway Park is now reflected in the Modify Area Feature dialog box with MTFFC K2180 and reflected on the map.
Regent St
Park Pl
Larkin St
Speedway Rd
Speedway Park
Mineral Point Rd
Gregory St

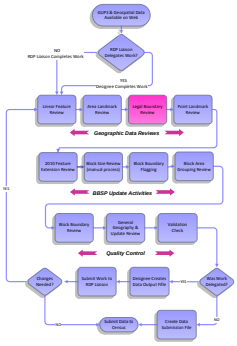
To Delete an Area Landmark:






The Deletion confirmation dialog box opens.
ModifyAreaFeat
Are you Sure you Want Delete this Area Feature?
OK
Cancel
6. Confirm or cancel your delete action.

6.3 Legal Boundary Updates (New for 2020)



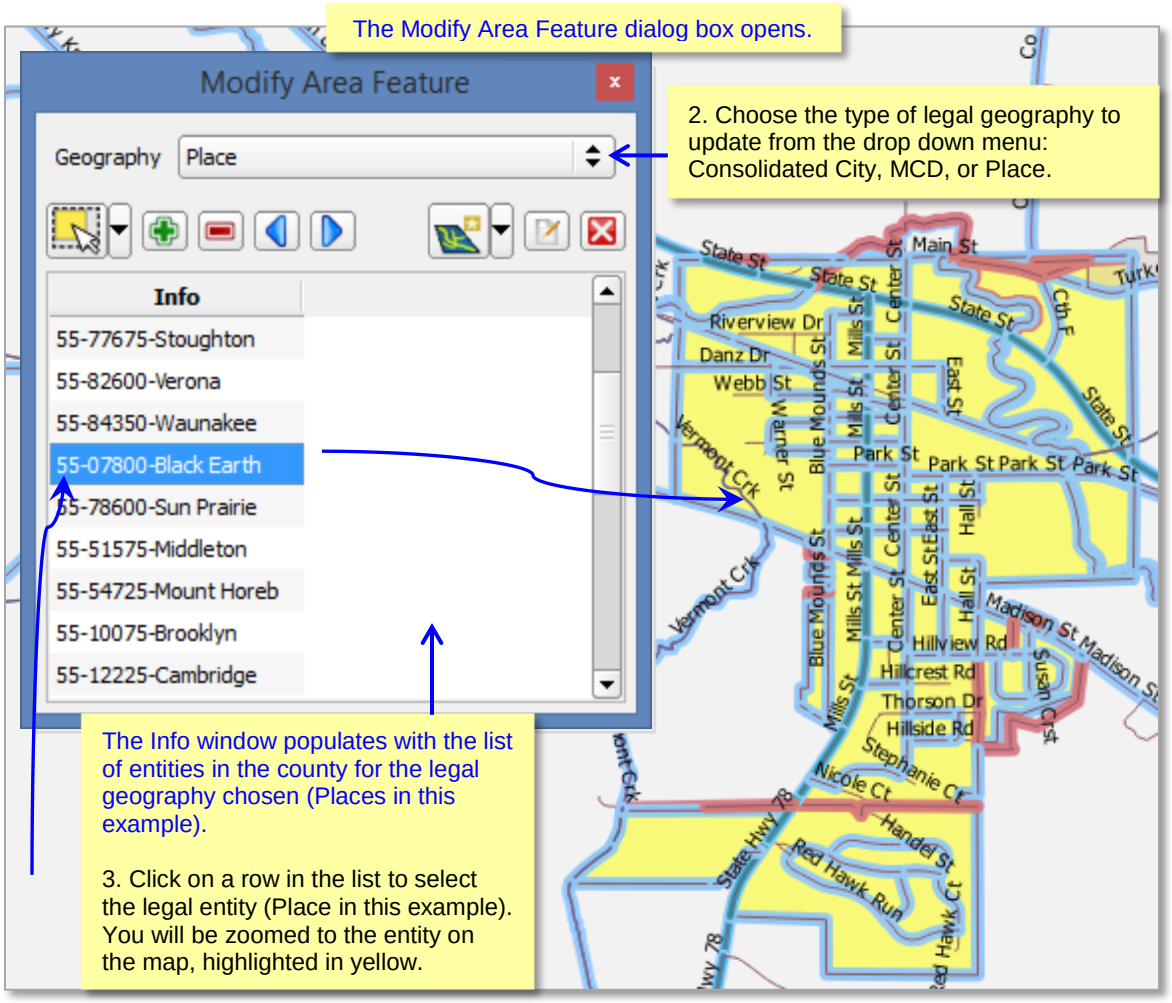
Block Boundary Suggestion Project participants may submit legal boundary updates (annexations, de-annexations, incorporations and dis-incorporations) for county subdivisions, incorporated places, and consolidated cities. You may also submit boundary corrections. The Census Bureau will reconcile the boundary submissions with the appropriate local governments as part of our 2016 Boundary and Annexation Survey. Although legal documentation (effective date, authority type, and ordinance number) is not *required* for boundary updates submitted through the BBSP, we strongly encourage you to submit the documentation to expedite our ability to reconcile and process any legal updates reported.

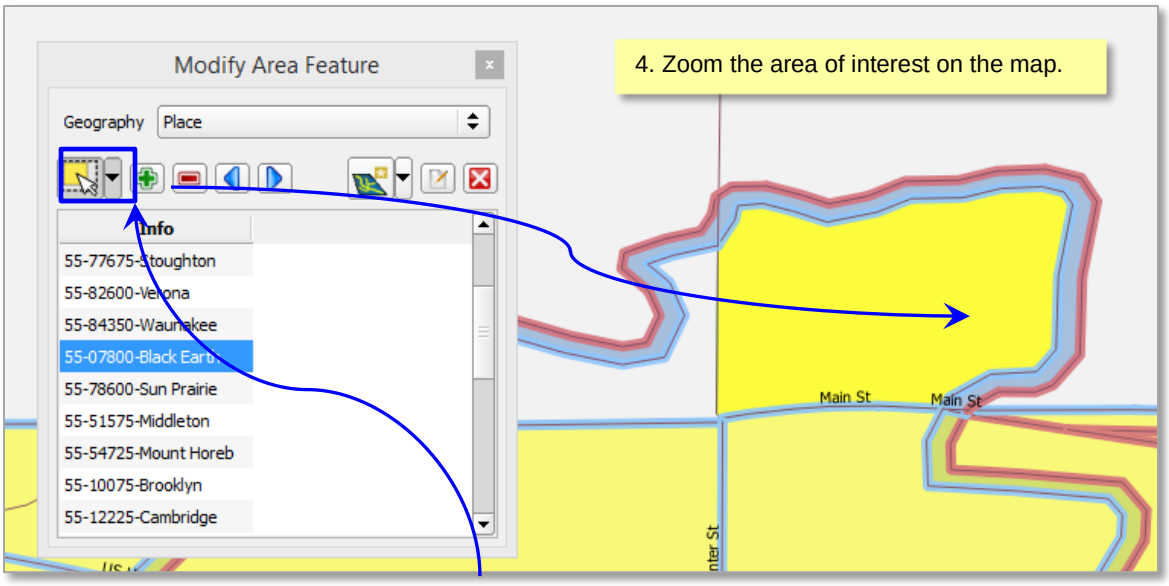
Important Note: If you do **not** plan to provide the legal documentation for a legal boundary change (effective date, authorization type, and ordinance number), you must report your boundary update as a ***Boundary Change,*** not a ***Legal Change,*** for Census Bureau processing purposes, even if it is annexation or deannexation You make this selection in the Select Output Type dialog box by clicking the radio button for *Boundary Change.*

You do not have to provide the legal *paperwork* for a legal change, just the effective date, authorization type, and ordinance number for changes to be processed as a Legal Change.

To Add or Delete Area to make a boundary change, for both legal changes and boundary corrections:

To Add or Delete Area to make a boundary change, for both legal changes and boundary corrections:

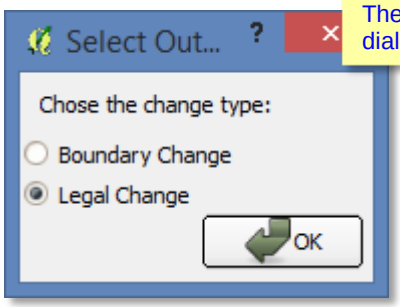




4. Zoom the area of interest on the map.

5. Click on the **Select Feature** button to select the face (polygon) to add to the entity.

6. On the Modify Area Feature toolbar, click on the **Add** button to add area to an entity or the **Remove** button to remove area from an entity.



The Select Output Type dialog box opens.

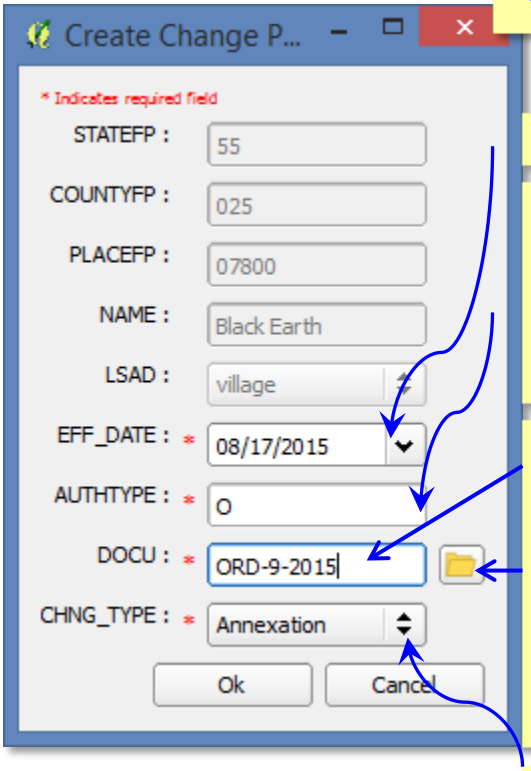
7. Click the radio button for the type of change you are providing.

If you plan to provide legal documentation for boundary changes such as annexations and deannexations, choose the **Legal Change** radio button. You just need to provide the authorization type, ordinance number, and effective date. You are not required to provide the *paperwork*, although you have that option.

If you do not plan to provide the legal documentation (authorization type, ordinance number, and effective date), then choose the **Boundary Change** radio button.

FOR A LEGAL CHANGE:

The Create Change Polygon dialog box opens.
The State, County, Place, Name and LSAD fields prepopulate based on your selection.



8. Type in the effective date of the legal change.

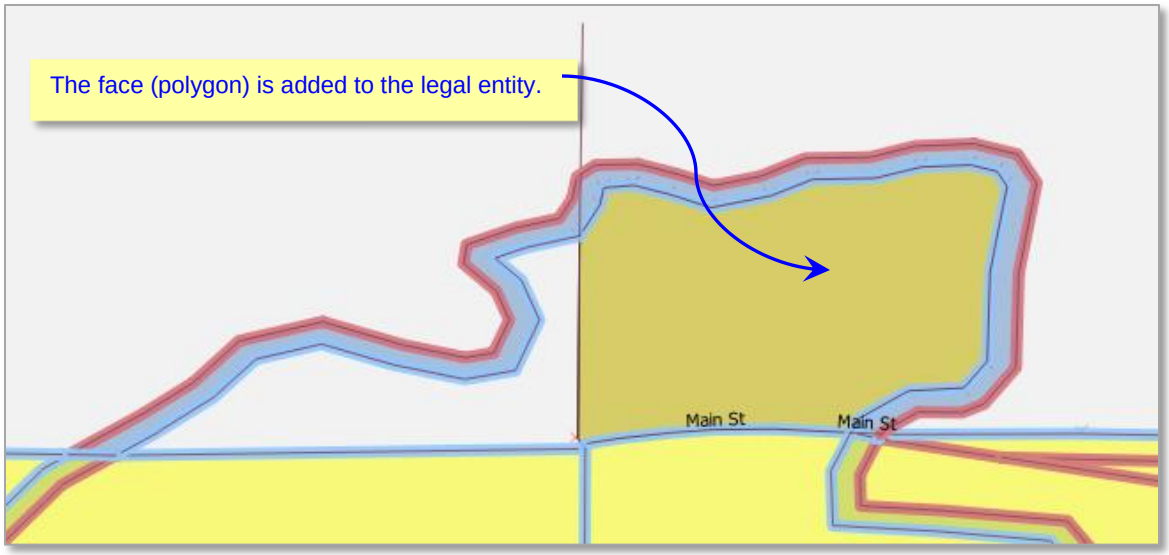
9. Select the Authorization Type from the drop down menu: (NOTE: FUTURE RELEASE)
L= Local Law
O=Ordinance
R=Resolution
S=State Level Action
X=Other

10. Type in the documentation number or appropriate information for t he Authorization Type chosen in the DOCU field if you do not plan to provide the actual legal action paperwork.

or

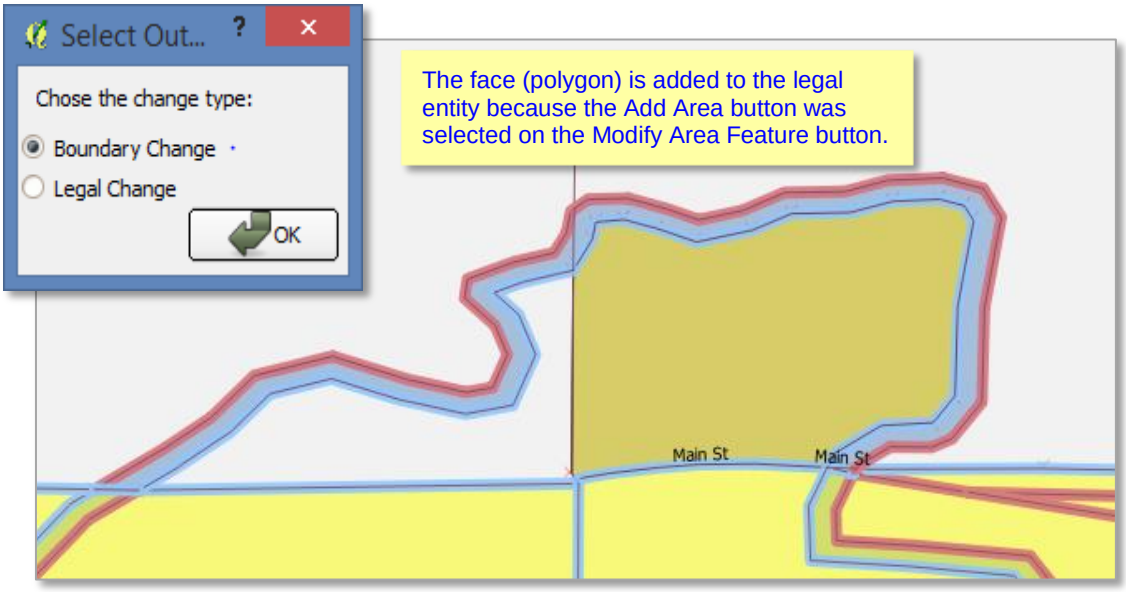
Click the **Open Folder** button if you wish to provide the paperwork to support the documentation. Navigate to the folder on your computer to select the file to upload. GUPS automatically populates the DOCU field with the file name.

11. Choose CHNG_TYPE from the drop down menu. Click **OK** or Cancel.



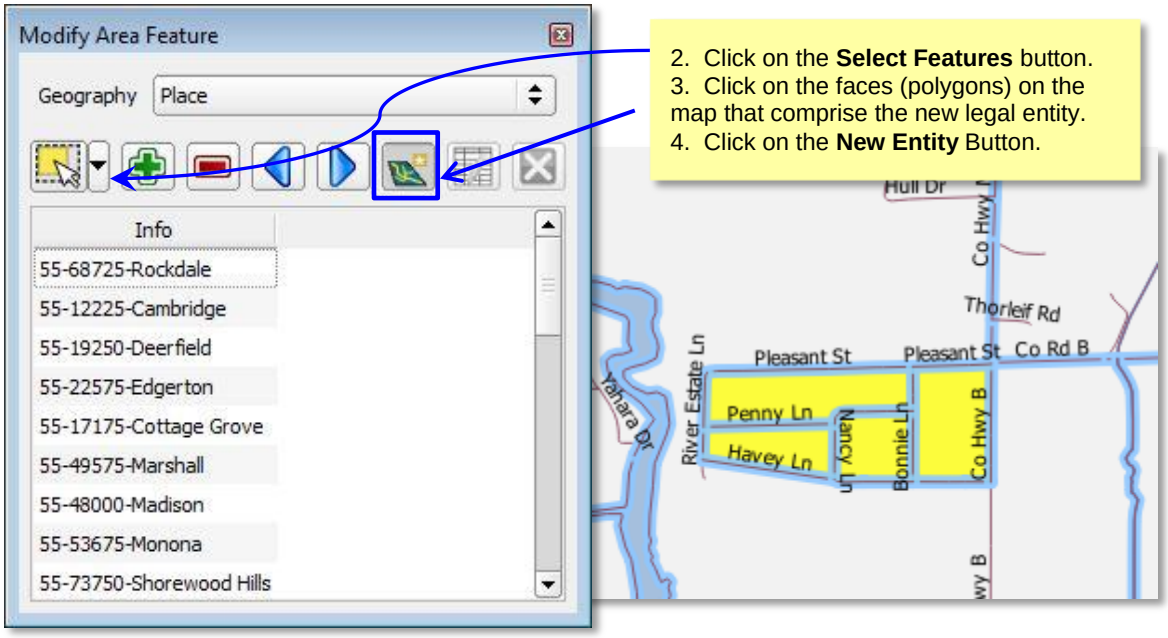
FOR A BOUNDARY CHANGE:

After selecting the Boundary change radio button and clicking OK, the face (polygon) is added to the entity or deleted from the entity, depending on your choice of ADD AREA or REMOVE AREA on the Modify Area Feature Toolbar.



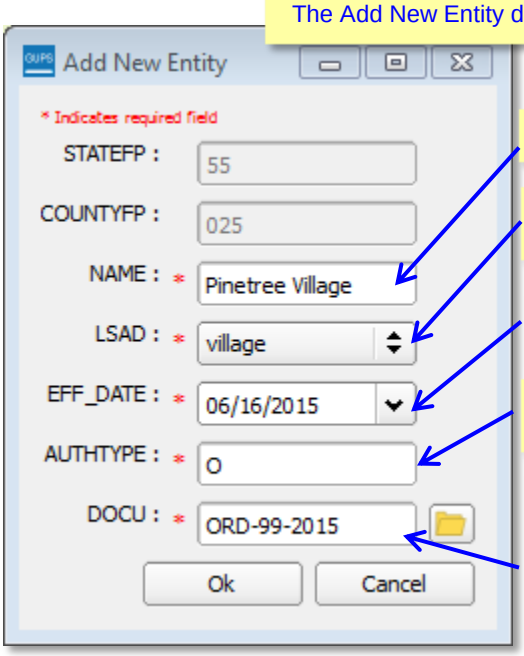
To Add a New Legal Entity:

1. Click on the **Modify Area Feature** button on the BBSP toolbar.



2. Click on the **Select Features** button.
3. Click on the faces (polygons) on the map that comprise the new legal entity.
4. Click on the **New Entity** Button.

The Add New Entity dialog box opens.



4. Type a name in the **Name** field.

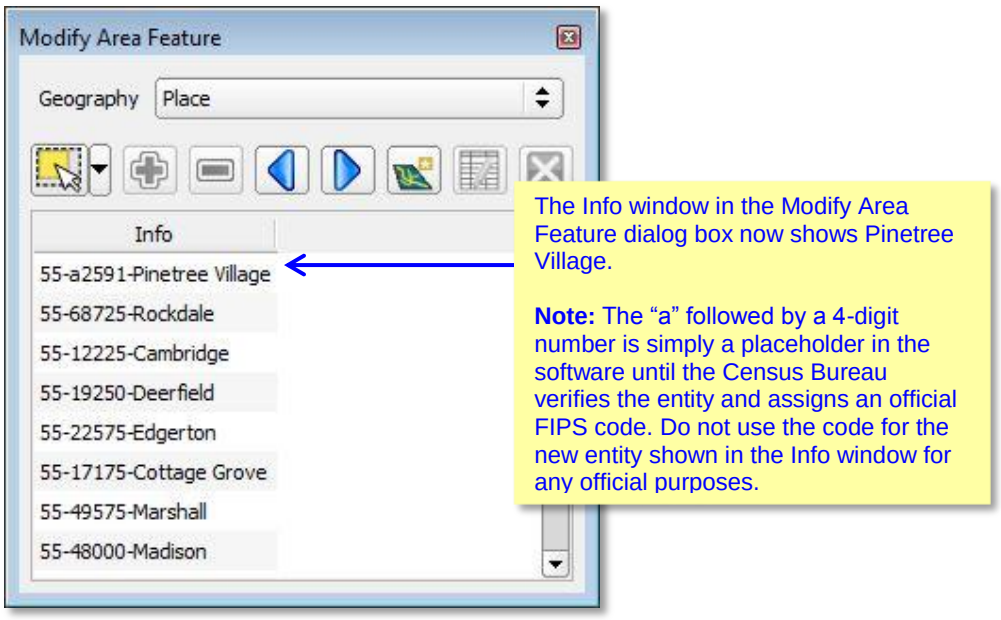
5. Choose the type of Legal/Statistical area from the drop down LSAD menu.

6. Type in the date the change became legally effective.

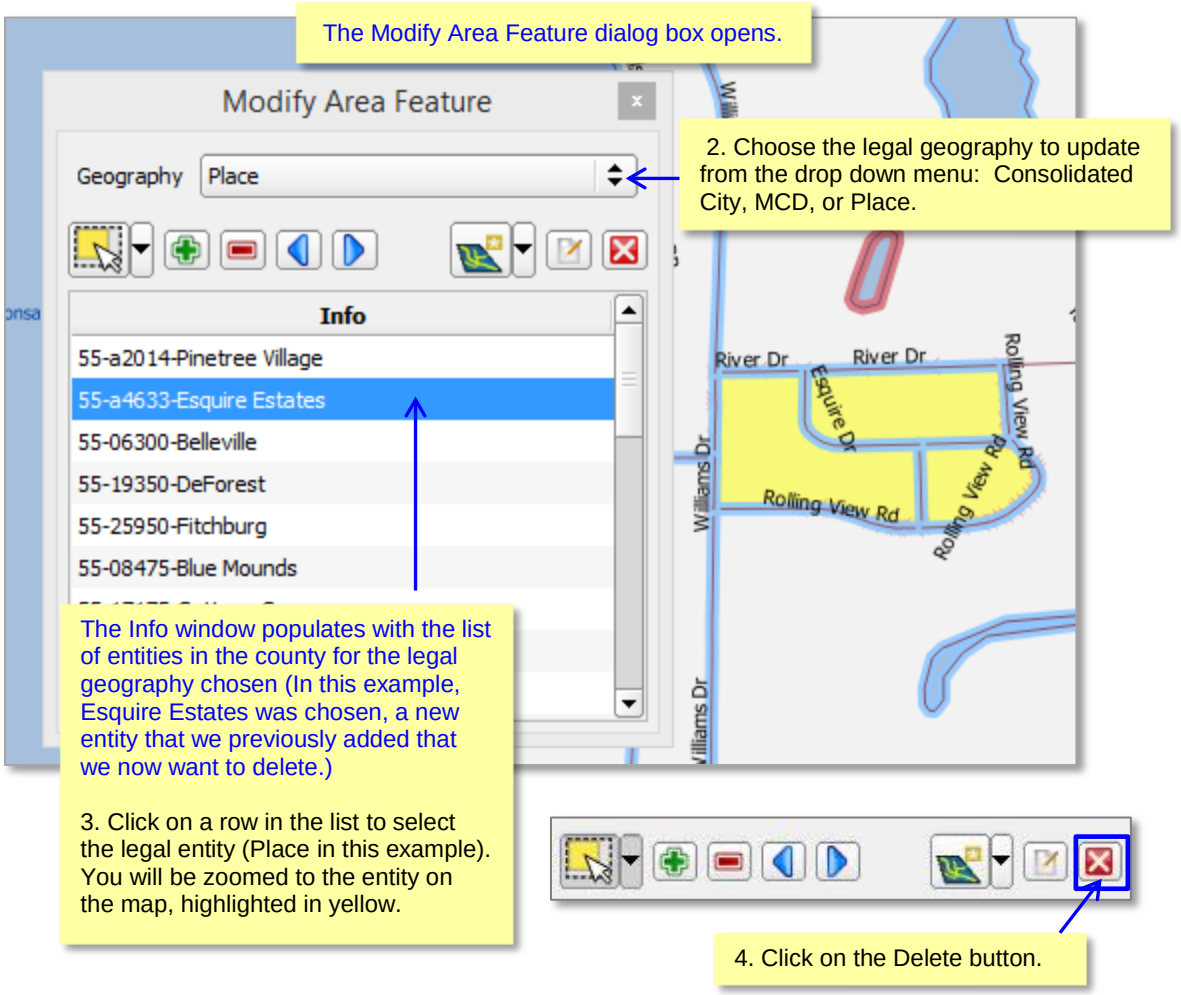
7. Choose the authorization type from the drop down menu. (Future Enhancement)

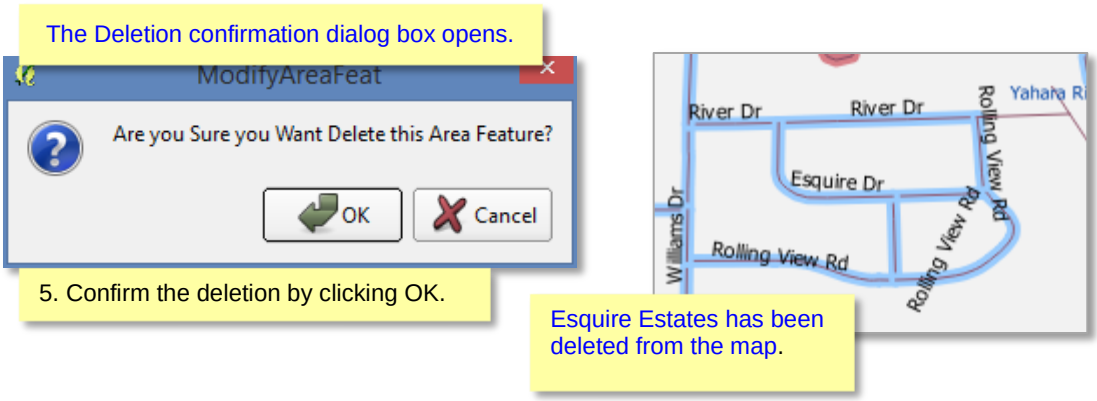
8. Type n the appropriate Documentation number, or if you prefer, you can click on the **Open Folder** button, and upload the actual paperwork, which will automatically populate the DOCU field with the filename.

9. Click **OK**

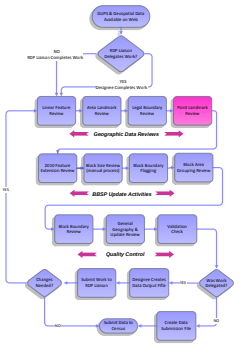

Modify Area Feature
Geography
Place
Info
55-a2591-Pinetree Village
55-68725-Rockdale
55-12225-Cambridge
55-19250-Deerfield
55-22575-Edgerton
55-17175-Cottage Grove
55-49575-Marshall
55-48000-Madison
The Info window in the Modify Area Feature dialog box now shows Pinetree Village.
Note: The "a" followed by a 4-digit number is simply a placeholder in the software until the Census Bureau verifies the entity and assigns an official FIPS code. Do not use the code for the new entity shown in the Info window for any official purposes.

To Delete a Legal Entity:



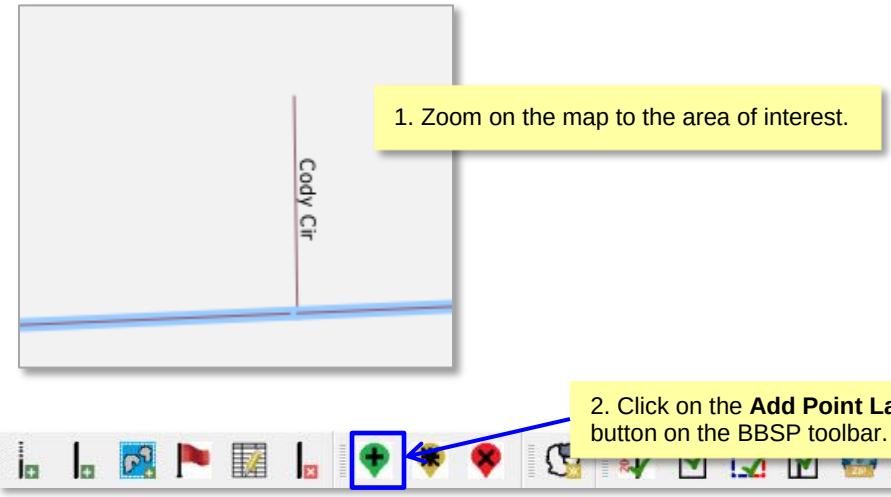


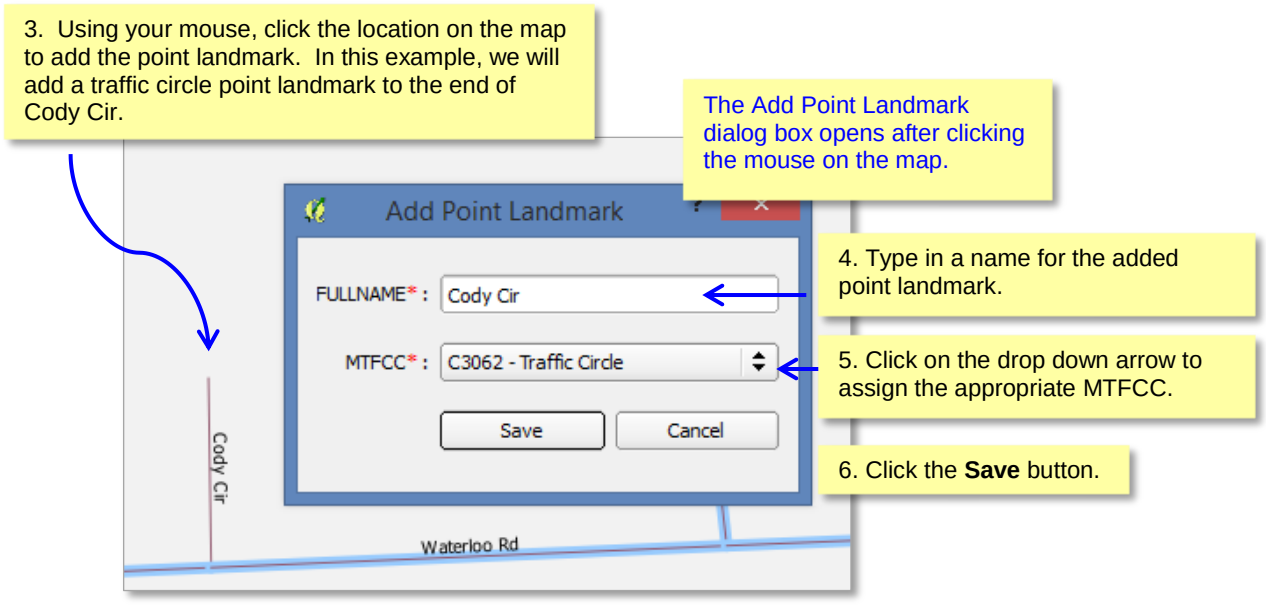
6.4 Point Landmark Review

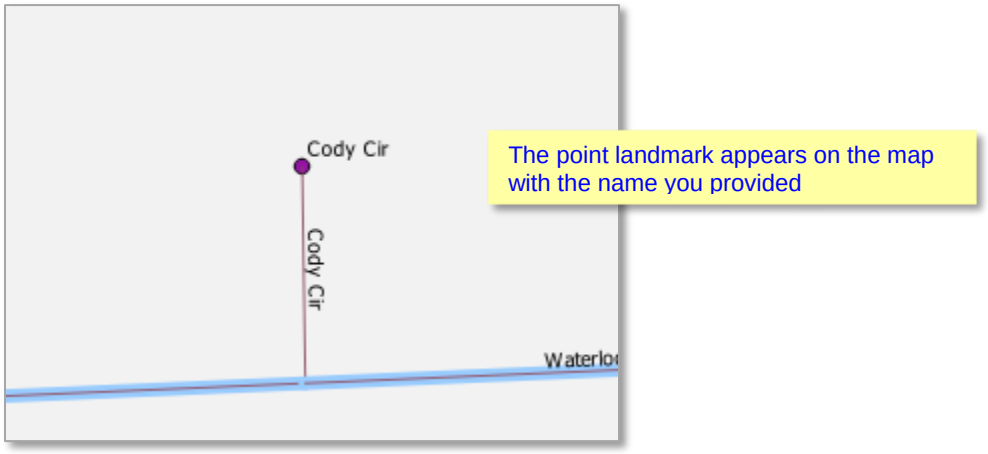


Point landmark review is an optional activity. Updates are limited because many of the point landmarks stored in the MAF/TIGER System originate from the national Geographic Names Information System. *Appendix A3: Point Landmark Updates Permitted,* lists the feature updates the Census Bureau will accept.

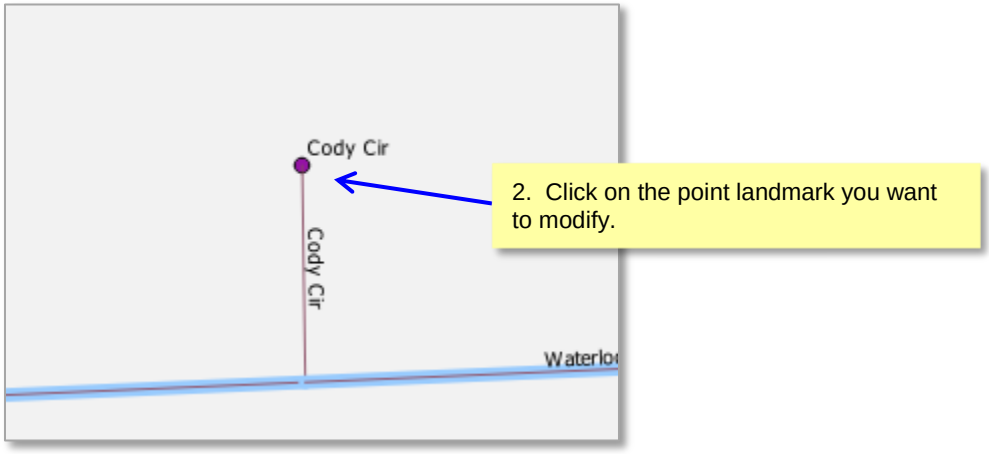
To Add a Point Landmark:

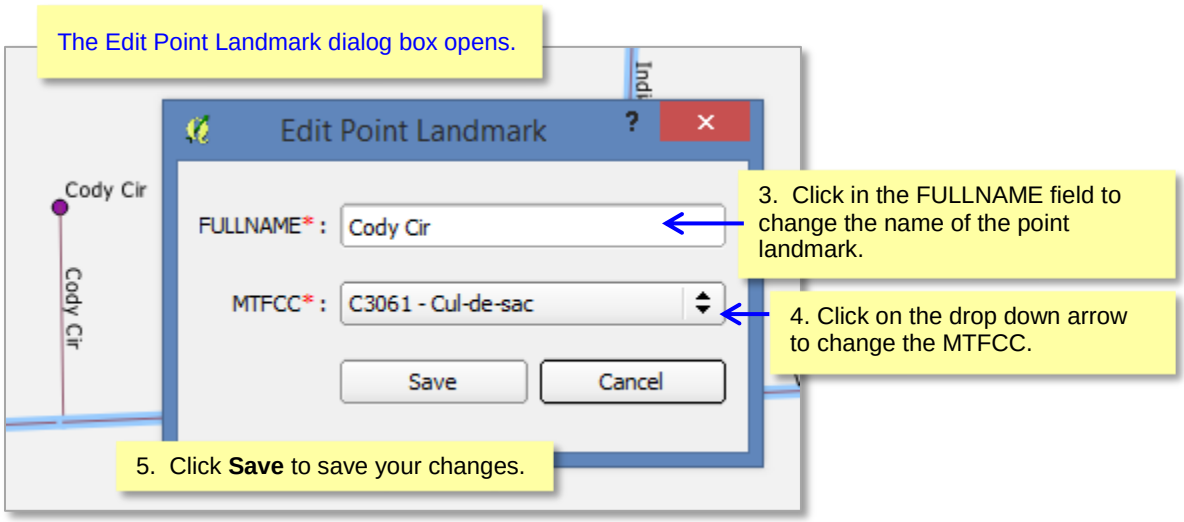




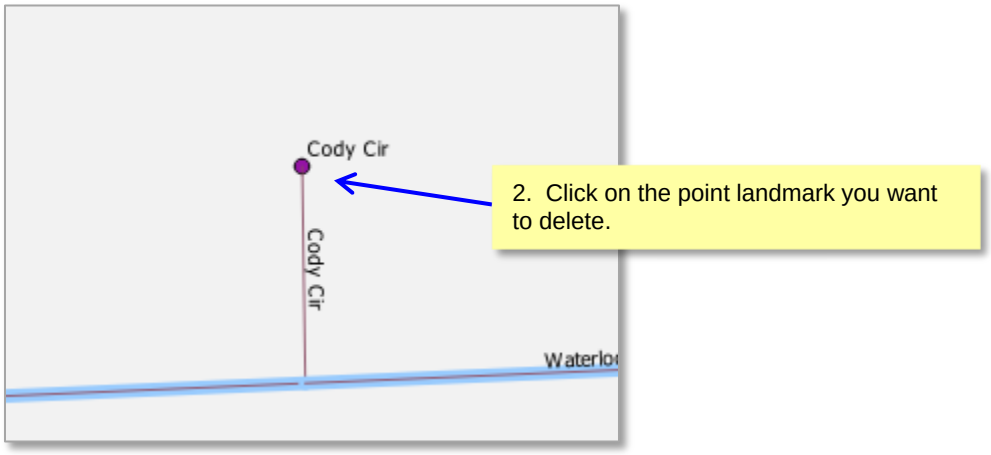

Cody Cir
Cody Cir
The point landmark appears on the map with the name you provided

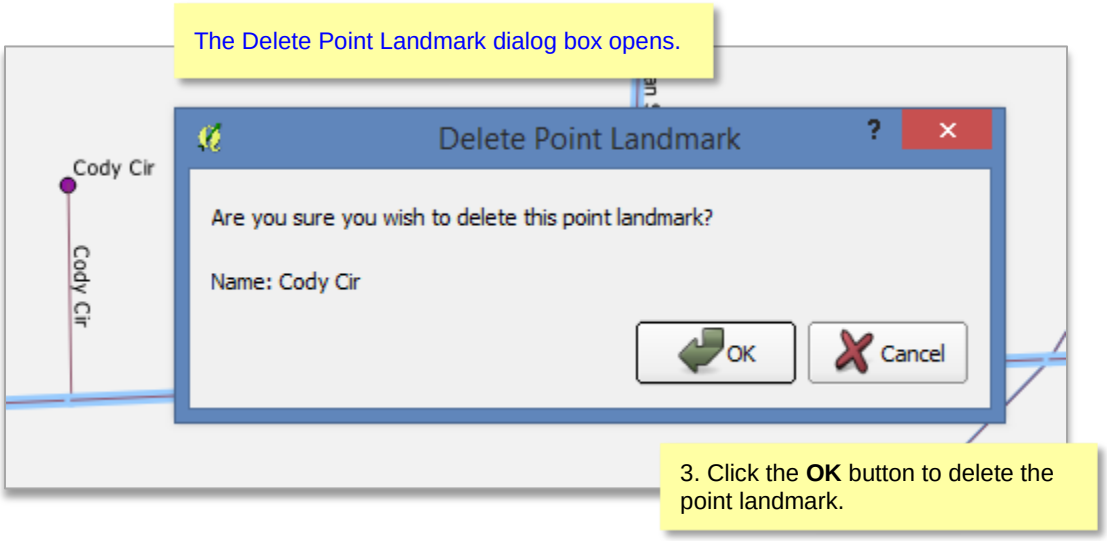
To Modify Point Landmark Attribution:



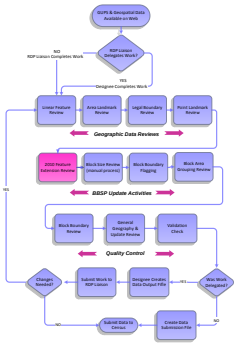


To Delete a Point Landmark:





6.5 2010 Linear Feature Extension Review

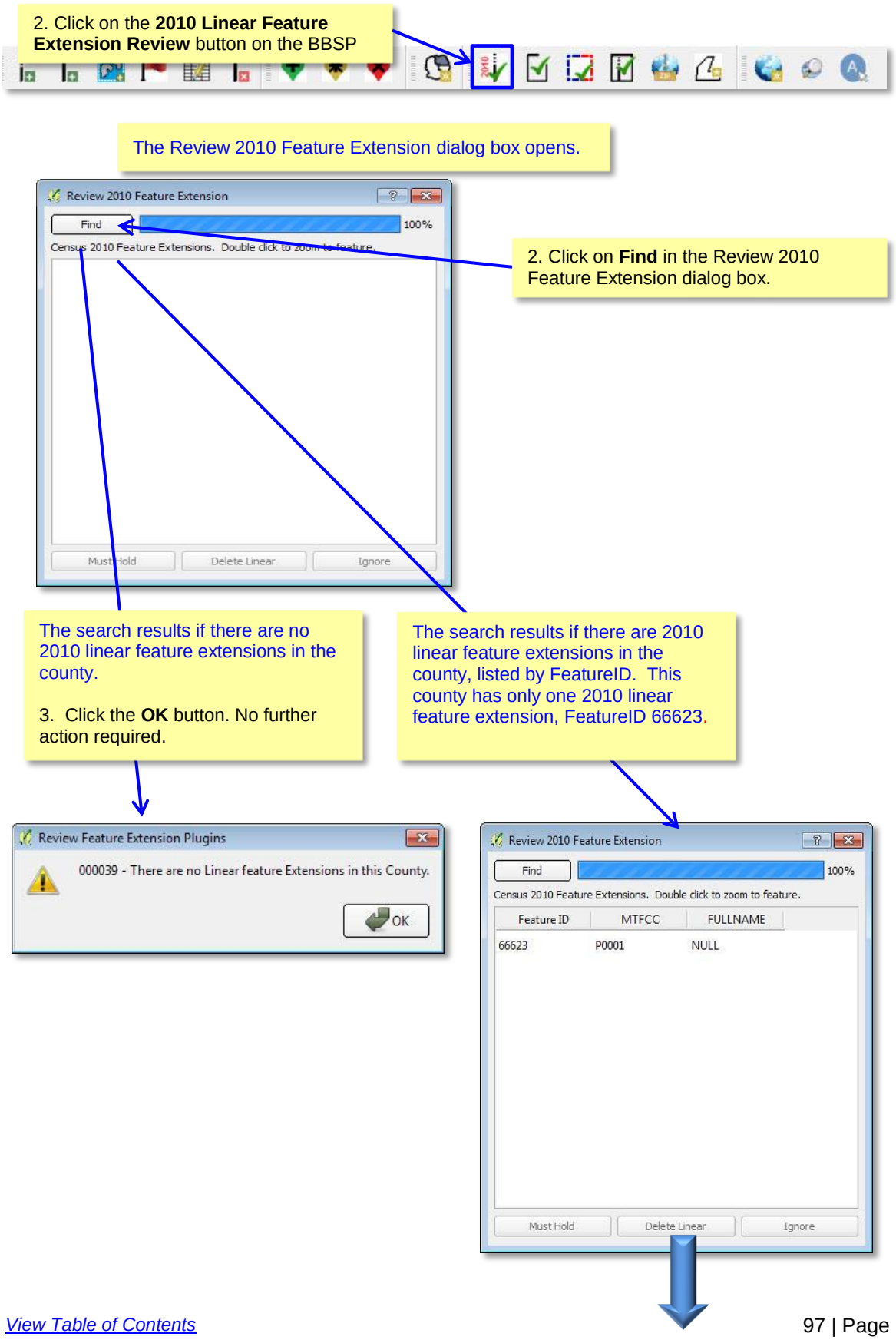


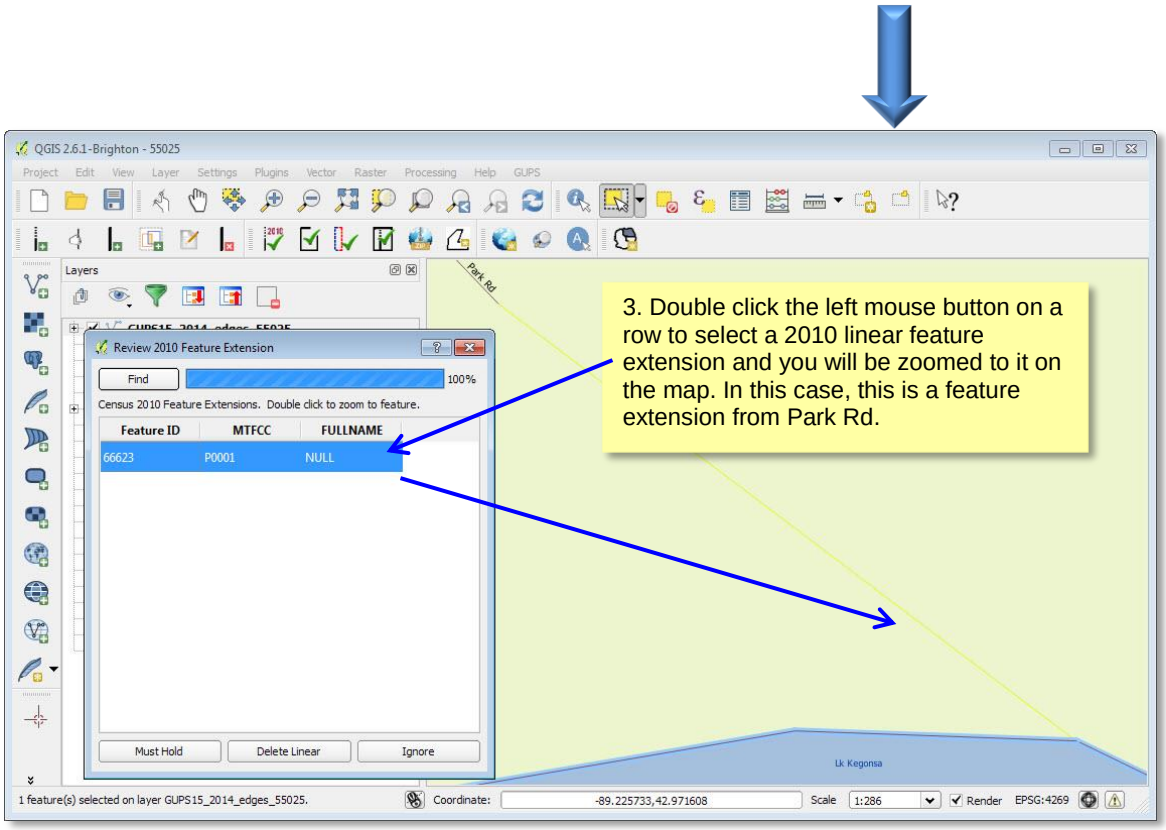
You are not required to review the 2010 feature extensions. However, please be aware that if you would like a 2010 feature extension held as 2020 block boundary, you must take an action on the 2010 feature extension. The 2010 feature extensions will not be automatically held as block boundaries for 2020.

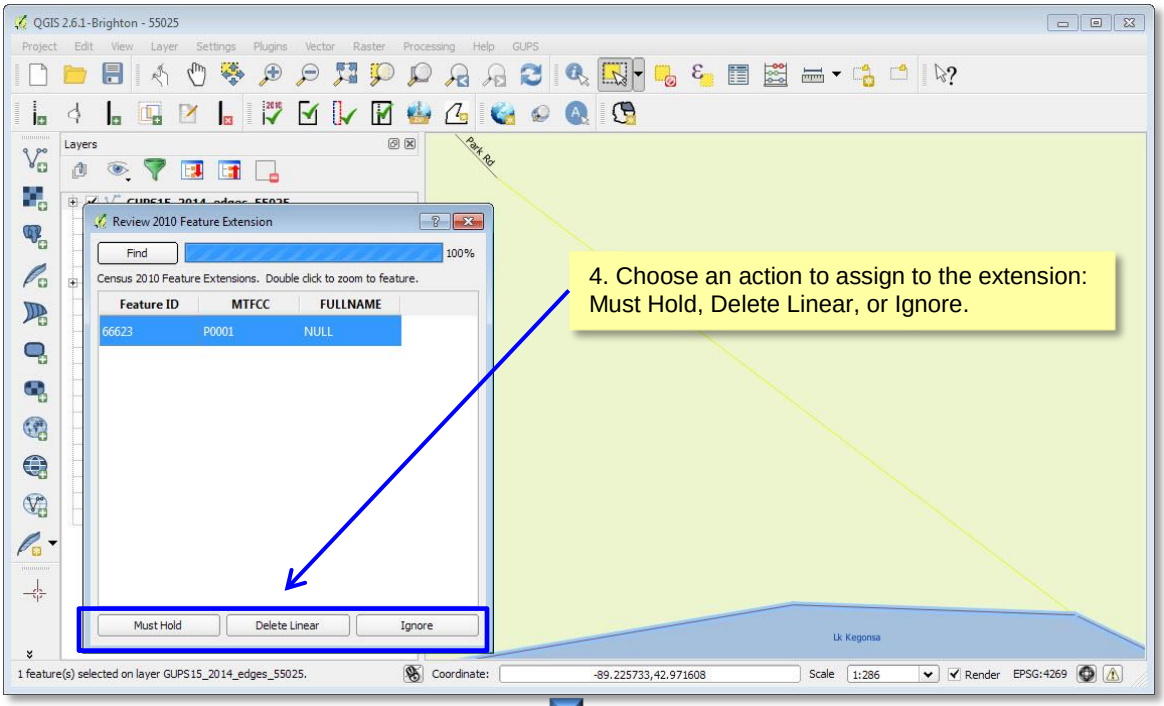
If you choose to review the 2010 feature extensions, you may:

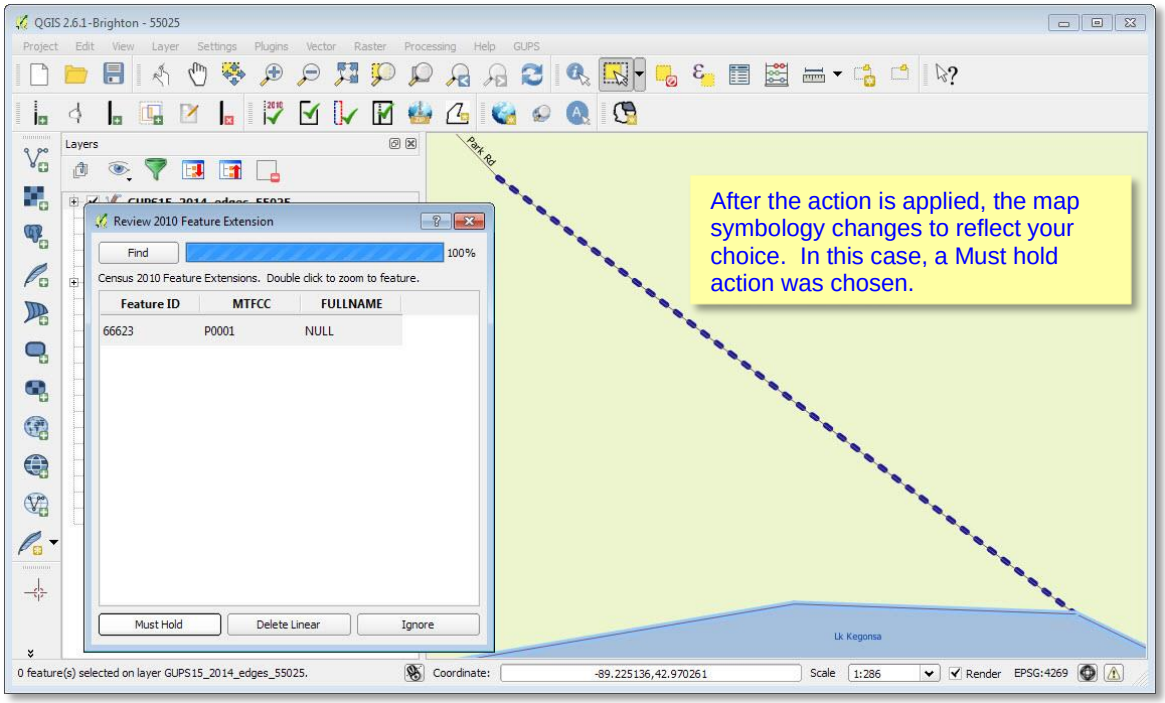
1) ***Hold*** the feature extension. A 2010 feature extensions flagged as a feature extension for 2020 will automatically be flagged as "must-hold", along with the feature segment from which it is being extended.
2) ***Delete*** the 2010 feature extension. The 2010 feature extensions marked for deletion by participants will help the Census Bureau remove features from the MAF/TIGER System that no longer serve a current data tabulation purpose.
3) ***Ignore*** the 2010 feature extension. If you take no action on a 2010 feature extension, the Census Bureau will determine whether to hold the extension and the feature associated with it as a 2020 block boundary. Be aware that if you do not assign an "Ignore" flag to a 2010 linear feature extension during your review, each time you activate the 2010 Linear feature Extension tool in GUPS, the tool will display the entire list of 2010 linear feature extensions which were not assigned a flag. If you assign a flag (Hold, Delete, or Ignore) to a 2010 linear feature extension, the extension is removed from the list of 2010 feature extensions to be reviewed.

To Review and Assign Flags to 2010 Feature Extensions:

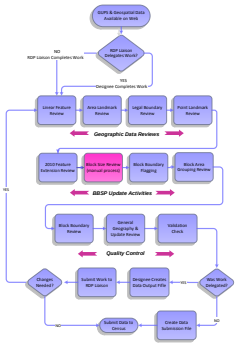



QGIS 2.6.1-Brighton - 55025
Layers
Review 2010 Feature Extension
Find
100%
Census 2010 Feature Extensions. Double click to zoom to feature.
Feature ID
MTFCC
FULLNAME
66623
P0001
NULL
Must Hold
Delete Linear
Ignore
Park Rd
Lk Kegonsa
1 feature(s) selected on layer GUPS15_2014_edges_55025.
Coordinate:
-89.225733,42.971608
Scale
1:286
Render
EPSG:4269
3. Double click the left mouse button on a row to select a 2010 linear feature extension and you will be zoomed to it on the map. In this case, this is a feature extension from Park Rd.


QGIS 2.6.1-Brighton - 55025
Layers
Review 2010 Feature Extension
Find
100%
Census 2010 Feature Extensions. Double click to zoom to feature.
Feature ID
MTFCC
FULLNAME
66623
P0001
NULL
Must Hold
Delete Linear
Ignore
Park Rd
Lk Kegonsa
1 feature(s) selected on layer GUPS15_2014_edges_55025.
Coordinate:
-89.225733,42.971608
Scale
1:286
Render
EPSG:4269
4. Choose an action to assign to the extension: Must Hold, Delete Linear, or Ignore.


QGIS 2.6.1-Brighton - 55025
Review 2010 Feature Extension
Find
100%
Census 2010 Feature Extensions. Double click to zoom to feature.
Feature ID
MTFCC
FULLNAME
66623
P0001
NULL
Must Hold
Delete Linear
Ignore
Park Rd
Uk Kegonsa
After the action is applied, the map symbology changes to reflect your choice. In this case, a Must hold action was chosen.
0 feature(s) selected on layer GUPS15_2014_edges_55025.
Coordinate:
-89.225136,42.970261
Scale
1:286
Render
EPSG:4269

6.6 Block Size Review



To facilitate your BBSP work, the Census Bureau assigned the 2020 planned tabulation blocks a block size. The block size indicator is based on a range of the number of housing units in the block. It is important to note that although discrete numbers have been established in order to assign each block a size value, the actual number of housing units in a block is *approximate.*

Factors considered when establishing the block sizes were the criteria for blocks groups, with a minimum housing unit count threshold of 240 and a maximum of 1200, and the census tract criteria, with a minimum housing unit count of 480, optimum count of 1,600, and a maximum of 3,200.

The table below lists the block size categories. Discrete number ranges were established for the purposes of assigning a block size category to each block. Again, the actual number of housing units in a block is approximate.

Size	Approximate Number Housing Units
A	Greater than 2000 housing units
B	1,600-1,999
C	1,200-1,599
D	1,000-1,199
E	700-999
F	480-699
G	400-479
H	240-399
I	1-239
Z	Potential "0" housing unit block

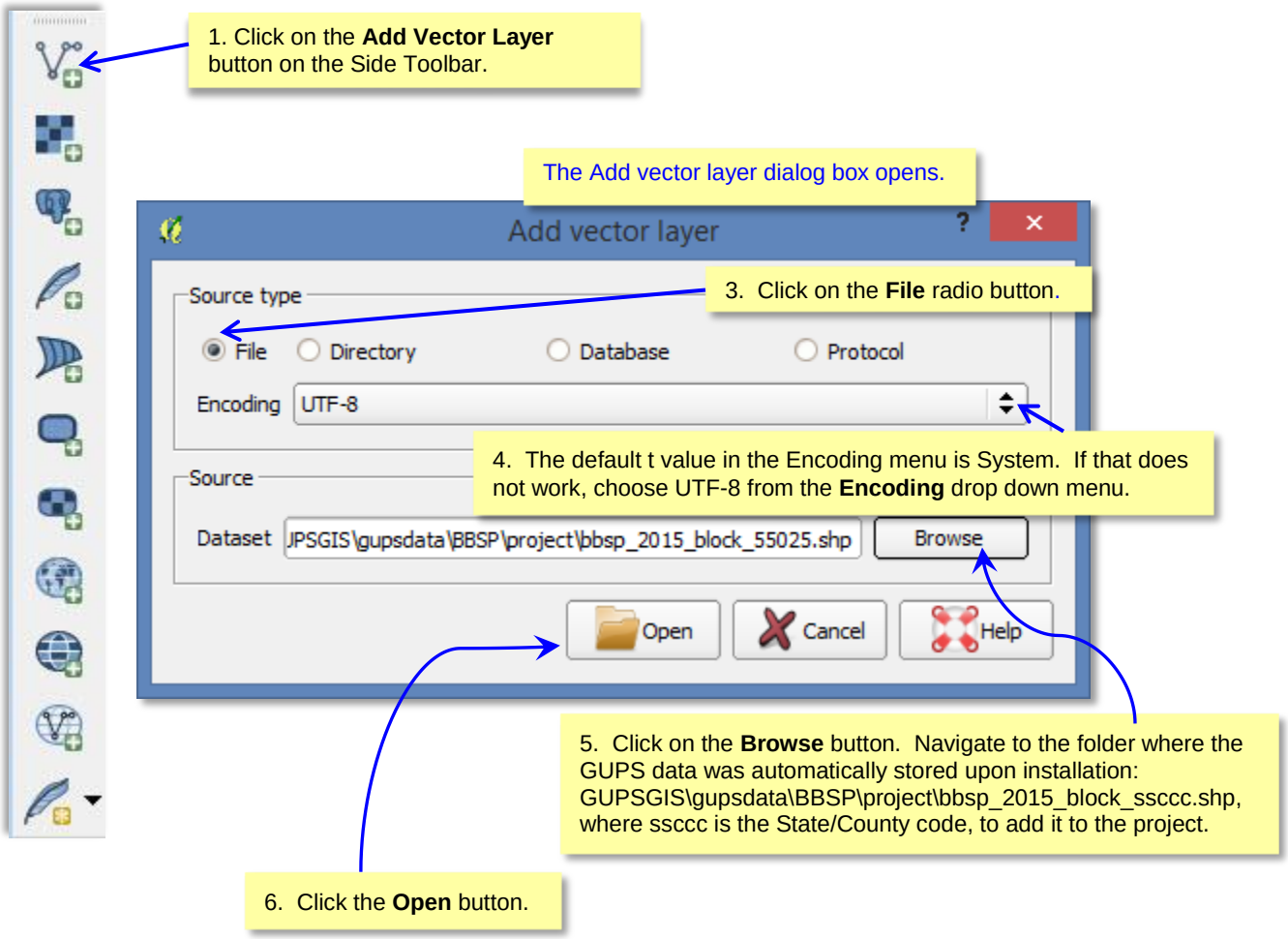
Figure X.X Block Size Categories

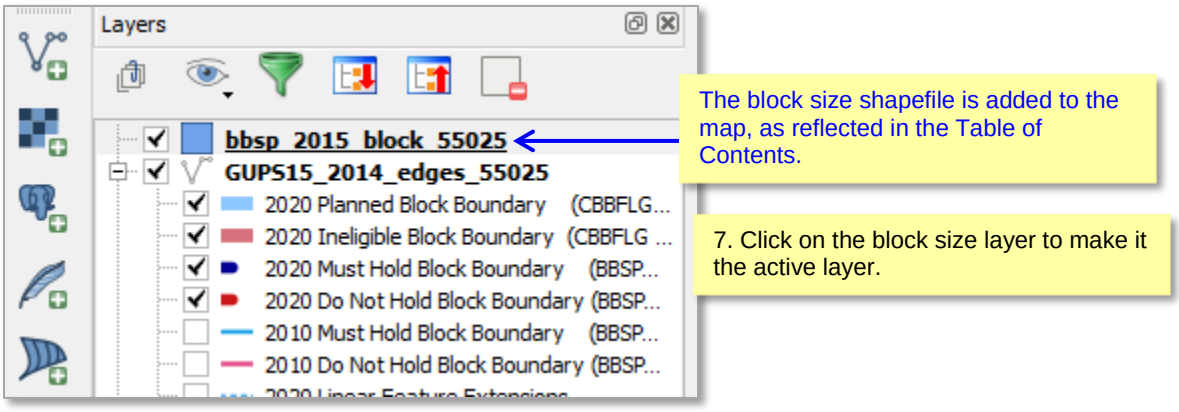
The GUPS does not contain a specific tool for reviewing the 2020 planned blocks by size. However, the directions below will allow you to select blocks by size category to determine whether you wish to take an action on a planned 2020 tabulation block.

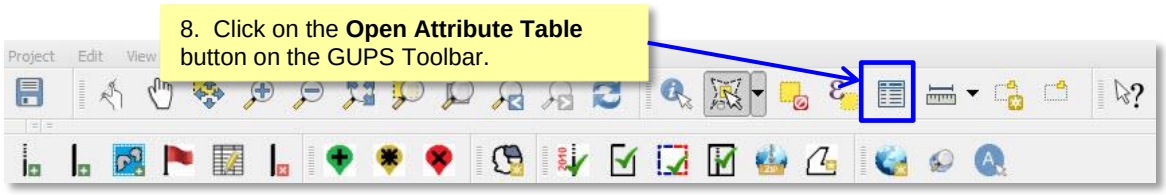
Factors to consider when reviewing block size are the block boundaries necessary for the 2020 Participant Statistical Areas Program. For example, you may wish to review planned blocks in the "A" and "B" size categories because they are near or exceed the optimum 2020 census tract housing unit count. You may also choose to review blocks in the C through H categories to suggest block boundaries, as appropriate, for the delineation of the 2020 block groups.

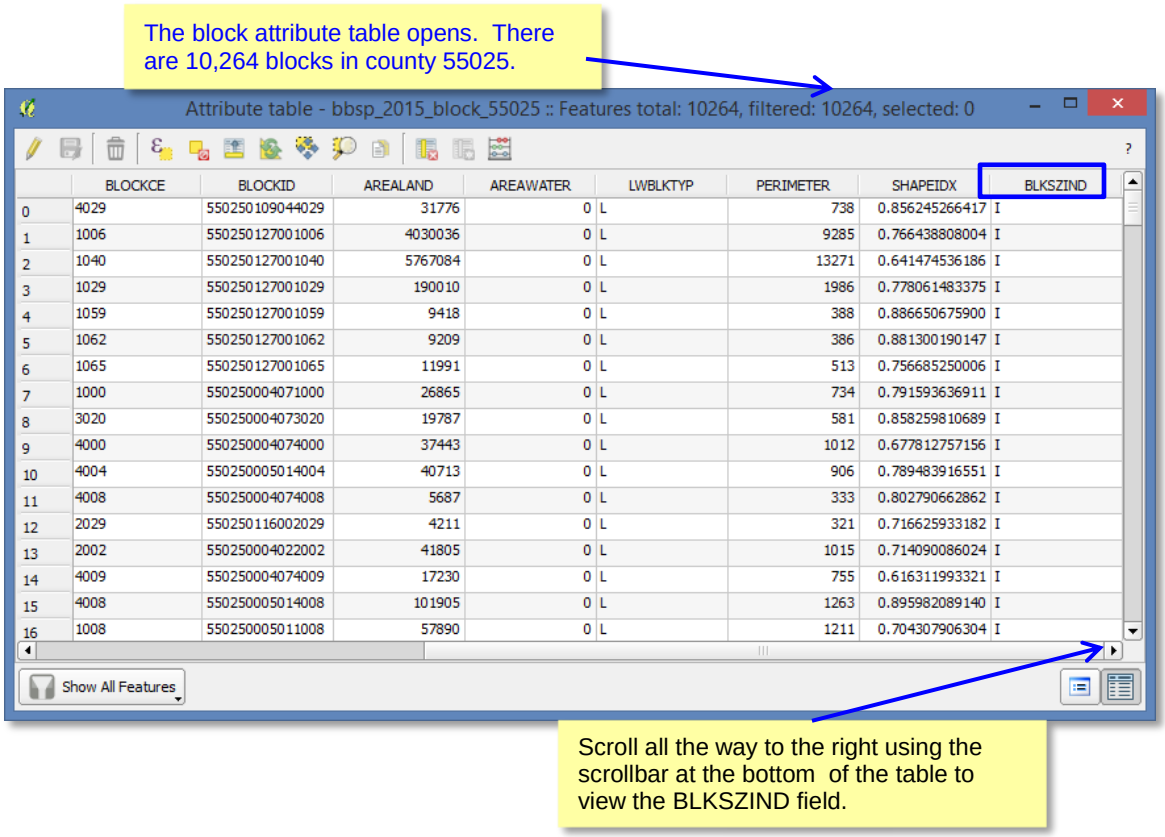
To review the blocks by size:

The block size shapefile is not included as a layer in the partnership shapefiles. You must first add it to the map as a layer.







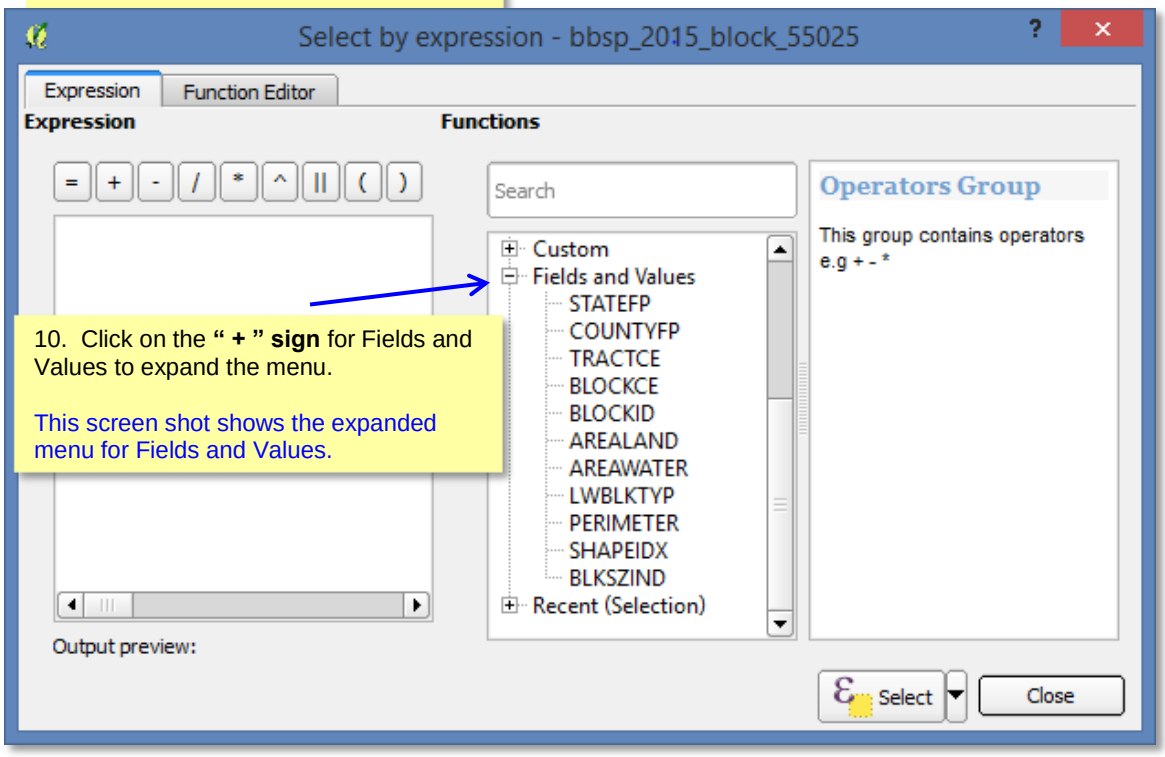


	BLOCKCE	BLOCKID	AREALAND	AREAWATER	LWBLKTYP	PERIMETER	SHAPEIDX	BLKSZIND
0	4029	550250109044029	31776	0	L	738	0.856245266417	I
1	1006	550250127001006	4030036	0	L	9285	0.766438808004	I
2	1040	550250127001040	5767084	0	L	13271	0.641474536186	I
3	1029	550250127001029	190010	0	L	1986	0.778061483375	I
4	1059	550250127001059	9418	0	L	388	0.886650675900	I
5	1062	550250127001062	9209	0	L	386	0.881300190147	I
6	1065	550250127001065	11991	0	L	513	0.756685250006	I
7	1000	550250004071000	26865	0	L	734	0.791593636911	I
8	3020	550250004073020	19787	0	L	581	0.858259810689	I
9	4000	550250004074000	37443	0	L	1012	0.677812757156	I
10	4004	550250005014004	40713	0	L	906	0.789483916551	I
11	4008	550250004074008	5687	0	L	333	0.802790662862	I
12	2029	550250116002029	4211	0	L	321	0.716625933182	I
13	2002	550250004022002	41805	0	L	1015	0.714090086024	I
14	4009	550250004074009	17230	0	L	755	0.616311993321	I
15	4008	550250005014008	101905	0	L	1263	0.895982089140	I
16	1008	550250005011008	57890	0	L	1211	0.704307906304	I

To view the counts of blocks by size category:

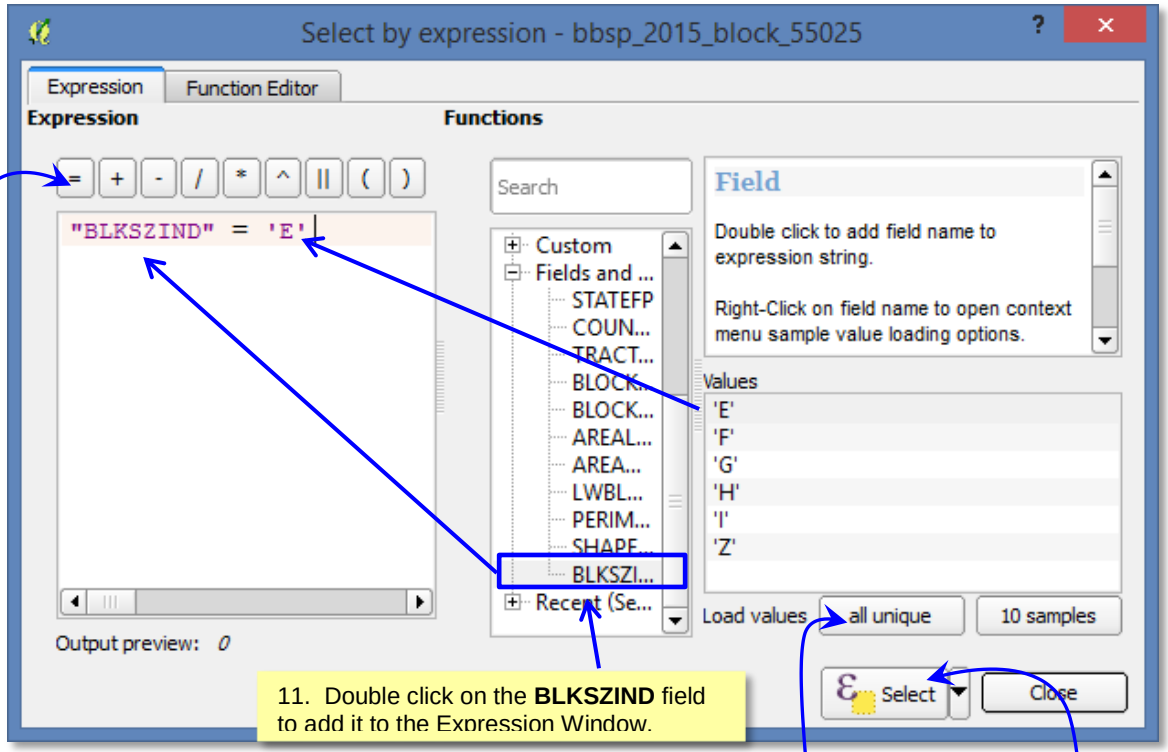
9. Click on the **Select by Expression** button on the Attribute Table Menu toolbar.

The Select by expression dialog box for the block size shapefile opens.



10. Click on the **" + " sign** for Fields and Values to expand the menu.

This screen shot shows the expanded menu for Fields and Values.



11. Double click on the **BLKSZIND** field to add it to the Expression Window.

12. Single click on the **" = "** operator button above the expression window to add it to the expression.

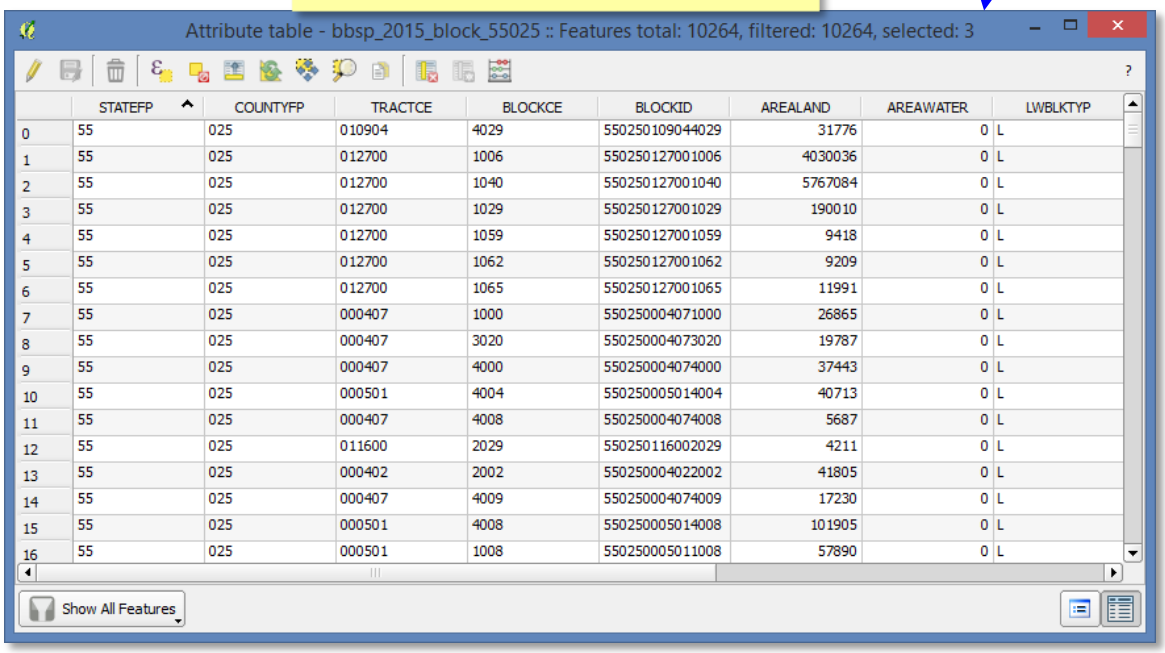
13. At the bottom of the Values window, click on the **all unique** button to see all size categories present in the county.

Notice that there are no "A", "B", "C", or "D" block size categories in this county. Choose the size category to review.

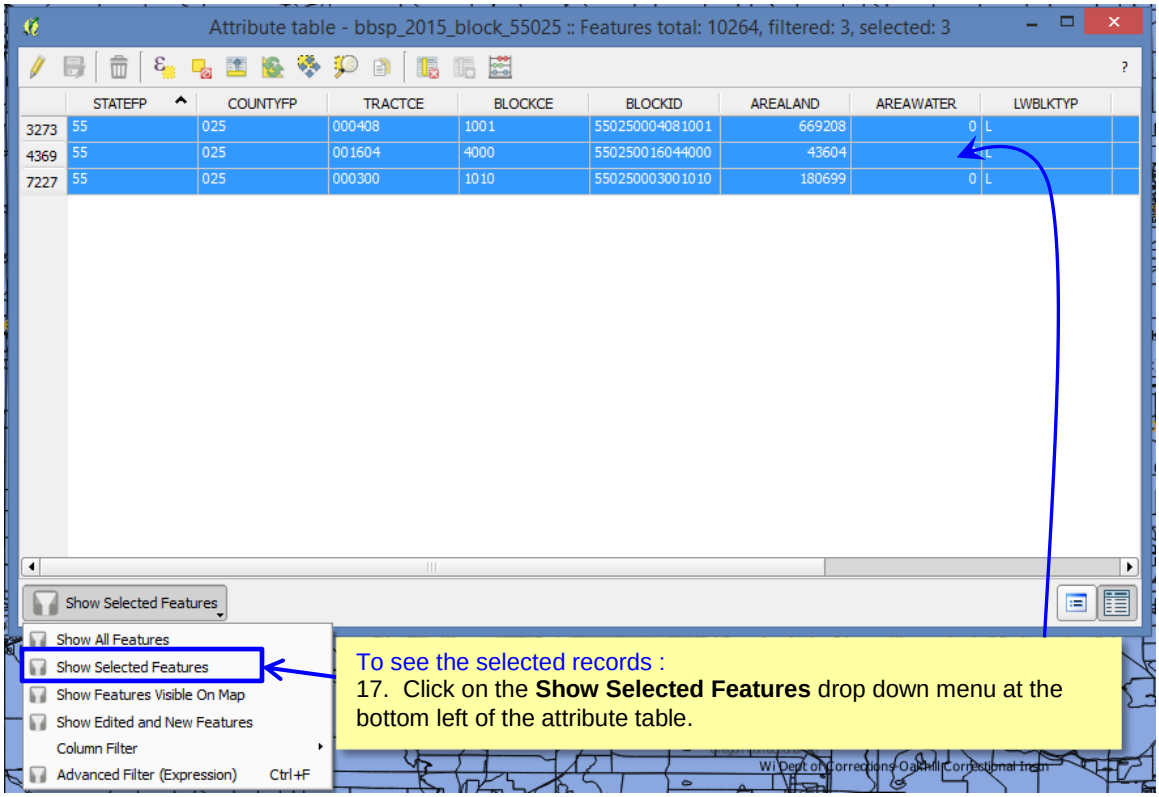
14. For this example, we want to choose category "E", so double click on "E" in the Values window to add it to the expression field.

15. Click on the **Select** button at the bottom on the dialog box.

The results are returned in the attribute table. Of the 10,264 blocks in the county, there are 3 with the size category "E", as indicated at the top of the attribute table window.

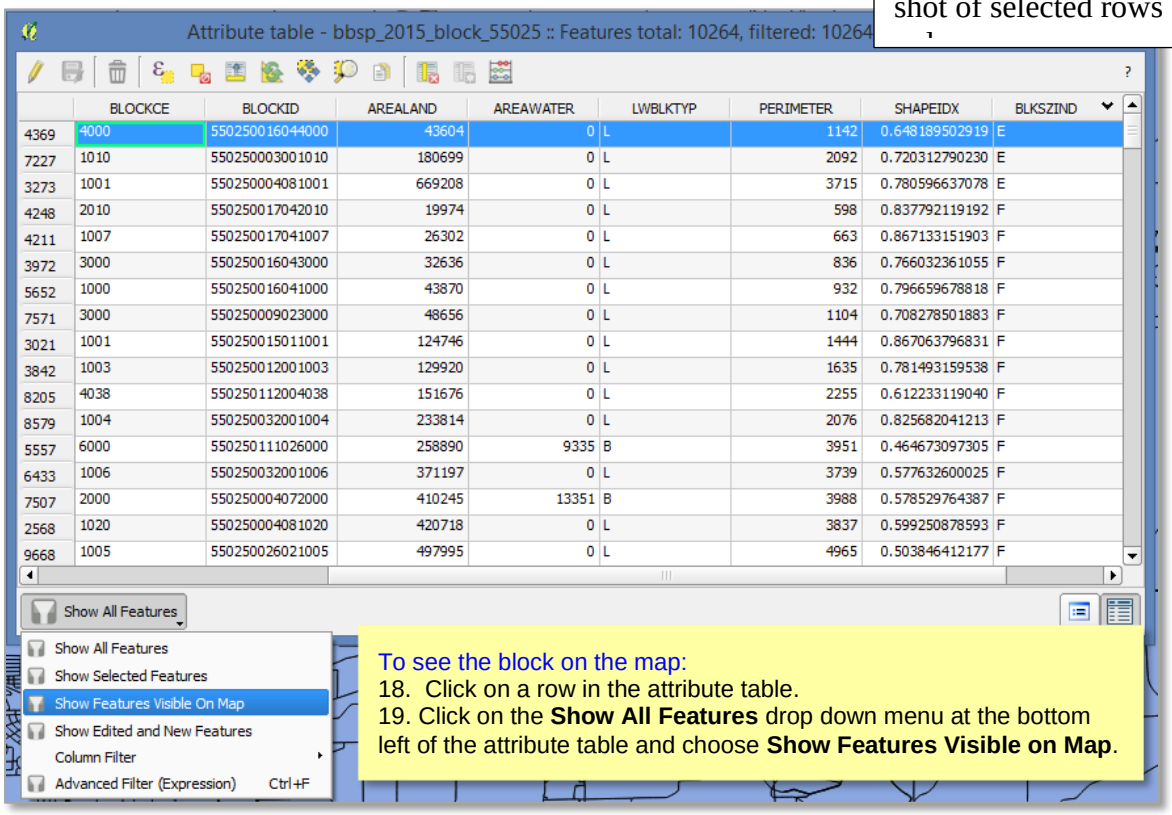


	STATEFP	COUNTYFP	TRACTCE	BLOCKCE	BLOCKID	AREALAND	AREAWATER	LWBLKTYP
0	55	025	010904	4029	550250109044029	31776	0	L
1	55	025	012700	1006	550250127001006	4030036	0	L
2	55	025	012700	1040	550250127001040	5767084	0	L
3	55	025	012700	1029	550250127001029	190010	0	L
4	55	025	012700	1059	550250127001059	9418	0	L
5	55	025	012700	1062	550250127001062	9209	0	L
6	55	025	012700	1065	550250127001065	11991	0	L
7	55	025	000407	1000	550250004071000	26865	0	L
8	55	025	000407	3020	550250004073020	19787	0	L
9	55	025	000407	4000	550250004074000	37443	0	L
10	55	025	000501	4004	550250005014004	40713	0	L
11	55	025	000407	4008	550250004074008	5687	0	L
12	55	025	011600	2029	550250116002029	4211	0	L
13	55	025	000402	2002	550250004022002	41805	0	L
14	55	025	000407	4009	550250004074009	17230	0	L
15	55	025	000501	4008	550250005014008	101905	0	L
16	55	025	000501	1008	550250005011008	57890	0	L



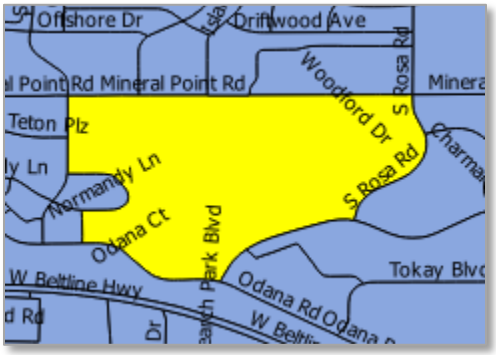
	STATEFP	COUNTYFP	TRACTCE	BLOCKCE	BLOCKID	AREALAND	AREAWATER	LWBLKTYP
3273	55	025	000408	1001	550250004081001	669208	0	L
4369	55	025	001604	4000	550250016044000	43604	0	L
7227	55	025	000300	1010	550250003001010	180699	0	L

Will need new screen shot of selected rows

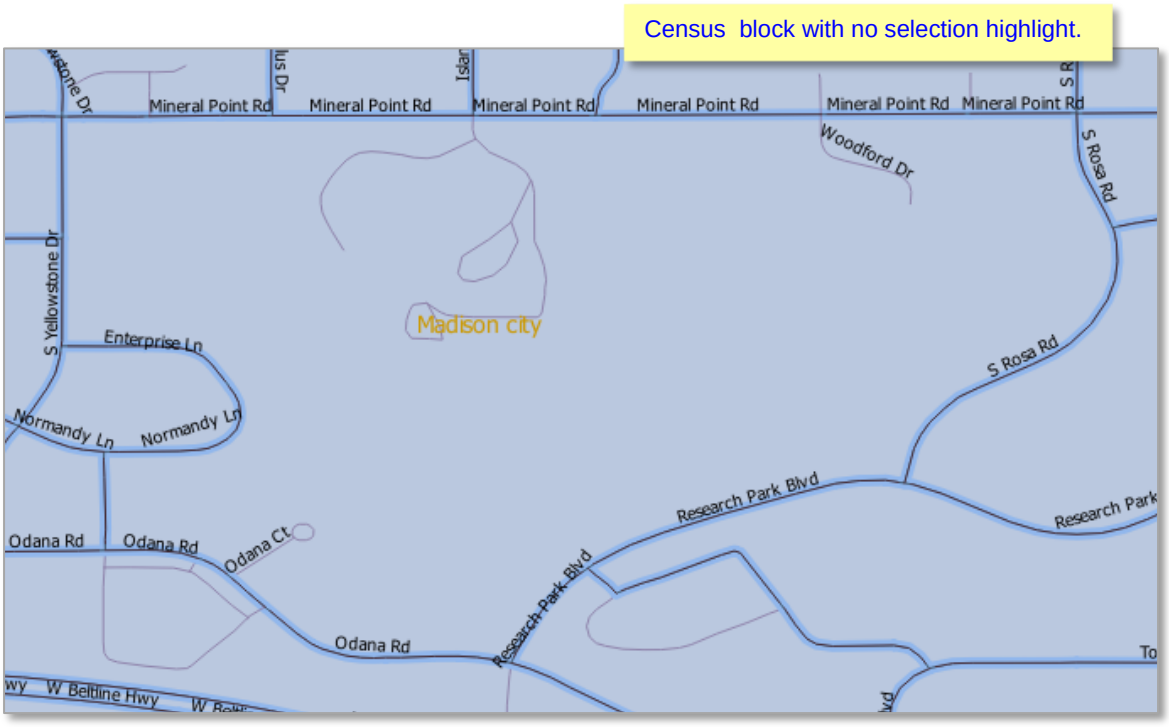


To see the block on the map:
18. Click on a row in the attribute table.
19. Click on the **Show All Features** drop down menu at the bottom left of the attribute table and choose **Show Features Visible on Map**.

20. Click on the **Zoom to Selection** button on the Attribute Table Menu toolbar.

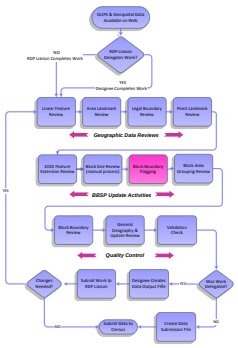


The map view is zoomed to the block chosen.
Determine what action, if any, you may wish to take on the block.. In the case of an extremely large block, there may be one or more missing features to be added to the Census shapefile and must hold flags assigned to one or more of them.



You can follow the same procedures outlined above to review small blocks if you wish, time permitting. You may wish to place a do not hold flag on one or more of the planned block boundaries. Candidate small blocks for review include highway cloverleafs and medians.

6.7 Block Boundary Suggestion Flagging (Assigning Must Hold and Do Not Hold Flags)

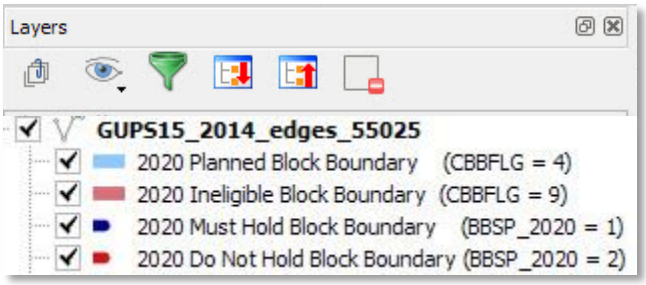


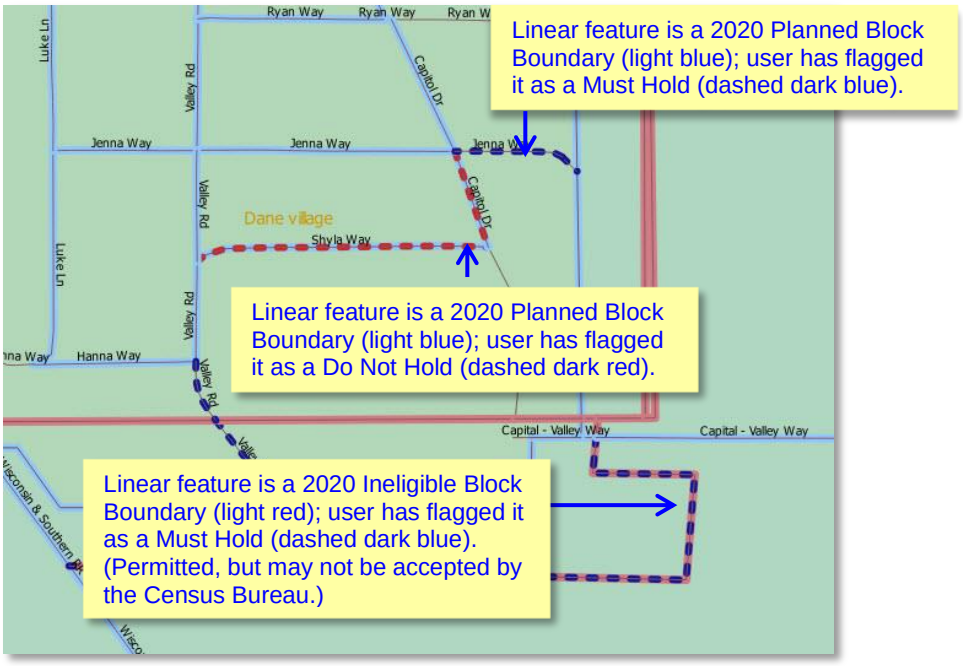
To identify linear features that you want the Census Bureau to hold or not hold as 2020 Census tabulation block boundaries, you will use the BBSP feature flagging button on the BBSP toolbar in the GUPS.

You can refer to the list of features and boundaries planned as 2020 tabulation block boundaries in Part 1, Chapter 1, Planned 2020 Census Tabulation Block Boundaries. Because these features are planned boundaries, it is not necessary for you to place a must-hold flag on them. However, you *may* place a must-hold flag on a feature that is 2020 planned block boundary to help ensure that the feature is held if the 2020 tabulation block criteria change from now until the time the Census Bureau creates the 2020 tabulation blocks. This action is not recommended for legal and statistical boundary features, which are *always* tabulation block boundaries, but may be applied to features such as roads or perennial water, but only if you truly need these features as block boundaries.

You may also place a do-not-hold flag on features that are not desirable as block boundaries. Features that are potential candidates for assigning a do-not hold flag include private roads, trails, unimproved roads and single line hydrographic features. Be aware that assigning a "do-not-hold " flag to a feature that is a 2020 planned block boundary does not ensure that the Census Bureau will honor your request.

The GUPS displays the planned 2020 Census tabulation bock boundaries in light blue on the map. These are the linear features with CBBFLG = "4" in the attribute table. The GUPS displays ineligible block boundaries in light red on the map. These are the linear features with CBBFLG = "9" in the attribute table. As you assign Must Hold (BBSP_ 2020 =1) and Do Not Hold (BBSP = 2) flags to features, the feature symbology displayed by the GUPS changes. As shown in Figure x.x, features assigned a Must Hold flag will have a heavier weight dashed blue symbology added on top of the original feature symbology Features assigned a Do Not Hold flag will have a heavier weight dashed red line added on top of the original feature symbology. This dual symbology allows you to visualize the planned or ineligible status of the feature and the flag, if any, that you assigned to the feature. Figure x.x shows examples of the dual symbology after block boundary suggestion flags have been applied.





If you want to use an existing feature as a 2020 block boundary but it does not form a closed a polygon, you may create a 2020 linear feature extension. A linear feature extension is a short, non-visible line that:

- Is no longer than 300 feet in length
- Is a straight line from the end of road and intersects a non-road feature. Highways and freeways are acceptable as long as they have no housing units. You may create linear feature extensions to feature with MTFCCs:

  C3024 Levee
  C3027 Dam
  Hxxxx (Hydrographic features)
  L4010 Pipelines
  L4020 Powerlines
  P0002 Shoreline
  P0003 Intermittent Shoreline
  Rxxxx (Railroads)
  S1100 Primary Roads

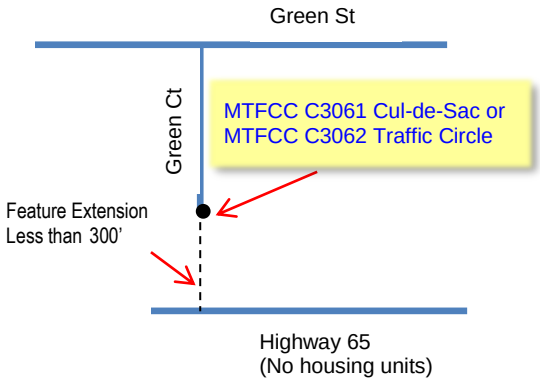
- Does not intersect a cul-de sac shown as an open circle or "lollipop" in the Census Bureau files

Illustrations of acceptable and unacceptable linear feature extensions are shown in Figure x.x below.

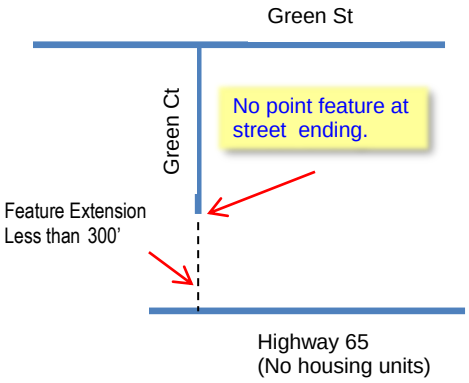
2020 Linear Feature Extension Examples

Acceptable:

Example 1

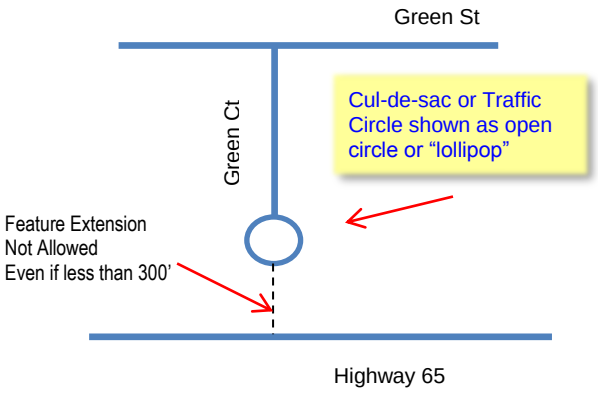


Example 2

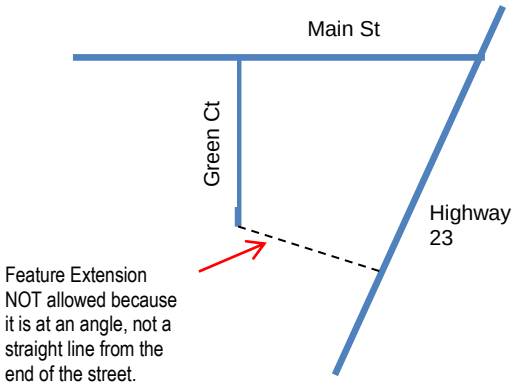


Not Acceptable:

Example 1

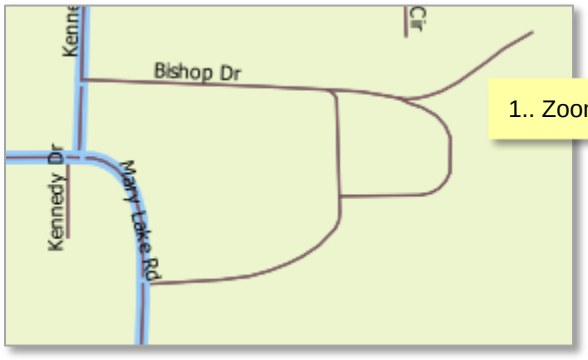


Example 2



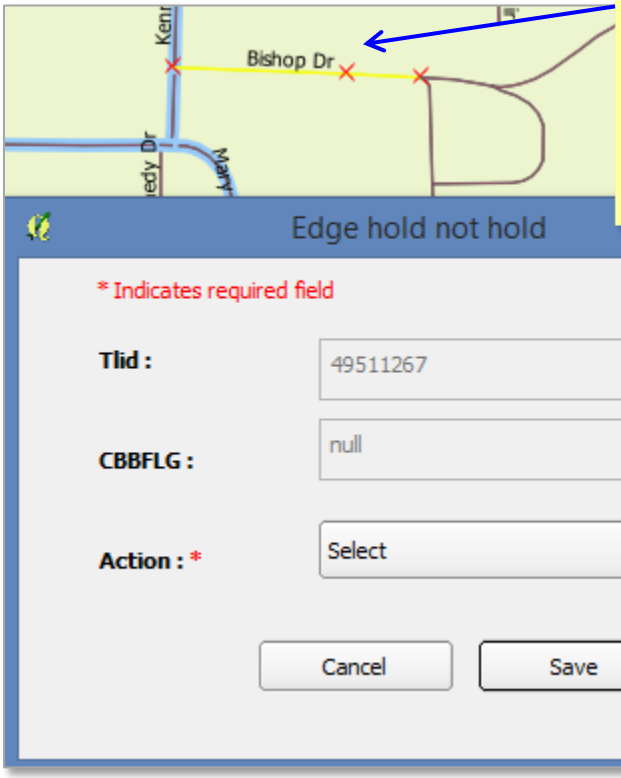
Initiate the closed polygon validation check routinely throughout your BBSP flag assignment. This validation will alert you to any non-closed polygons where you have assigned a must-hold flag to a feature, but that feature does not form a closed polygon. Routinely employing the closed polygon validation check will help ensure that your work is accurate and reduce the likelihood of having to review a large number of areas at the end of project due to polygon validation check failures.

To assign a 2020 block boundary suggestion to a feature:



1.. Zoom to your area of interest on the map.

2. Click on the **BBSP Flag** button on the BBSP toolbar.

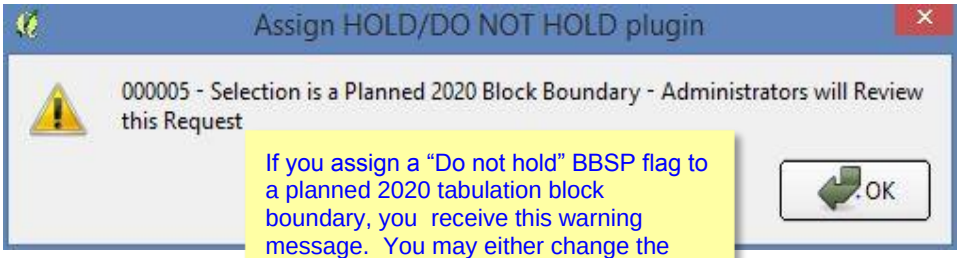


3. Select a feature in the map view by clicking on it.

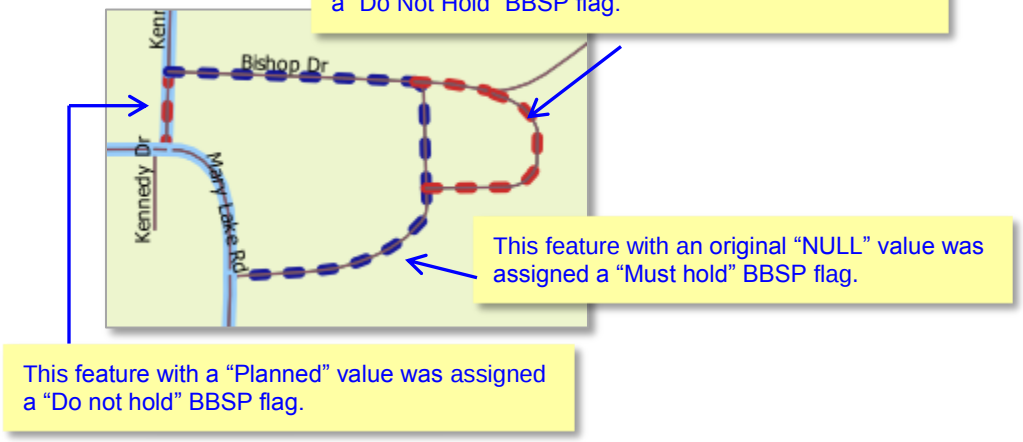
The Edge Hold Do Not Hold dialog box opens, displaying the feature TIGER Line ID. The CBBFLG field displays whether the feature is a **Planned** block boundary, **Ineligible** Block Boundary or **NULL** (no CBBFLG assigned).

4. Click on the Action drop down menu to choose **Hold** or **Do not Hold** and then **Save** or **Cancel.**

Note: All features not assigned as a 2020 planned or ineligible block boundary by the Census Bureau have a NULL value. It is not necessary to assign a BBSP flag to every feature. The **NULL** value in the dropdown menu allows you to revert the status of a feature to NULL after you have assigned a Hold or Do not hold flag.



If you assign a "Do not hold" BBSP flag to a planned 2020 tabulation block boundary, you receive this warning message. You may either change the BBSP flag you assigned or retain it by clicking the OK button.



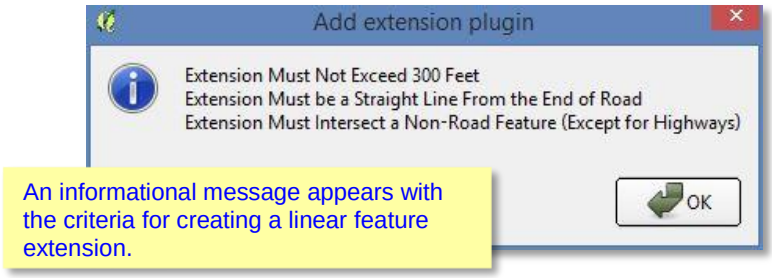
This feature with an original "NULL" value was assigned a "Do Not Hold" BBSP flag.

This feature with an original "NULL" value was assigned a "Must hold" BBSP flag.

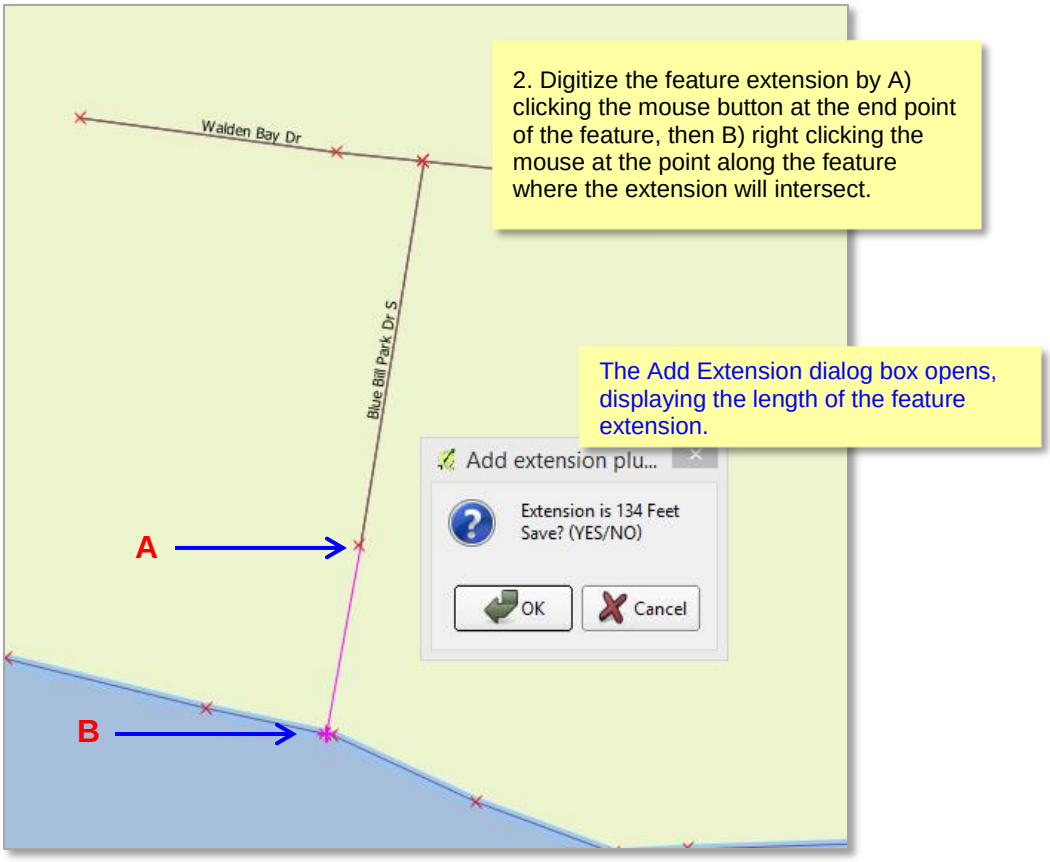
This feature with a "Planned" value was assigned a "Do not hold" BBSP flag.

To create a 2020 linear feature extension:

1. Click on the **Add Extension** button on the BBSP toolbar.

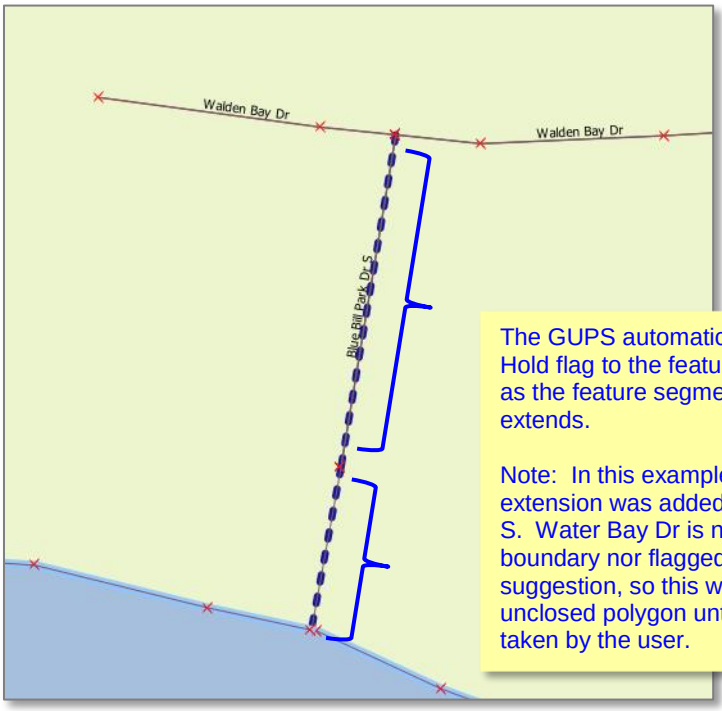


An informational message appears with the criteria for creating a linear feature extension.



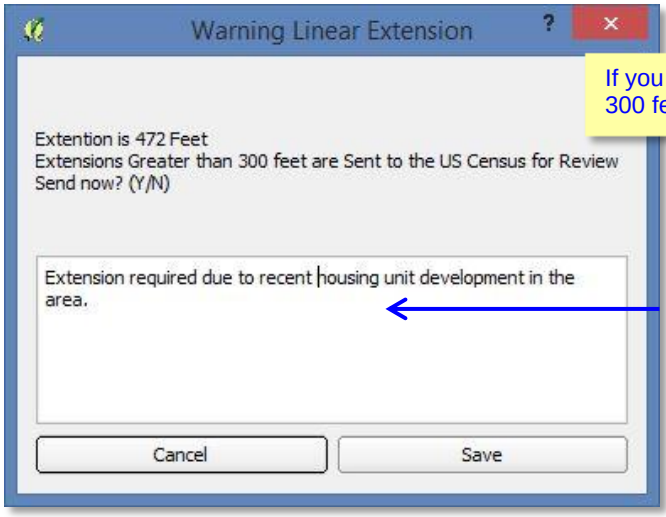
2. Digitize the feature extension by A) clicking the mouse button at the end point of the feature, then B) right clicking the mouse at the point along the feature where the extension will intersect.

The Add Extension dialog box opens, displaying the length of the feature extension.



The GUPS automatically assigns a Must Hold flag to the feature extension as well as the feature segment from which it extends.

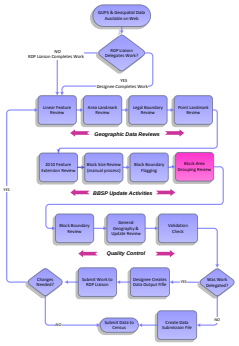
Note: In this example, a feature extension was added to Blue Bill Park Dr S. Water Bay Dr is not a planned block boundary nor flagged as a 2020 BBSP suggestion, so this will remain an unclosed polygon until further action is taken by the user.



If you add a linear feature extension over 300 feet, you receive a warning message.

Provide a justification (150 characters maximum) in the space provided if you want to retain the extension and then click **Save.** Click **Cancel** to delete the feature extension.

6.8 Block Area Grouping Delineation



Delineating block area groupings is an optional activity. During the 2020 Census tabulation block delineation, the Census Bureau will automatically group islands to form a single tabulation block if they have no road features and are within a 5 kilometer radius.

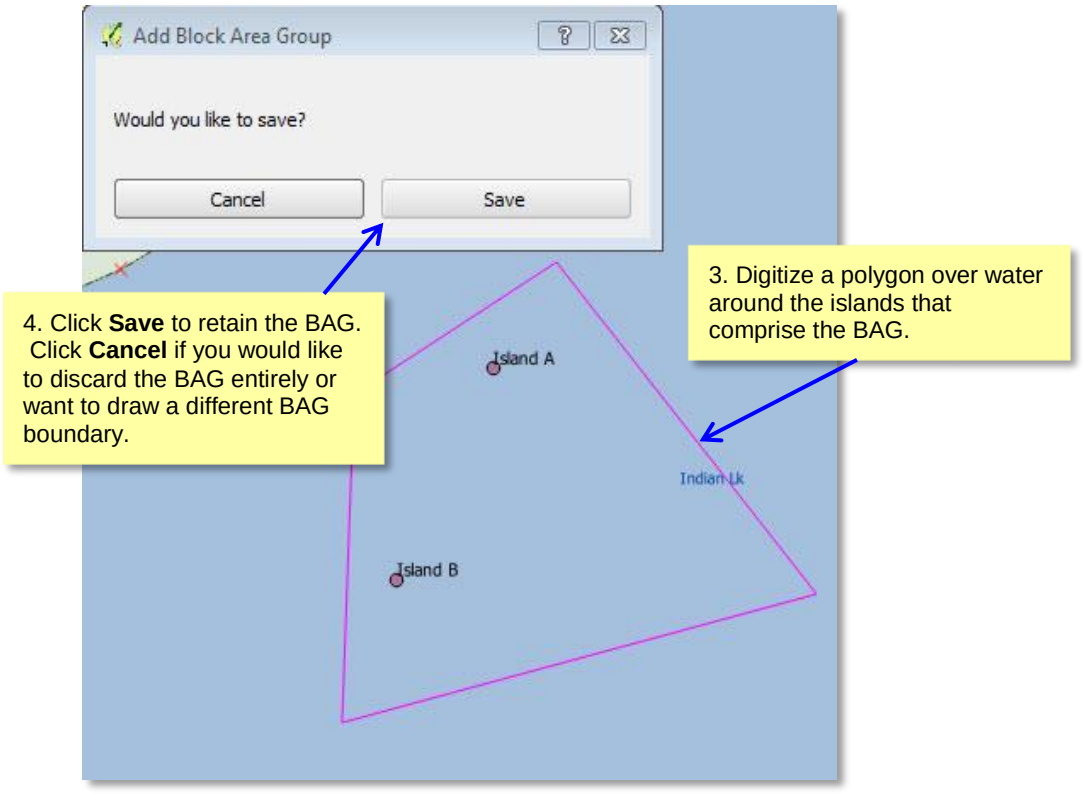
You may also group specific islands to suggest a 2020 tabulation block, called a block area grouping (BAG). BAGs are exempt from the 5 kilometer radius requirement. The criteria for creating a Block Area Grouping are:

- BAG must consist of two or more islands.
- BAG perimeter must be entirely over water.
- BAGs cannot overlap.
- BAGs cannot cross the boundary of other tabulation geographies, such as county or incorporated place boundaries.

To create a Block Area Grouping:

1. Zoom to your area of interest on the map.

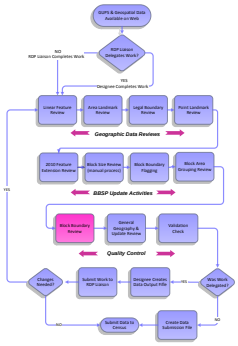
2. Click on the **Add Block Area Grouping** button on the BBSP toolbar.



3. Digitize a polygon over water around the islands that comprise the BAG.

4. Click **Save** to retain the BAG. Click **Cancel** if you would like to discard the BAG entirely or want to draw a different BAG boundary.

6.9 Block Boundary Review

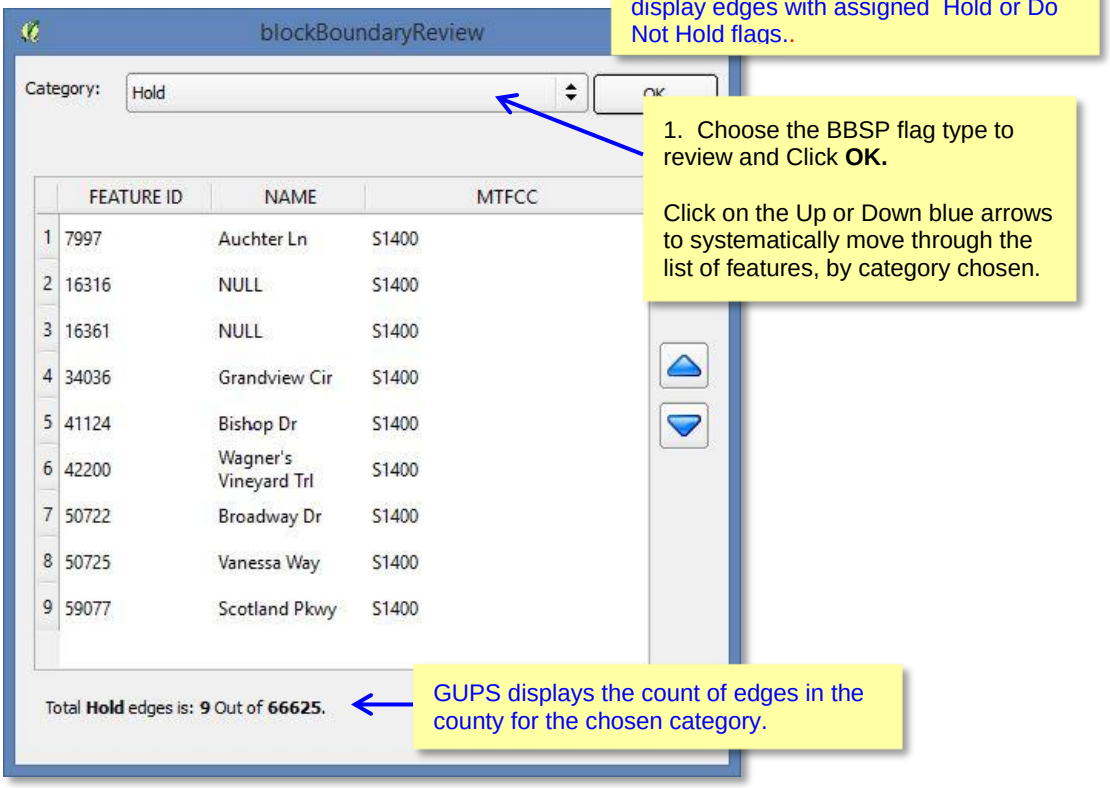


You can review your block boundary suggestions before submitting an updated county to the Census Bureau (if you are the State RDP Liaison) or to the State (if you are a designee).

To review your Block boundary suggestions:

1. Click on the **Block Boundary Review** button on the BBSP Toolbar.

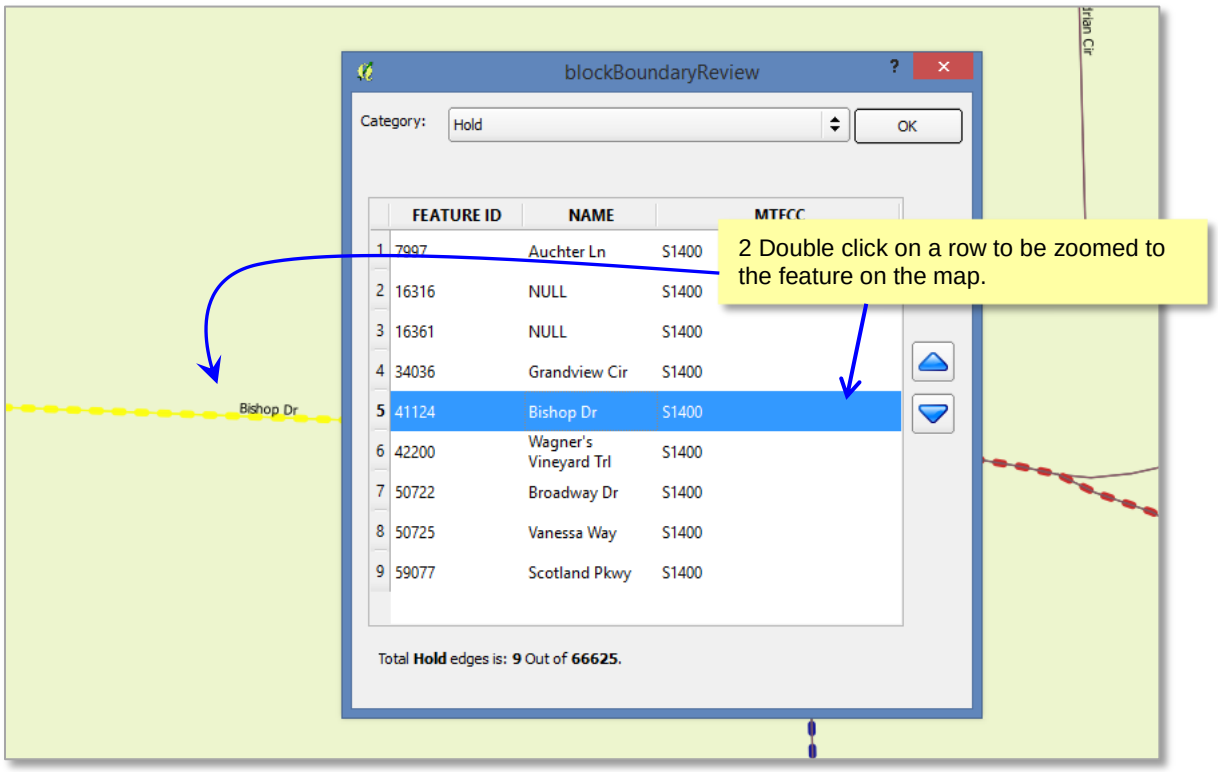
The Block Boundary Review dialog box opens, with a drop down menu options to display edges with assigned Hold or Do Not Hold flags..

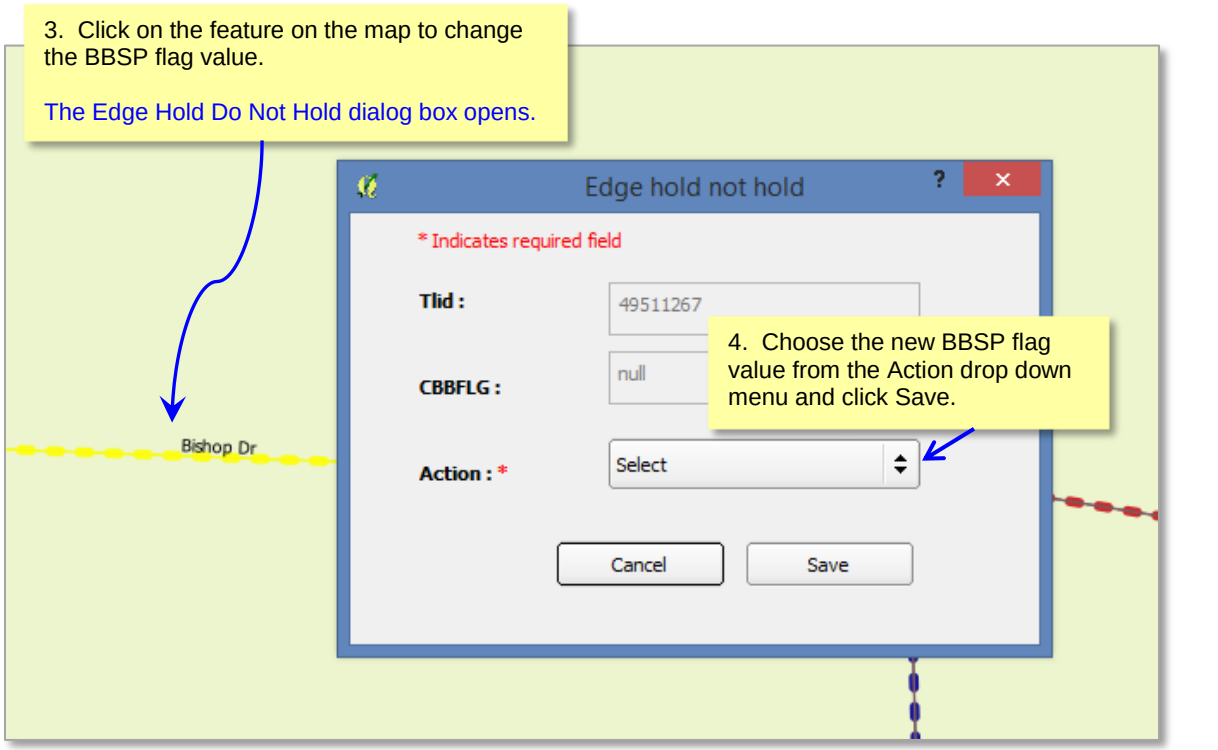


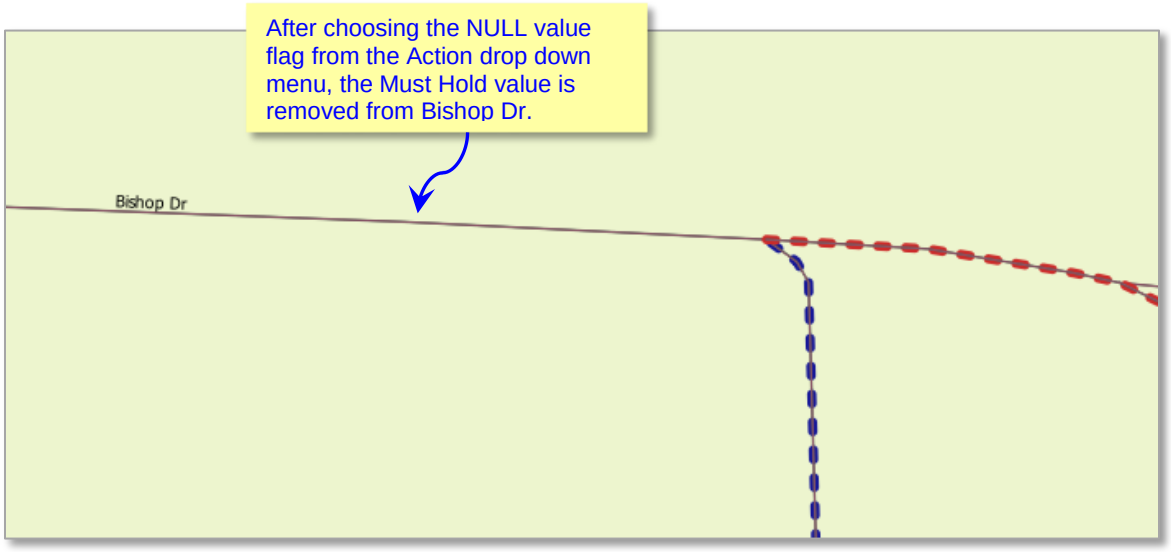
1. Choose the BBSP flag type to review and Click **OK.**

Click on the Up or Down blue arrows to systematically move through the list of features, by category chosen.

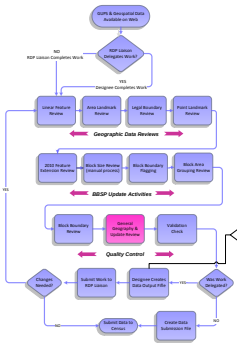
GUPS displays the count of edges in the county for the chosen category.


blockBoundaryReview
Category:
Hold
OK
FEATURE ID
NAME
MTFCC
1 7997 Auchter Ln S1400
2 16316 NULL S1400
3 16361 NULL S1400
4 34036 Grandview Cir S1400
5 41124 Bishop Dr S1400
6 42200 Wagner's Vineyard Trl S1400
7 50722 Broadway Dr S1400
8 50725 Vanessa Way S1400
9 59077 Scotland Pkwy S1400
Total Hold edges is: 9 Out of 66625.
2 Double click on a row to be zoomed to the feature on the map.
Bishop Dr


3. Click on the feature on the map to change the BBSP flag value.
The Edge Hold Do Not Hold dialog box opens.
Edge hold not hold
* Indicates required field
Tlid :
49511267
CBBFLG :
null
Action : *
Select
4. Choose the new BBSP flag value from the Action drop down menu and click Save.
Cancel
Save
Bishop Dr


After choosing the NULL value flag from the Action drop down menu, the Must Hold value is removed from Bishop Dr.
Bishop Dr

6.10 General Geography and Change Review



The GUPS provides two tools, not specific to the Block Boundary Suggestion Project, you can use for reviewing your updated layers.

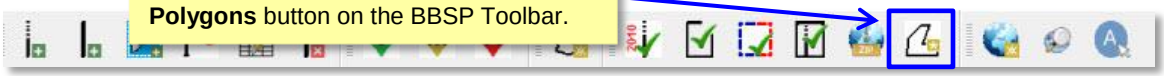
The first tool is the **Review Change Polygons** tool. It provides the ability to view the transactions created from the edits you made to area landmarks, including area hydrography, and legal entities, including consolidated cities, MCDs, and incorporated places. You can review the transaction polygons that represent boundary changes, new entities you added, or entities you deleted. The tool also provides the ability to make further changes to your updates as you review your original updates.

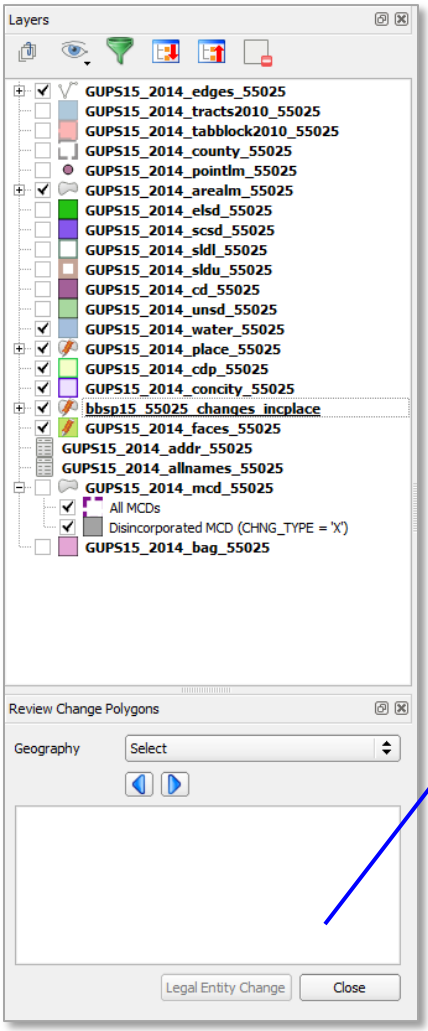
The second tool is the **Geography Review** tool. It provides the ability to review all shapefile layers, This tool also allows you to filter the layer based on field values in the attribute table. Please be aware that you cannot make changes using the Geography Review tool.

Of these two tools, you can only make changes to your previous updates using the Review Change Polygons tool, not the Geography Review tool. However, the Geography Review tool can be very helpful, especially as an overall review of geography inventories for new entities, deleted entities, or entities with boundary changes.

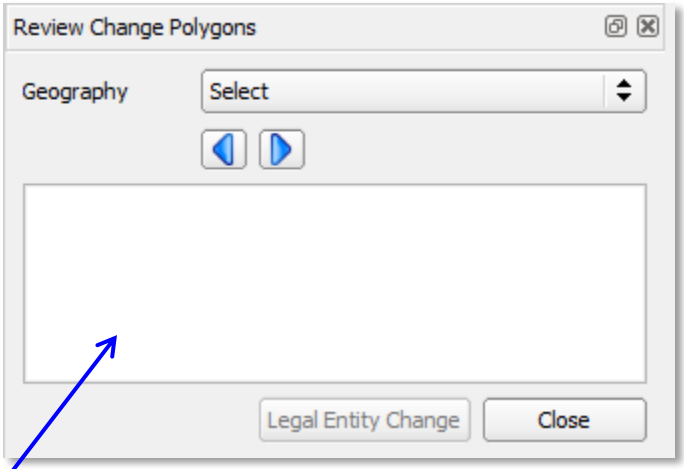
To Review Change Polygons:

1. Click on the **Review Change Polygons** button on the BBSP Toolbar.

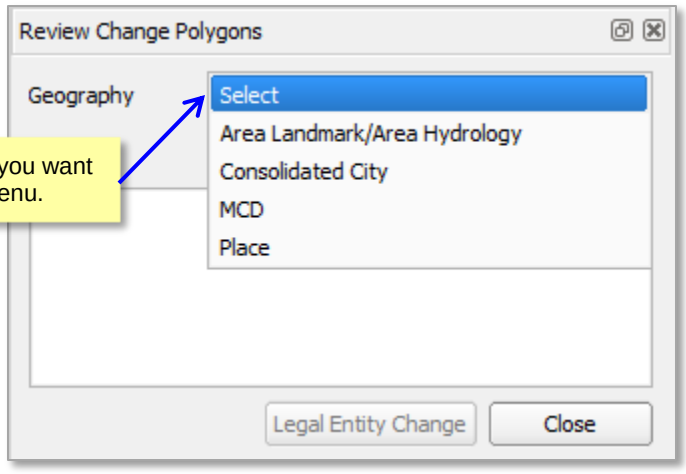


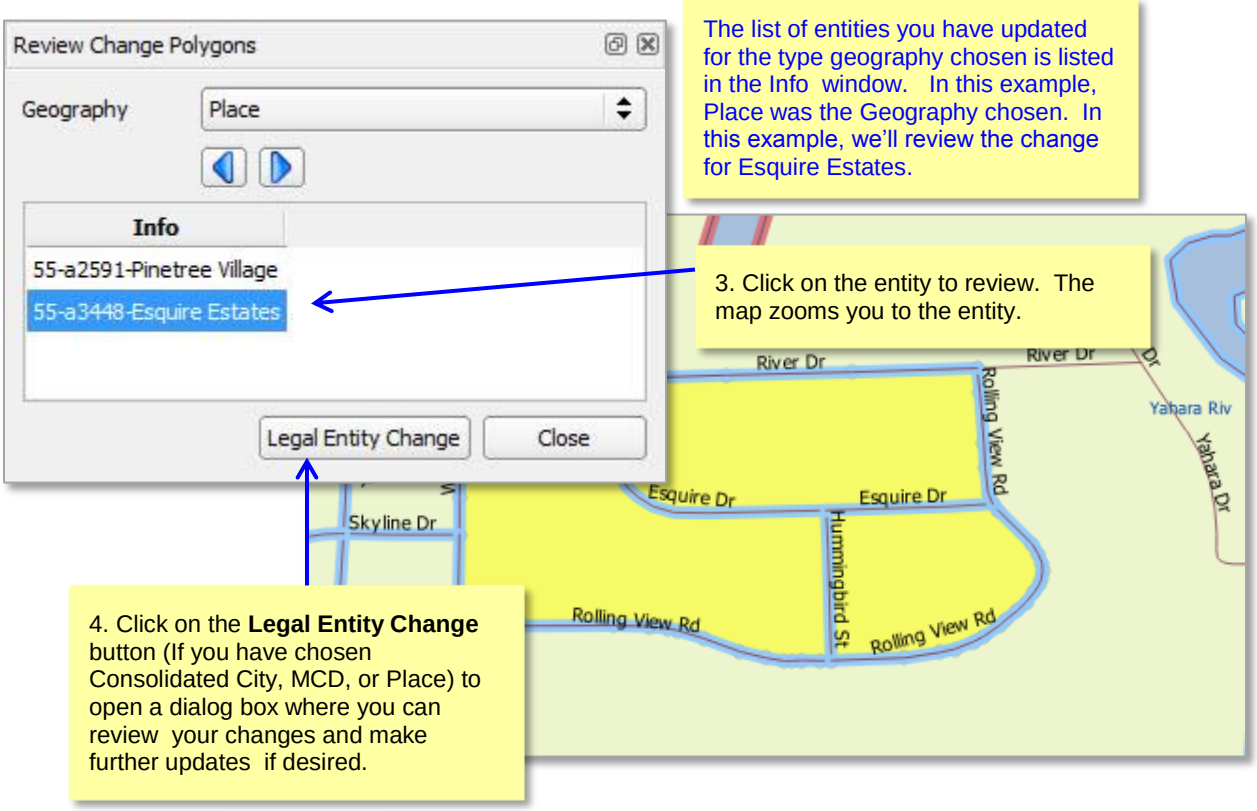


The Review Change Polygons dialog box opens, directly below the Table of Contents Window. The dialog box can undocked and moved anywhere on the page.



2. Choose the areal geography you want to review from the drop down menu.



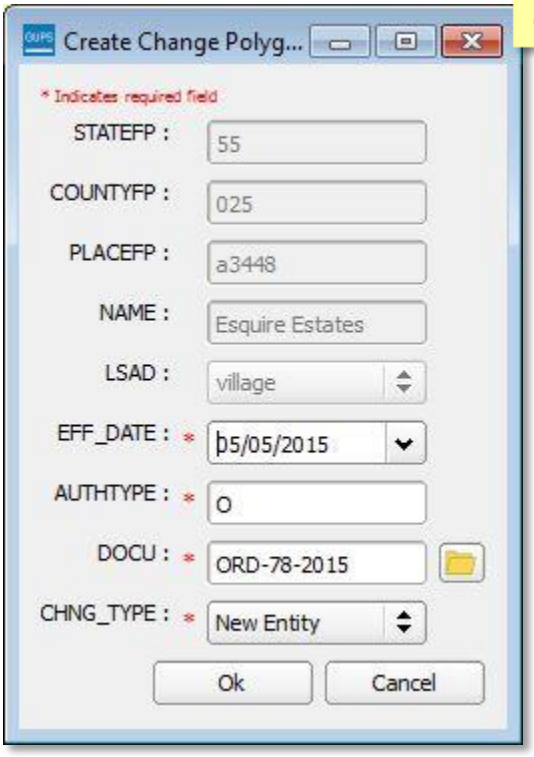


The list of entities you have updated for the type geography chosen is listed in the Info window. In this example, Place was the Geography chosen. In this example, we'll review the change for Esquire Estates.

3. Click on the entity to review. The map zooms you to the entity.

4. Click on the **Legal Entity Change** button (If you have chosen Consolidated City, MCD, or Place) to open a dialog box where you can review your changes and make further updates if desired.

The Create Change Polygons dialog box opens. The fields are populated with the changes you made.

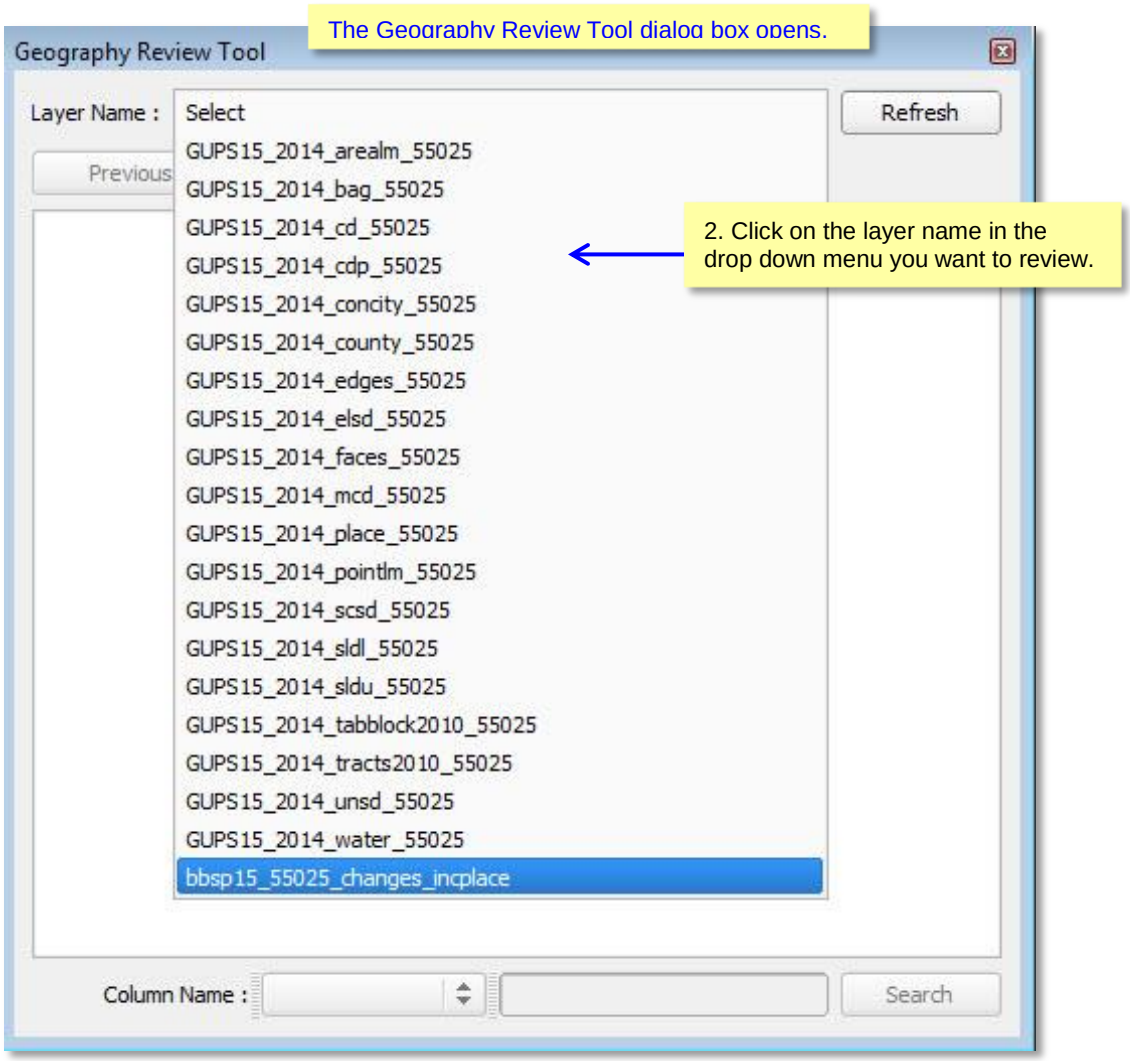


You can update any of the fields from the drop down menus or by typing new information in the editable fields. If all information is correct, or, after updating the fields, click the OK button.

You can also review the transaction polygons that you created to add or remove area from legal entities.

MORE INSTRUCTIONS UNDER CONSTUCTION

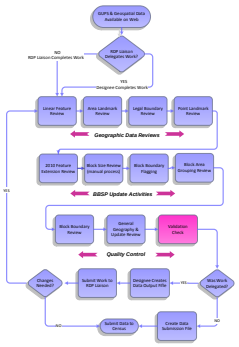
To conduct a Geography Review:



The layers that include **"_changes_**" in the name are the files you most likely want to review.

These layers are the transaction data output files for the type of geography included in the name, where you have made changes to the layer. For example, the highlighted row in the figure above, **bbsp15_55025_changes_incplace,** is the transaction file for incorporated places.

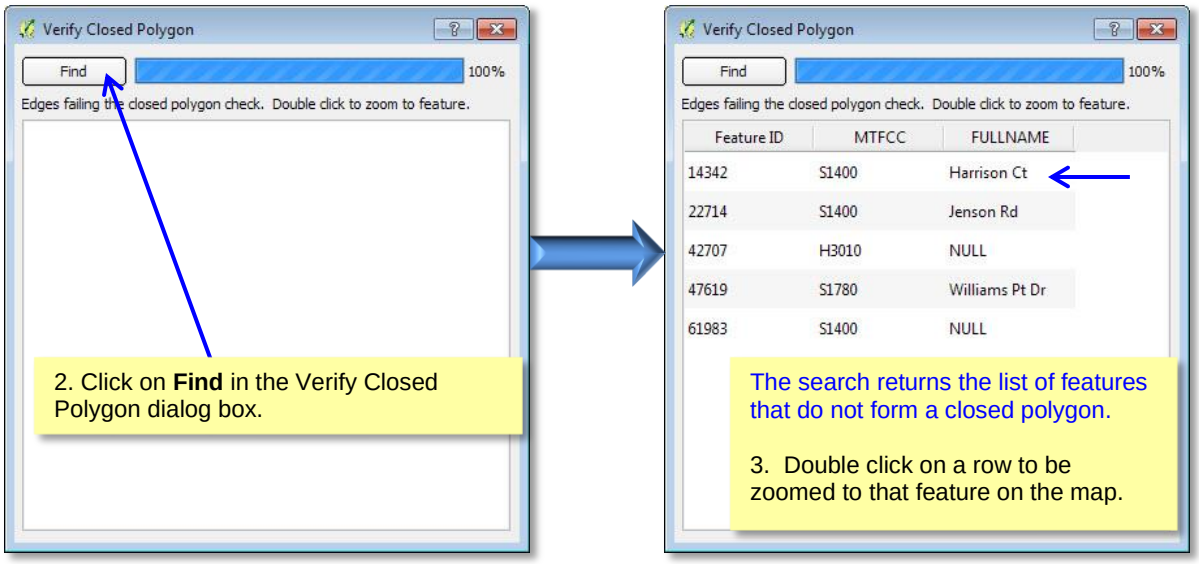
6.11 Validation Check

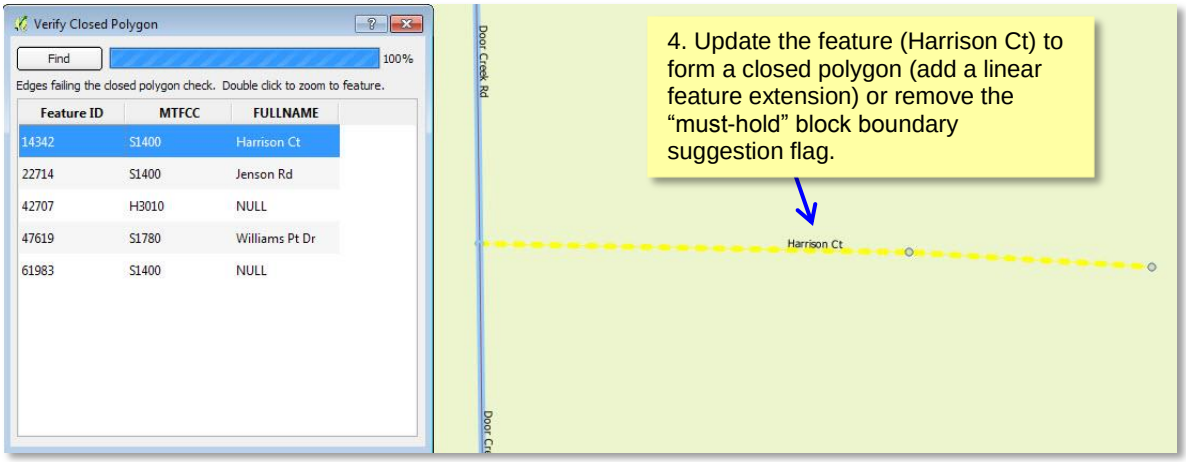


Once you have completed your BBSP work, you must initiate a validation check to ensure that your must-hold block boundary suggestions form a closed polygon. The validation check must be run at least once before the BBSP data output files can be submitted to the Census Bureau. You may also initiate the validation check at any point during your BBSP work. We recommend you perform the validation check early in the delineation process to ensure you are not making errors that may require extensive re-work later.

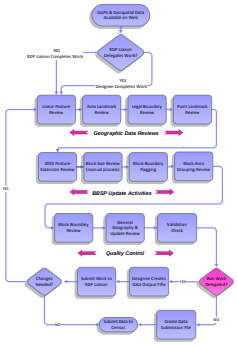
To validate your updates:

1. Click on the **Closed Polygon Validation Check** button on the BBSP Toolbar.





6.12 Work Delegated?



Only the designated State RDP Liaison may submit BBSP files to the Census Bureau. If you are a county, agency, or contractor completing BBSP work on behalf of the state, you must first submit the updated county file(s) to the State RDP liaison for review and approval.

The GUPS creates two different data output files in .zip format, depending on whether the RDP Liaison is creating the data output for submission to the Census Bureau or the state's designee is creating data output files for submission to the RDP Liaison for review and approval. The data output .zip file naming conventions are standardized for each type of data output file:

Files created by a state's designee for submission to the State RDP Liaison for review and approval are named **bbsp15_ssccc_DataDirectory.zip**, where **ssccc** is the state and county FIPS code of the file. The file must be sent to the State RDP Liaison for review, approval, and submission to the Census Bureau.

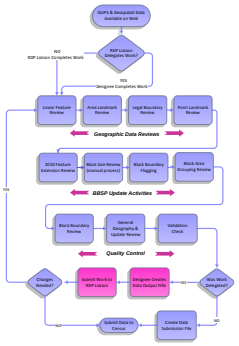
If the State RDP liaison plans to return a file to their designee for further work after reviewing a file submitted by the designee, they should create a file named **bbsp15_ssccc_DataDirectory.zip** by choosing the **Share with Another Participant** radio button on the Select Output type dialog box.

Files created by the RDP Liaison for submission to the Census Bureau are named **bbsp15_ssccc_return.zip,** where **ssccc** is the state and county FIPS code of the file**.** The State RDP Liaison chooses the **Export for Census** radio button on the Select Output Style type dialog box. *Please note that State RDP Liaisons are required to utilize the Secure Web Incoming Module (SWIM) for file submission to the Census Bureau.*

The GUPS automatically packages into the data output .zip file all the files required for submission to the Census Bureau.

Follow the directions below for creating data output files and sending them to the appropriate recipient.

Work Delegated?
Yes: Work Was Performed by the State's Designee (not the State RDP Liaison)



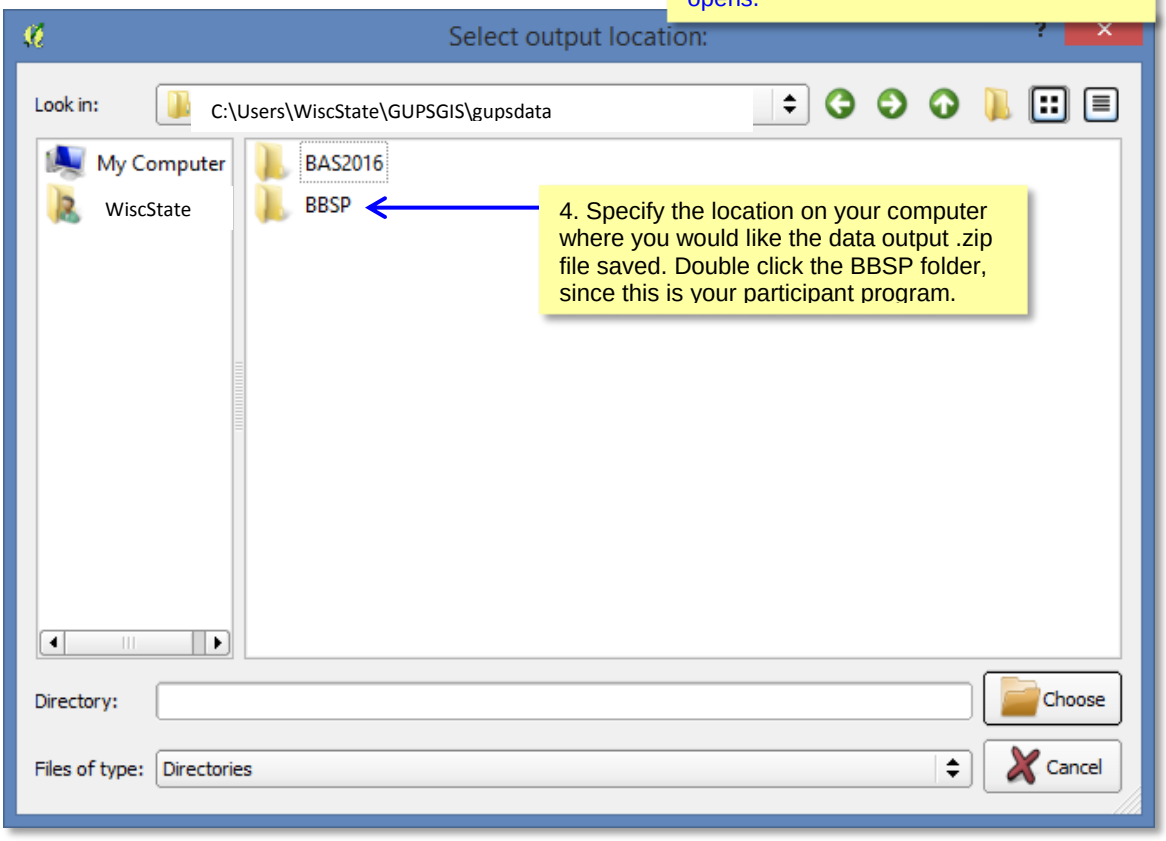
1. Click on the **Export to Zip** button on the BBSP Toolbar.

The Select Output Type dialog box opens.

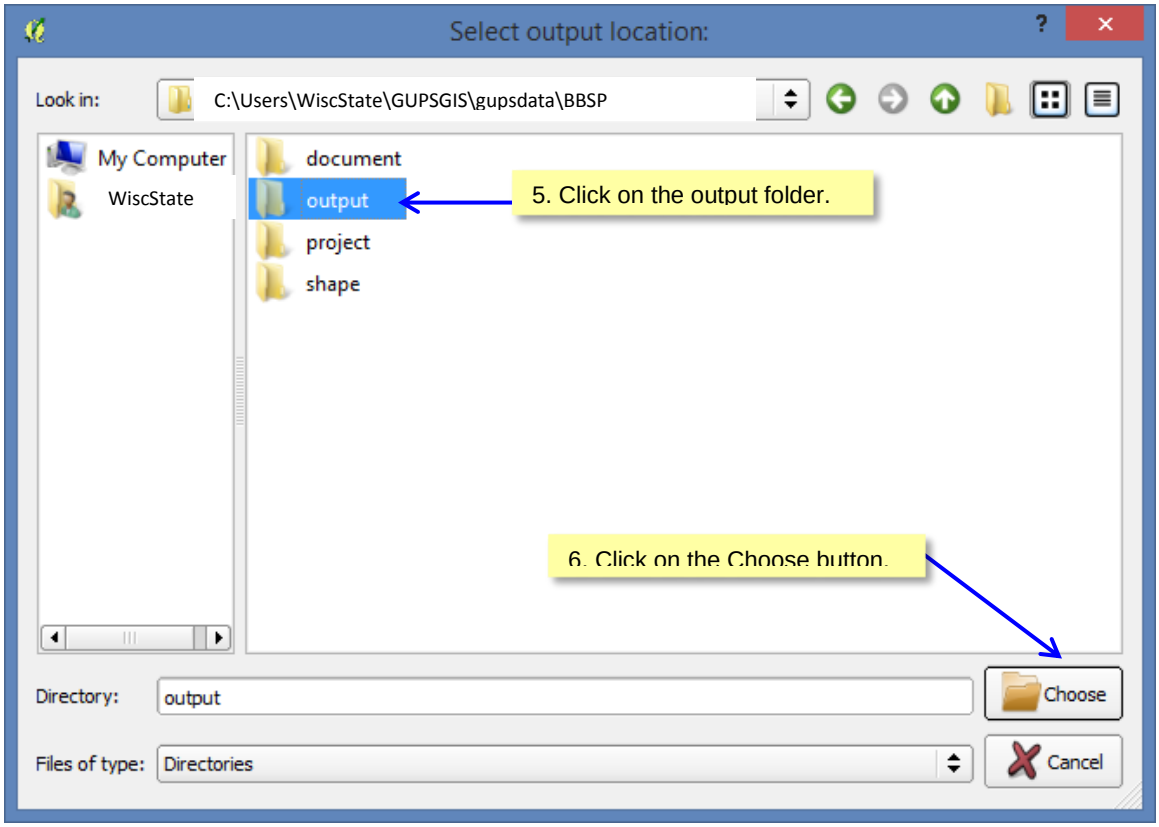
2. Click on the **Share with Another Participant** radio button.

3. Click **the Export** button.

The Select Output Location dialog box opens.



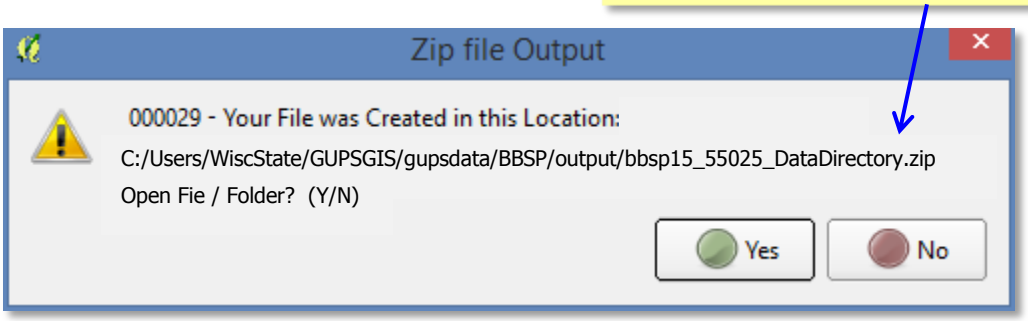
4. Specify the location on your computer where you would like the data output .zip file saved. Double click the BBSP folder, since this is your participant program.



The Zip File Output dialog box opens.

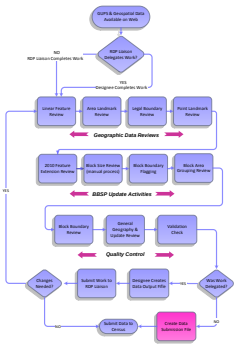
Your file directory in the message will look similar to this, with the exception of the state and county code (ssccc).

Note: Files created using the **Share With Another Participant** radio button will have the naming convention bbsp15_ssccc_DataDirectory.zip.



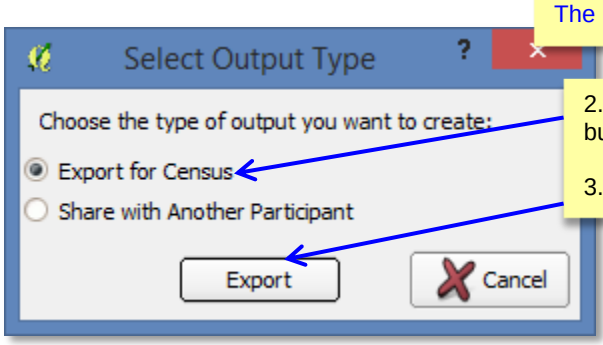
After the .zip file has been created, send the completed .zip file(s) to the State RDP Liaison for review and approval. You and your State RDP Liaison will need to make arrangements for file exchange. If, after reviewing the file, the State RDP Liaison determines that changes are needed, the file may be returned to you for additional work or the changes may be made by the RDP Liaison. The State RDP Liaison will submit reviewed and approved files to the Census Bureau.

Work Delegated?
NO: State RDP LIAISON performed the work.



1. Click on the **Export to Zip** button on the BBSP toolbar.

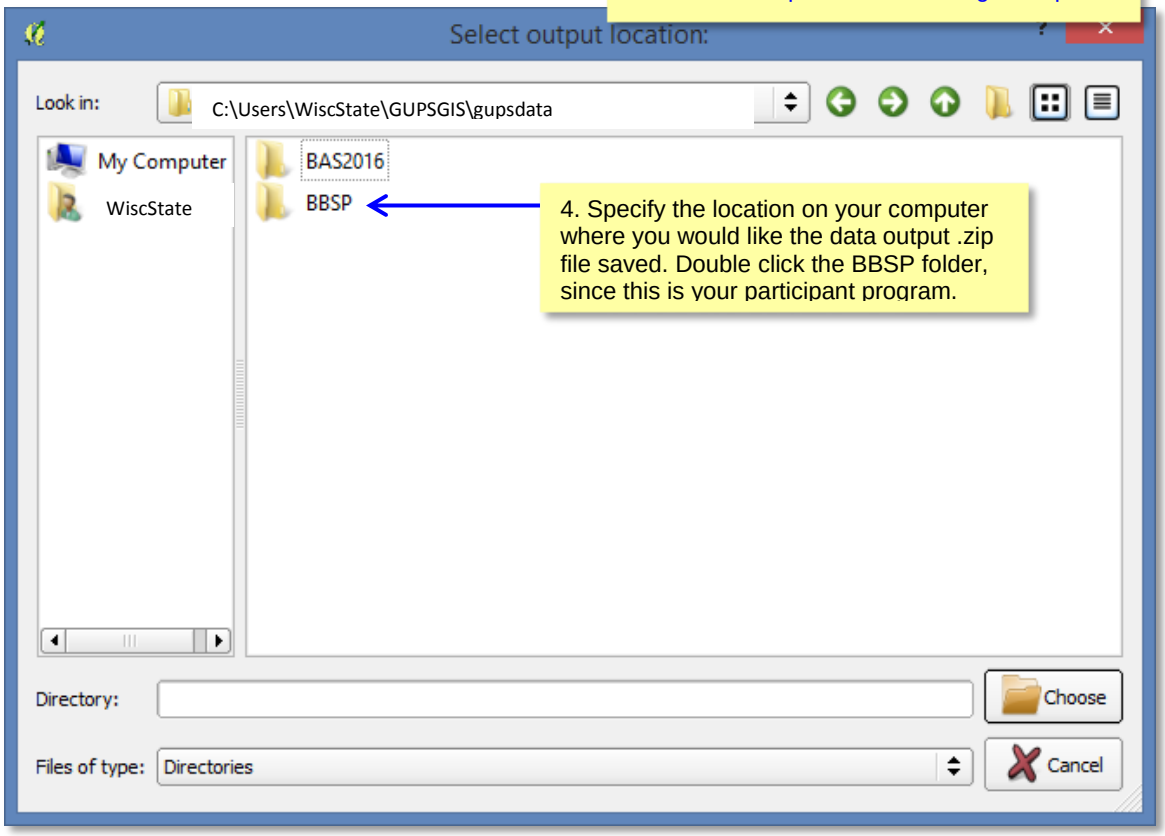
The Select Output Type dialog box opens.



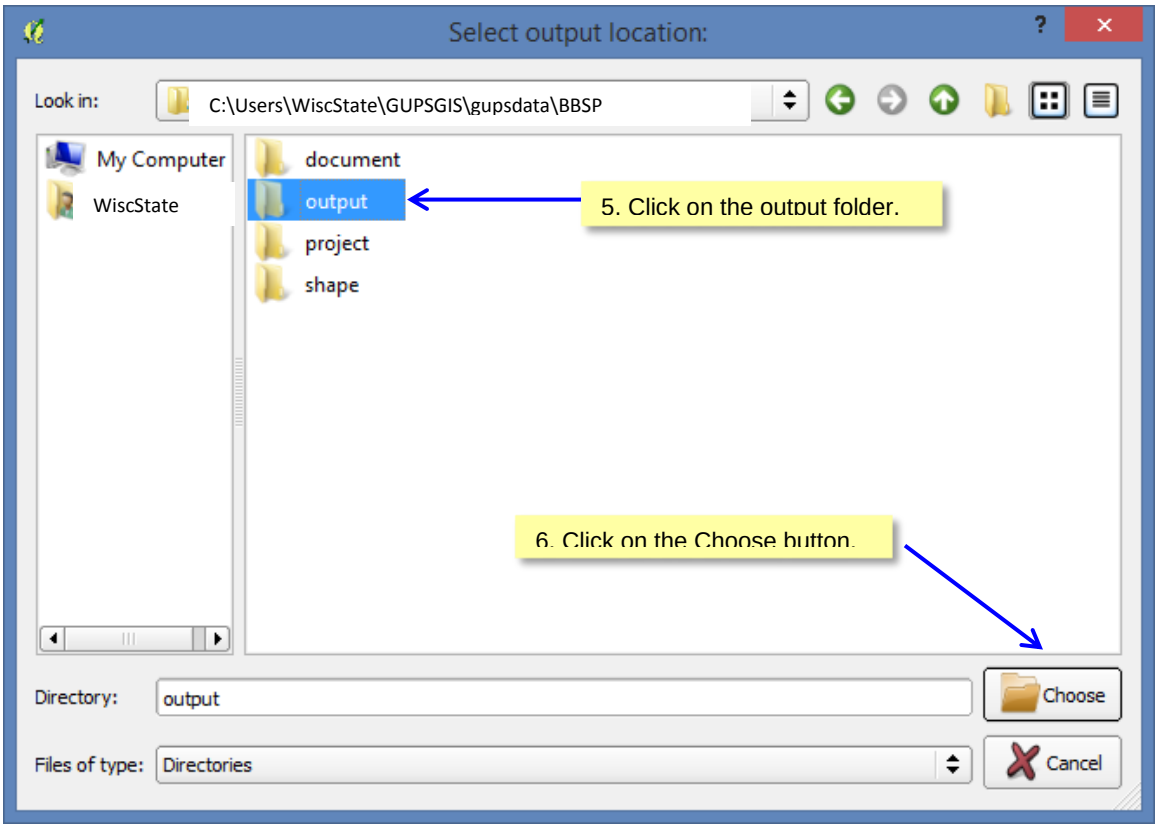
2. Click on the **Export for Census** radio button.

3. Click the **Export** button.

The Select Output Location dialog box opens.



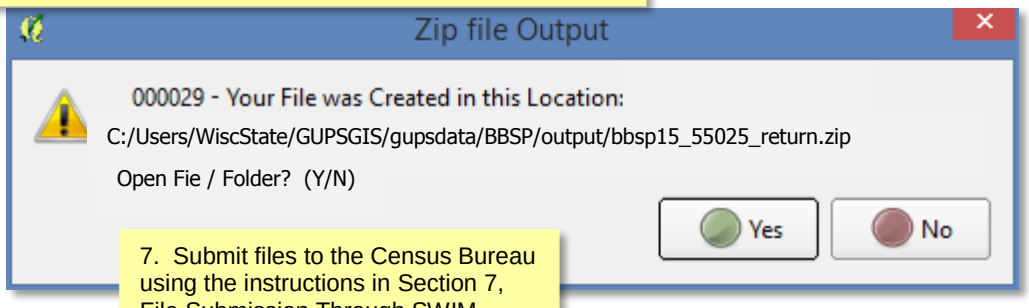
4. Specify the location on your computer where you would like the data output .zip file saved. Double click the BBSP folder, since this is your participant program.



The Zip File Output dialog box opens.

Your file directory in the message will look similar to this, with the exception of the state and county code (ssccc).

Note: Files created using the **Export for Census** radio button will have the naming convention bbsp15_ssccc_return.zip.

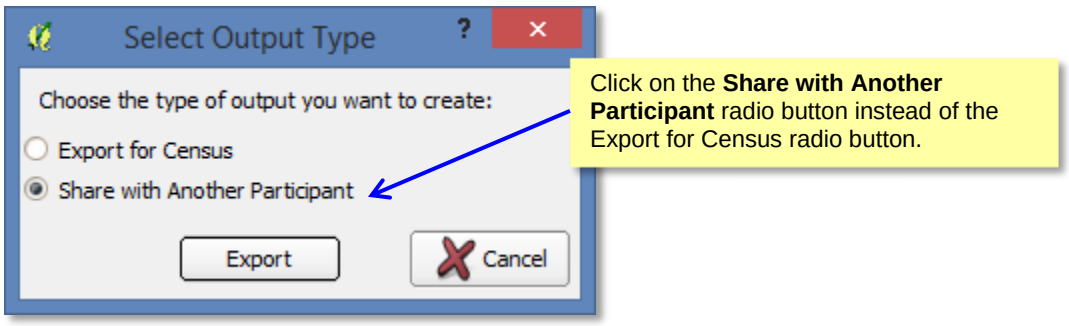


7. Submit files to the Census Bureau using the instructions in Section 7, File Submission Through SWIM.

NOTE TO RDP STATE LIASONS THAT HAVE DELEGATED WORK TO DESIGNEES:

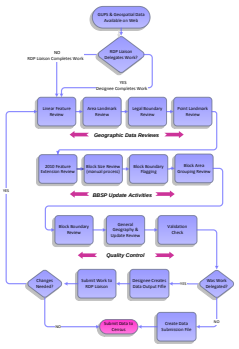
Arrange with your designees how you plan to share files. When your designee completes work, they should submit files to you for review, approval and submission to the Census Bureau. If changes are needed after reviewing a file, it is at your discretion whether to return the file to the designee or make the changes yourself.

If you choose to return the file to your designee for further work, follow the steps outlined for a *designee* to create the appropriate data output file. You will choose the **Share with Another Participant** radio button instead of the Export for Census radio button.



The naming convention of the data output file is different (bbsp15_ssccc_DataDirectory.zip) than the naming convention for data output files that you submit to the Census Bureau (bbsp15_ssccc_return.zip). Make arrangements to return the file to the designee for further work.

7 File Submission through SWIM



The Secure Web Incoming Module (SWIM) is a tool for U.S. Census Bureau partners to send their geospatial data to a Census Bureau server. For security reasons, we cannot accept files sent via email or through our former ftp site.

For the Redistricting Data Program, including the Phase 1 Block Boundary Suggestion Project, the Census Bureau will only accept files submitted by the State RDP Liaison. If a county, agency, or contractor is performing work on behalf of the state, the State must review, approve, and submit the files.

To establish a SWIM account, you must first be provided a registration token by the Census Bureau, which is a unique, single-use 12-digit number associated to an individual. Every user must have their own token in order to register. Once the token has been used to establish your account, it is no longer required to access your account.

To access the SWIM, enter the following URL in a new browser window: *https://respond.census.gov/swim/*.

Follow the directions below for account access and file upload.

7.1 Login Page

The Login page is the first page you will see:

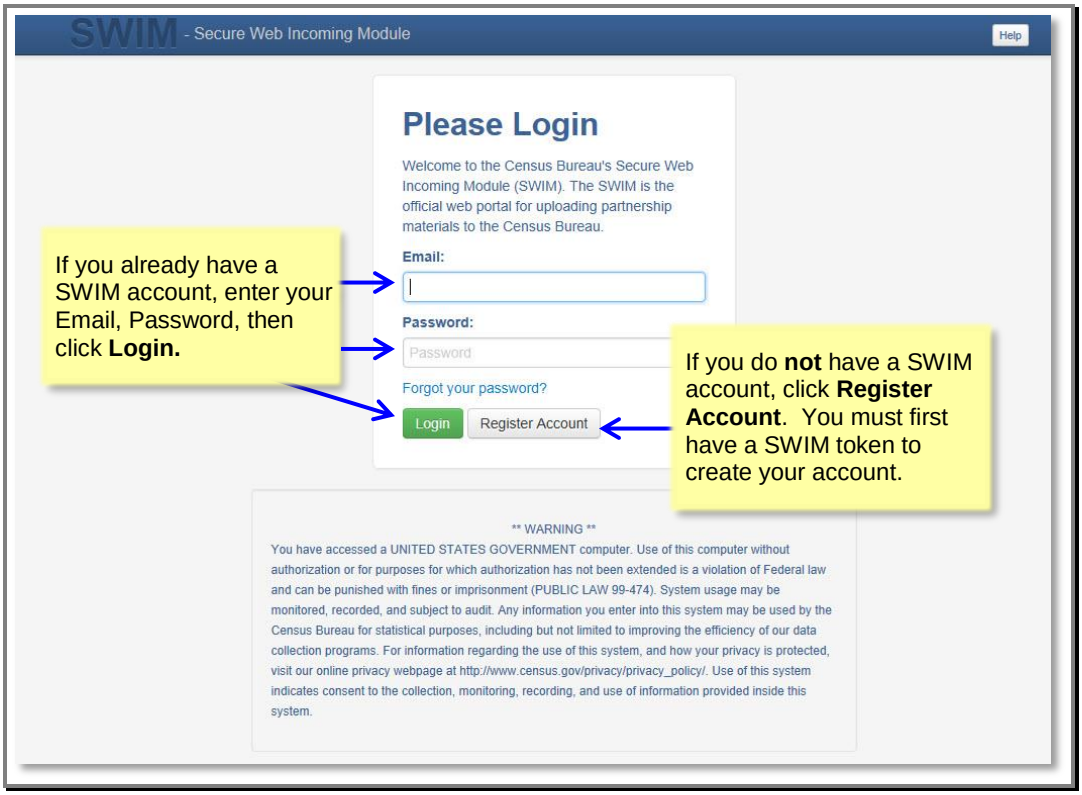


Figure 7.1: SWIM Login Screen

7.1.1 If you already have a SWIM Account:

1. Enter your Email address and Password
2. Click the **Login** button, which directs you to the **Welcome** page.

7.1.2 If you do not yet have a SWIM Account:

1. Click the **Register Account** button, which directs you to **the Account Registration** page.
2. Enter the 12 digit Registration Token number provided to you by the Census Bureau.
3. Complete all other fields. Click the Submit button.

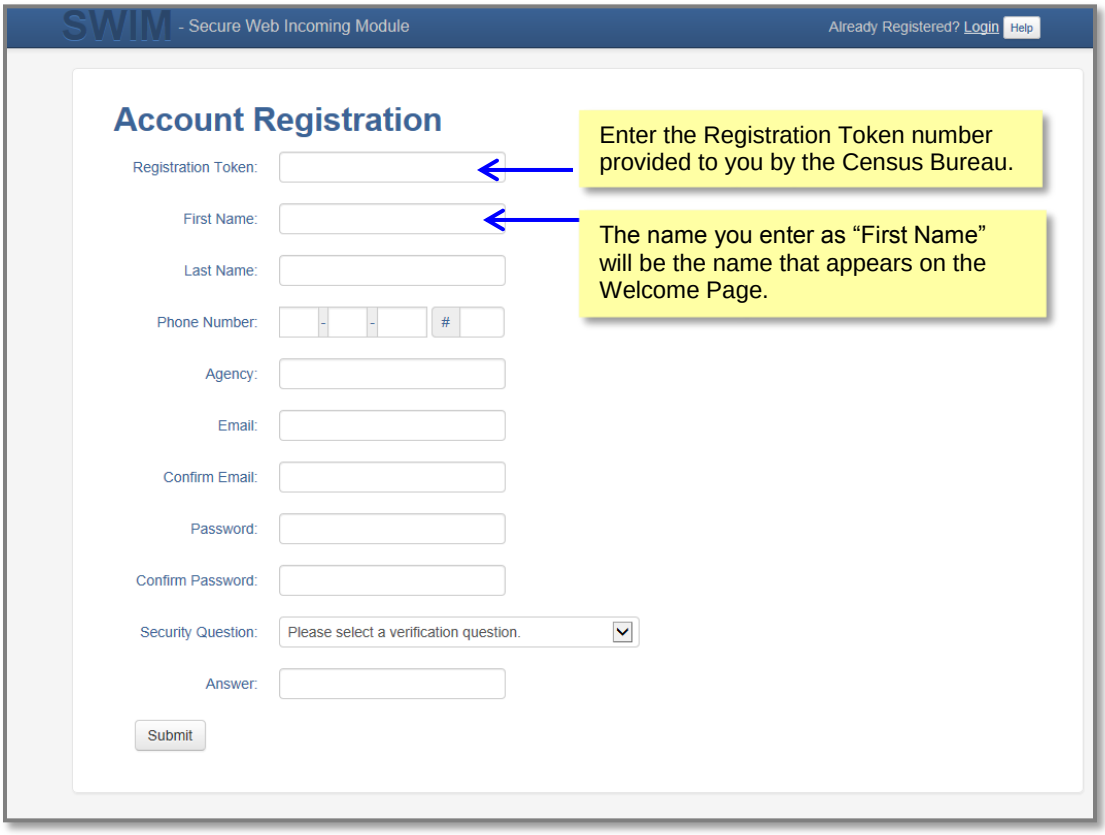


Figure 7.2: SWIM Account Registration Screen

7. 2 Welcome Page

The Welcome page is where you initiate the file upload process. Because the SWIM tracks files submitted and the submission date, the page appearance will change after you have successfully uploaded files.

1. To submit a file, click the **Start New Upload** button.

Figure 7.3: SWIM Welcome Screen (no previous files uploaded)

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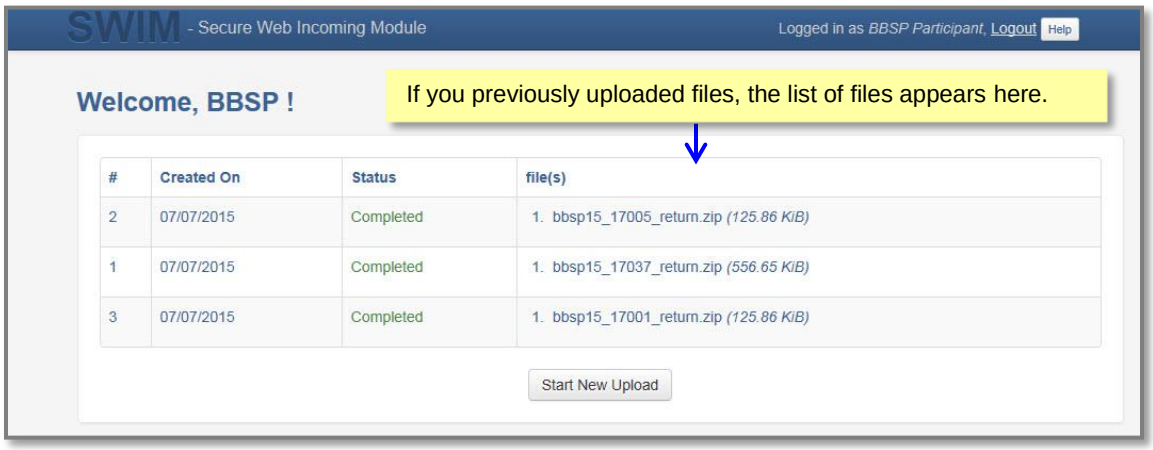

Figure 7.4: SWIM Welcome Screen (files previously uploaded)

7.3 Geographic Program Page

The Geographic Program Page allows you to select the partnership program for which you are submitting data.

1. Click on the radio button next to **Redistricting Data Program (RDP)**.
2. Click the **Next** button.

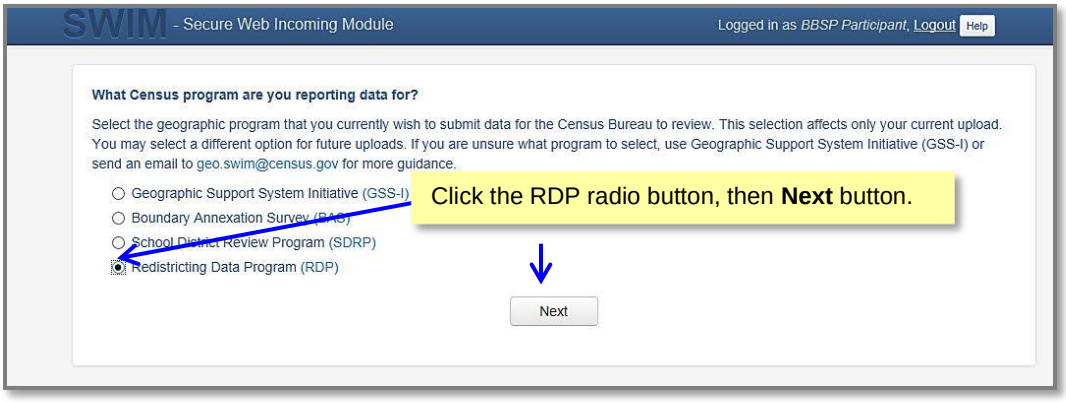

Figure 7.5: SWIM Geographic Program Page

7.4 Select a State

After choosing the Redistricting Data Program (RDP), you will be directed to specify the state for which you are submitting data.

1. From the drop down list, click on your **state name**.
2. Click on the **Next** button.

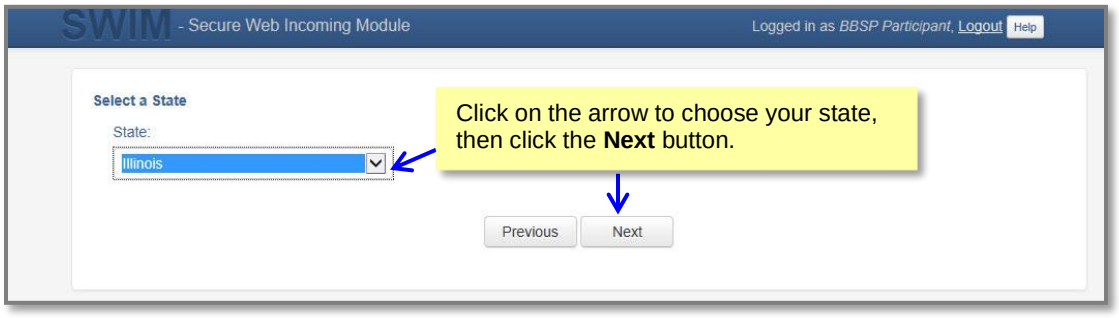

Figure 7.6: SWIM Select a State Page (for RDP)

7. 5 Select a .ZIP File to Upload

Files for upload must be in a .zip format. You can upload only one .zip file at a time. For the Redistricting Data Program, the GUPS will automatically create a separate .zip file for each county.

1. Click on the **+ Add File** button.
2. Navigate to the directory on your computer to choose the .zip file to upload.
3. Complete the **Comments** box, including pertinent information about data projection or supporting documentation.
4. Click on the **Next** button.

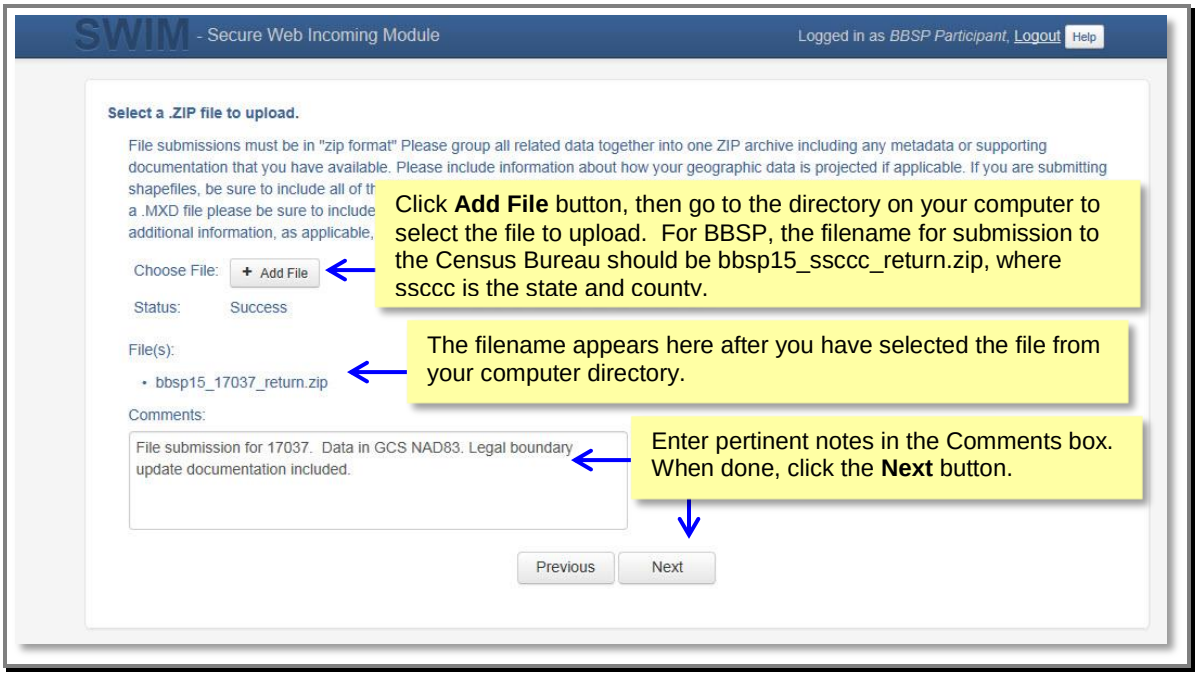

Figure 7.7: Select a .ZIP File to Upload Page

7.6 Thank You Page

The "Thank You" page confirms the receipt of your file submission.

If you do not have any additional files to upload, click on **Log Out**. The Census Bureau will acknowledge the receipt of the uploaded file.

If you have additional files to upload, click on **Upload Form**. This choice returns you to the Welcome screen.

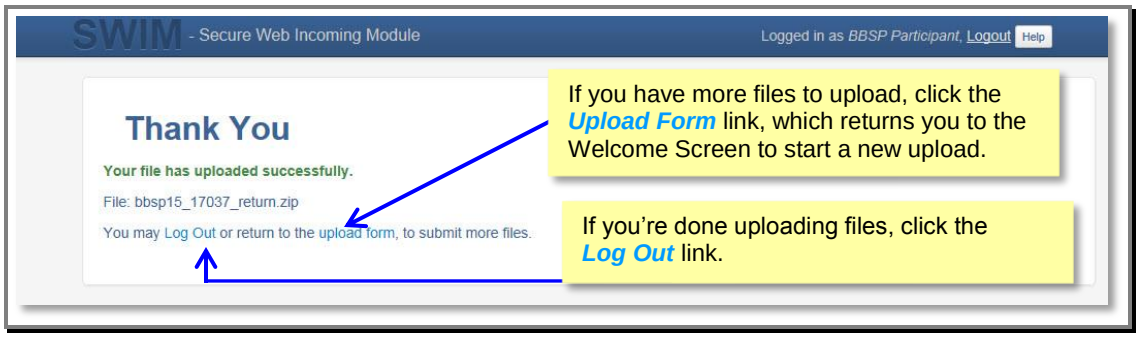

Figure 7.8: Thank You Page

APPENDIX A: UPDATES ALLOWED, BY MTFCC

A.1 Area Landmark Updates Permitted

MTFCC	DESCRIPTION	Can You ADD?	Can You DELETE?	Can You MODIFY ATTRIBUTES?
C3023	Island	Y	Y	Y
H2030	Lake/Pond	Y	Y	Y
H2040	Reservoir	Y	Y	Y
H2041	Treatment Pond	Y	Y	Y
H2051	Bay/Estuary/Gulf/Sound	Y	Y	Y
H2081	Glacier	Y	Y	Y
K1231	Hospital	Y	Y	Y
K1235	Juvenile Institution	Y	Y	Y
K1236	Local Jail or Detention Center	Y	Y	Y
K1237	Federal Penitentiary, State Prison, or Prison Farm	Y	Y	Y
K2110	Military Installation	Y	Y	Y
K2131	Hospital/Hospice/Urgent Care Facility	Y	Y	Y
K2180	Park	Y	Y	Y
K2181	National Park Service Land	Y	Y	Y
K2182	National Forest or Other Federal Land	Y	Y	Y
K2183	Tribal Park, Forest, or Recreation Area	Y	Y	Y
K2184	State Park, Forest, or Recreation Area	Y	Y	Y
K2185	Regional Park, Forest, or Recreation Area	Y	Y	Y
K2186	County Park, Forest, or Recreation Area	Y	Y	Y
K2187	County Subdivision Park, Forest, or Recreation Area	Y	Y	Y
K2188	Incorporated Place Park, Forest, or Recreation Area	Y	Y	Y
K2189	Private Park, Forest, or Recreation Area	Y	Y	Y
K2190	Other Park, Forest, or Recreation Area (quasi-public, independent park, commission, etc.)	Y	Y	Y
K2424	Marina	Y	Y	Y
K2457	Airport - Area Representation	Y	Y	Y
K2540	University or College	Y	Y	Y
K2561	Golf Course	Y	Y	Y
K2582	Cemetery	Y	Y	Y

A.2 Linear Feature Updates Permitted

MTFCC	DESCRIPTION	Can You ADD?	Can You DELETE?	Can You MODIFY ATTRIBUTES?
C3024	Levee	Y	Y	Y
C3027	Dam	Y	Y	Y
H3010	Stream/River	Y	Y	Y
H3013	Braided Stream	Y	Y	Y
H3020	Canal, Ditch, or Aqueduct	Y	Y	Y
K2432	Pier/Dock	Y	Y	Y
K2459	Runway/Taxiway	Y	Y	Y
L4010	Pipeline	Y	Y	Y
L4020	Power Line	Y	Y	Y
L4040	Conveyor	N	N	N
L4110	Fence Line	Y	Y	Y
L4121	Ridge Line	Y	Y	Y
L4125	Cliff/Escarpment	Y	Y	Y
L4130	Point-to Point Line	Y	Y	Y
L4140	Property/Parcel Line (includes PLSS)	Y	Y	Y
L4165	Ferry Crossing	Y	Y	Y
P0001	Nonvisible Legal/Statistical Boundary	Y	Y	Y
P0002	Perennial Shoreline	Y	Y	Y
P0003	Intermittent Shoreline	Y	Y	Y
P0004	Other non-visible bounding edge (e.g., Census water boundary, boundary of areal feature	Y	Y	Y
R1011	Railroad Feature (Main, Spur, or Yard	Y	Y	Y
R1051	Carline, Streetcar Tract Monorail, Other Mass	Y	Y	Y
R1052	Cog Rail Line, Incline Rail Line, Tram	Y	Y	Y
S1100	Primary Road	Y	Y	Y
S1200	Secondary Road	Y	Y	Y
S1400	Local Neighborhood Road, Rural Road, City Street	Y	Y	Y
S1500	Vehicular Trail (4WD)	Y	Y	Y
S1630	Ramp	Y	Y	Y
S1640	Service Drive usually along a limited access highway	Y	Y	Y
S1730	Alley	Y	Y	Y
S1740	Private Road for service vehicles (logging, oil fields, ranches, etc.)	Y	Y	Y
S1820	Bike Path or Trail	Y	Y	Y

A.3 Point Landmark Updates Permitted

MTFCC	DESCRIPTION	Can You ADD?	Can You DELETE?	Can You MODIFY ATTRIBUTES?
C3022	Mountain Peak or Summit	Y	N	N
C3061	Cul-de-sac	Y	Y	Y
C3062	Traffic Circle	Y	Y	Y
K2451	Airport of Airfield * Modifications or deletions not allowed because sourced from GNIS	Y	N	N

APPENDIX B: MTFCC DESCRIPTIONS - COMPLETE LIST

The MAF/TIGER Feature Classification Code (MTFCC) is a 5-digit code assigned by the Census Bureau to classify and describe geographic objects or features in Census Bureau MAF/TIGER products. The table below describes each code. A more comprehensive version of the table can be downloaded at *http://www.census.gov/geo/reference/mtfcc.html*

MTFCC	Feature Class	Feature Class Description
C3022	Mountain Peak or Summit	A prominent elevation rising above the surrounding level of the Earth's surface.
C3023	Island	An area of dry or relatively dry land surrounded by water or low wetland. [including archipelago, atoll, cay, hammock, hummock, isla, isle, key, moku and rock]
C3024	Levee	An embankment flanking a stream or other flowing water feature to prevent overflow.
C3026	Quarry (not water-filled), Open Pit Mine or Mine	An area from which commercial minerals are or were removed from the Earth; not including an oilfield or gas field.
C3027	Dam	A barrier built across the course of a stream to impound water and/or control water flow.
C3061	Cul-de-sac	An expanded paved area at the end of a street used by vehicles for turning around. For mapping purposes, the U.S. Census Bureau maps it only as a point feature.
C3062	Traffic Circle	A circular intersection allowing for continuous movement of traffic at the meeting of roadways.
C3066	Gate	A movable barrier across a road.
C3067	Toll Booth	A structure or barrier where a fee is collected for using a road.
C3070	Tower/Beacon	A manmade structure, higher than its diameter, generally used for observation, storage, or electronic transmission.
C3071	Lookout Tower	A manmade structure, higher than its diameter, used for observation.
C3072	Transmission Tower including cell, radio and TV	A manmade structure, higher than its diameter, used for electronic transmission.
C3073	Water Tower	A manmade structure, higher than its diameter, used for water storage.
C3074	Lighthouse Beacon	A manmade structure, higher than its diameter, used for transmission of light and possibly sound generally to aid in navigation.
C3075	Tank/Tank Farm	One or more manmade structures, each higher than its diameter, used for liquid (other than water) or gas storage or for distribution activities.
C3076	Windmill Farm	One or more manmade structures used to generate power from the wind.
C3077	Solar Farm	One or more manmade structures used to generate power from the sun.
C3078	Monument or Memorial	A manmade structure to educate, commemorate, or memorialize an event, person, or feature.

MTFCC	Feature Class	Feature Class Description
C3079	Boundary Monument Point	A material object placed on or near a boundary line to preserve and identify the location of the boundary line on the ground.
C3080	Survey Control Point	A point on the ground whose position (horizontal or vertical) is known and can be used as a base for additional survey work.
C3081	Locality Point	A point that identifies the location and name of an unbounded locality (e.g., crossroad, community, populated place or locale).
C3085	Alaska Native Village Official Point	A point that serves as the core of an Alaska Native village and is used in defining Alaska Native village statistical areas.
C3088	Landfill	A disposal facility at which solid waste is placed on or in the land.
G2100	American Indian Area	A legally defined state- or federally recognized reservation and/or off-reservation trust land (excludes statistical American Indian areas).
G2101	American Indian Area (Reservation Only)	American Indian Area (Reservation Only)
G2102	American Indian Area (Off-Reservation Trust Land Only)	American Indian Area (Off-Reservation Trust Land Only)
G2120	Hawaiian Home Land	A legal area held in trust for the benefit of Native Hawaiians.
G2130	Alaska Native Village Statistical Area	A statistical geographic entity that represents the residences, permanent and/or seasonal, for Alaska Natives who are members of or receiving governmental services from the defining legal Alaska Native Village corporation.
G2140	Oklahoma Tribal Statistical Area	A statistical entity identified and delineated by the Census Bureau in consultation with federally recognized American Indian tribes that have no current reservation, but had a former reservation in Oklahoma.
G2150	State-designated Tribal Statistical Area	A statistical geographic entity identified and delineated for the Census Bureau by a state-appointed liaison for a state-recognized American Indian tribe that does not currently have a reservation and/or lands in trust.
G2160	Tribal Designated Statistical Area	A statistical geographic entity identified and delineated for the Census Bureau by a federally recognized American Indian tribe that does not currently have a reservation and/or off-reservation trust land.
G2170	American Indian Joint Use Area	An area administered jointly and/or claimed by two or more American Indian tribes.
G2200	Alaska Native Regional Corporation	Corporate entities established to conduct both business and nonprofit affairs of Alaska Natives pursuant to the Alaska Native Claims Settlement Act of 1972 (Public Law 92-203). There are twelve geographically defined ANRCs and they are all within and cover most of the State of Alaska (the Annette Island Reserve-an American Indian reservation-is excluded from any ANRC). The boundaries of ANRCs have been legally established.
G2300	Tribal Subdivision	Administrative subdivisions of federally recognized American Indian reservations, off-reservation trust lands, or Oklahoma tribal statistical areas (OTSAs). These entities are internal units of self-government or administration that serve social, cultural, and/or economic purposes for the American Indians on the reservations, off-reservation trust lands, or OTSAs.
G2400	Tribal Census Tract	A relatively small and permanent statistical subdivision of a federally recognized American Indian reservation and/or off-reservation trust land, delineated by American Indian tribal participants or the Census Bureau for the purpose of presenting demographic data.

MTFCC	Feature Class	Feature Class Description
G2410	Tribal Block Group	A cluster of census blocks within a single tribal census tract delineated by American Indian tribal participants or the Census Bureau for the purpose of presenting demographic data
G3100	Combined Statistical Area	A grouping of adjacent metropolitan and/or micropolitan statistical areas that have a degree of economic and social integration, as measured by commuting.
G3110	Metropolitan and Micropolitan Statistical Area	An area containing a substantial population nucleus together with adjacent communities having a high degree of economic and social integration with that core, as measured by commuting. Defined using whole counties and equivalents.
G3120	Metropolitan Division	A county or grouping of counties that is a subdivision of a Metropolitan Statistical Area containing an urbanized area with a population of 2.5 million or more.
G3200	Combined New England City and Town Area	A grouping of adjacent New England city and town areas that have a degree of economic and social integration, as measured by commuting.
G3210	New England City and Town Metropolitan and Micropolitan Statistical Area	An area containing a substantial population nucleus together with adjacent communities having a high degree of economic and social integration with that core, as measured by commuting. Defined using Minor Civil Divisions (MCDs) in New England.
G3220	New England City and Town Division	A grouping of cities and towns in New England that is a subdivision of a New England City and Town Area containing an urbanized area with a population of 2.5 million or more.
G3500	Urban Area	Densely settled territory that contains at least 2,500 people. The subtypes of this feature are Urbanized Area (UA), which consists of 50,000 + people and Urban Cluster, which ranges between 2,500 and 49,999 people.
G4000	State or Equivalent Feature	The primary governmental divisions of the United States. The District of Columbia is treated as a statistical equivalent of a state for census purposes, as is Puerto Rico.
G4020	County or Equivalent Feature	The primary division of a state or state equivalent area. The primary divisions of 48 states are termed County, but other terms are used such as Borough in Alaska, Parish in Louisiana, and Municipio in Puerto Rico. This feature includes independent cities, which are incorporated places that are not part of any county.
G4040	County Subdivision	The primary divisions of counties and equivalent features for the reporting of Census Bureau data. The subtypes of this feature are Minor Civil Division, Census County Division/Census Subarea, and Unorganized Territory. This feature includes independent places, which are incorporated places that are not part of any county subdivision.
G4050	Estates	Estates are subdivisions of the three major islands in the United States Virgin Islands (USVI).
G4060	Subbarrio (Subminor Civil Division)	Legally defined divisions (subbarrios) of minor civil divisions (barrios-pueblo and barrios) in Puerto Rico.
G4110	Incorporated Place	A legal entity incorporated under state law to provide general-purpose governmental services to a concentration of population. Incorporated places are generally designated as a city, borough, municipality, town, village, or, in a few instances, have no legal description.
G4120	Consolidated City	An incorporated place that has merged governmentally with a county or minor civil division, but one or more of the incorporated places continues to function within the consolidation. It is a place that contains additional separately incorporated places.

MTFCC	Feature Class	Feature Class Description
G4210	Census Designated Place	A statistical area defined for a named concentration of population and the statistical counterpart of an incorporated place
G4300	Economic Census Place	The lowest level of geographic area for presentation of some types of Economic Census data. It includes incorporated places, consolidated cities, census designated places (CDPs), minor civil divisions (MCDs) in selected states, and balances of MCDs or counties. An incorporated place, CDP, MCD, or balance of MCD qualifies as an economic census place if it contains 5,000 or more residents, or 5,000 or more jobs, according to the most current data available.
G5020	Census Tract	Relatively permanent statistical subdivisions of a County or equivalent feature delineated by local participants as part of the Census Bureau's Participant Statistical Areas Program.
G5030	Block Group	A cluster of census blocks having the same first digit of their four-digit identifying numbers within a Census Tract. For example, block group 3 (BG 3) within a Census Tract includes all blocks numbered from 3000 to 3999.
G5040	Tabulation Block	The lowest-order census defined statistical area. It is an area, such as a city block, bounded primarily by physical features but sometimes by invisible city or property boundaries. A tabulation block boundary does not cross the boundary of any other geographic area for which the Census Bureau tabulates data. The subtypes of this feature are Count Question Resolution (CQR), current, and census.
G5200	Congressional District	The 435 areas from which people are elected to the U.S. House of Representatives. Additional equivalent features exist for state equivalents with nonvoting delegates or no representative. The subtypes of this feature are 106th, 107th, 108th, 109th, and 111th Congressional Districts, plus subsequent Congresses.
G5210	State Legislative District (Upper Chamber	Areas established by a state or equivalent government from which members are elected to the upper or unicameral chamber of a state governing body. The upper chamber is the senate in a bicameral legislature, and the unicameral case is a single house legislature (Nebraska).
G5220	State Legislative District (Lower Chamber)	Areas established by a state or equivalent government from which members are elected to the lower chamber of a state governing body. The lower chamber is the House of Representatives in a bicameral legislature.
G5240	Voting District	The generic name for the geographic features, such as precincts, wards, and election districts, established by state, local, and tribal governments for the purpose of conducting elections.
G5400	Elementary School District	A geographic area within which officials provide public elementary grade-level educational services for residents.
G5410	Secondary School District	A geographic area within which officials provide public secondary grade-level educational services for residents.
G5420	Unified School District	A geographic area within which officials provide public educational services for all grade levels for residents.
G6100	Public-Use Microdata Area	A decennial census area with a population of at least 100,000 or more persons for which the Census Bureau provides selected extracts of household-level data that are screened to protect confidentiality.
G6300	Traffic Analysis District	An area delineated by Metropolitan Planning Organizations (MPOs) and state Departments of Transportation (DOTs) for tabulating journey-to-work and place-of-work data. A Traffic Analysis District (TAD) consists of one or more Traffic Analysis Zones (TAZs).

MTFCC	Feature Class	Feature Class Description
G6320	Traffic Analysis Zone	An area delineated by Metropolitan Planning Organizations (MPOs) and state Departments of Transportation (DOTs) for tabulating journey-to-work and place-of-work data.
G6330	Urban Growth Area	An area defined under state authority to manage urbanization that the U.S. Census Bureau includes in the MAF/TIGER® Database in agreement with the state.
G6340	ZIP Code Tabulation Area (Three-Digit)	An approximate statistical-area representation of a U.S. Postal Service (USPS) 3-digit ZIP Code service area.
G6350	Zip Code Tabulation Area (Five-Digit)	An approximate statistical-area representation of a U.S. Postal Service (USPS) 5-digit ZIP Code service area.
G6400	Commercial Region	For the purpose of presenting economic statistical data, municipios in Puerto Rico are grouped into commercial regions.
H1100	Connector	A known, but nonspecific, hydrographic connection between two nonadjacent water features.
H2025	Swamp/Marsh	A poorly drained wetland, fresh or saltwater, wooded or grassy, possibly covered with open water. [includes bog, cienega, marais and pocosin]
H2030	Lake/Pond	A standing body of water that is surrounded by land.
H2040	Reservoir	An artificially impounded body of water.
H2041	Treatment Pond	An artificial body of water built to treat fouled water.
H2051	Bay/Estuary/Gulf/Sound	A body of water partly surrounded by land. [includes arm, bight, cove and inlet]
H2053	Ocean/Sea	The great body of salt water that covers much of the earth.
H2060	Gravel Pit/Quarry filled with water	A body of water in a place or area from which commercial minerals were removed from the Earth.
H2081	Glacier	A body of ice moving outward and down slope from an area of accumulation; an area of relatively permanent snow or ice on the top or side of a mountain or mountainous area. [includes ice field and ice patch]
H3010	Stream/River	A natural flowing waterway. [includes anabranch, awawa, branch, brook, creek, distributary, fork, kill, pup, rio, and run]
H3013	Braided Stream	A natural flowing waterway with an intricate network of interlacing channels.
H3020	Canal, Ditch or Aqueduct	An artificial waterway constructed to transport water, to irrigate or drain land, to connect two or more bodies of water, or to serve as a waterway for watercraft. [includes lateral]
K1121	Apartment Building or Complex	A building or group of buildings that contain multiple living quarters generally for which rent is paid.
K1223	Trailer Court or Mobile Home Park	An area in which parking space for house trailers is rented, usually providing utilities and services.
K1225	Crew-of-Vessel Location	A point or area in which the population of military or merchant marine vessels at sea are assigned, usually being at or near the home port pier.
K1226	Housing Facility/Dormitory for Workers	A structure providing housing for a number of persons employed as semi-permanent or seasonal laborers.
K1227	Hotel, Motel, Resort, Spa, Hostel, YMCA, or YWCA	A structure providing transient lodging or living quarters, generally for some payment.

MTFCC	Feature Class	Feature Class Description
K1228	Campground	An area used for setting up mobile temporary living quarters (camp) or holding a camp meeting, sometimes providing utilities and other amenities.
K1229	Shelter or Mission	A structure providing low-cost or free living quarters established by a welfare or educational organization for the needy people of a district.
K1231	Hospital/Hospice/Urgent Care Facility	One or more structures where the sick or injured may receive medical or surgical attention. [including infirmary]
K1233	Nursing Home, Retirement Home, or Home for the Aged	A structure to house and provide care for the elderly.
K1234	County Home or Poor Farm	One or more structures administered by a local government that serve as living quarters for the indigent.
K1235	Juvenile Institution	A facility (correctional or non-correctional) where groups of juveniles reside; this includes training schools, detention centers, residential treatment centers and orphanages.
K1236	Local Jail or Detention Center	One or more structures that serve as a place for the confinement of adult persons in lawful detention, administered by a local (county, municipal, etc.) government.
K1237	Federal Penitentiary, State Prison, or Prison Farm	An institution that serves as a place for the confinement of adult persons in lawful detention, administered by the federal government or a state government.
K1238	Other Correctional Institution	One or more structures that serve as a place for the confinement of adult persons in lawful detention, not elsewhere classified or administered by a government of unknown jurisdiction.
K1239	Convent, Monastery, Rectory, Other Religious Group Quarters	One or more structures intended for use as a residence for those having a religious vocation.
K1241	Sorority, Fraternity, or College Dormitory	One or more structures associated with a social or educational organization that serve as living quarters for college students.
K2100	Governmental	A place where employees are employed in federal, state, local, or tribal government.
K2110	Military Installation	An area owned and/or occupied by the Department of Defense for use by a branch of the armed forces (such as the Army, Navy, Air Force, Marines, or Coast Guard), or a state owned area for the use of the National Guard.
K2165	Government Center	A place used by members of government (either federal, state, local, or tribal) for administration and public business.
K2167	Convention Center	An exhibition hall or conference center with enough open space to host public and private business and social events.
K2180	Park	Parkland defined and administered by federal, state, and local governments.
K2181	National Park Service Land	Area—National parks, National Monuments, and so forth—under the jurisdiction of the National Park Service.
K2182	National Forest or Other Federal Land	Land under the management and jurisdiction of the federal government, specifically including areas designated as National Forest, and excluding areas under the jurisdiction of the National Park Service.
K2183	Tribal Park, Forest, or Recreation Area	A place or area set aside for recreation or preservation of a cultural or natural resource and under the administration of an American Indian tribe.

MTFCC	Feature Class	Feature Class Description
K2184	State Park, Forest, or Recreation Area	A place or area set aside for recreation or preservation of a cultural or natural resource and under the administration of a state government.
K2185	Regional Park, Forest, or Recreation Area	A place or area set aside for recreation or preservation of a cultural or natural resource and under the administration of a regional government.
K2186	County Park, Forest, or Recreation Area	A place or area set aside for recreation or preservation of a cultural or natural resource and under the administration of a county government.
K2187	County Subdivision Park, Forest, or Recreation Area	A place or area set aside for recreation or preservation of a cultural or natural resource and under the administration of a minor civil division (town/township) government.
K2188	Incorporated Place Park, Forest, or Recreation Area	A place or area set aside for recreation or preservation of a cultural or natural resource and under the administration of a municipal government.
K2189	Private Park, Forest, or Recreation Area	A privately owned place or area set aside for recreation or preservation of a cultural or natural resource.
K2190	Other Park, Forest, or Recreation Area (quasi-public, independent park, commission, etc.)	A place or area set aside for recreation or preservation of a cultural or natural resource and under the administration of some other type of government or agency such as an independent park authority or commission.
K2191	Post Office	An official facility of the U.S. Postal Service used for processing and distributing mail and other postal material.
K2193	Fire Department	Fire Department.
K2194	Police Station	Police Station.
K2195	Library	Library.
K2196	City/Town Hall	City/Town Hall.
K2300	Commercial Workplace	A place of employment for wholesale, retail, or other trade.
K2361	Shopping Center or Major Retail Center	A group of retail establishments within a planned subdivision sharing a common parking area.
K2362	Industrial Building or Industrial Park	One or more manufacturing establishments within an area zoned for fabrication, construction, or other similar trades.
K2363	Office Building or Office Park	One or more structures housing employees performing business, clerical, or professional services.
K2364	Farm/Vineyard/Winery/Orchard	An agricultural establishment where crops are grown and/or animals are raised, usually for food.
K2366	Other Employment Center	A place of employment not elsewhere classified or of unknown type.
K2400	Transportation Terminal	A facility where one or more modes of transportation can be accessed by people or for the shipment of goods; examples of such a facility include marine terminal, bus station, train station, airport and truck warehouse.
K2424	Marina	A place where privately owned, light-craft are moored.
K2432	Pier/Dock	A platform built out from the shore into the water and supported by piles. This platform may provide access to ships and boats, or it may be used for recreational purposes.
K2451	Airport or Airfield	A manmade facility maintained for the use of aircraft. [including airstrip, landing field and landing strip]

MTFCC	Feature Class	Feature Class Description
K2452	Train Station, Trolley or Mass Transit Rail Station	A place where travelers can board and exit rail transit lines, including associated ticketing, freight, and other commercial offices.
K2453	Bus Terminal	A place where travelers can board and exit mass motor vehicle transit, including associated ticketing, freight, and other commercial offices.
K2454	Marine Terminal	A place where travelers can board and exit water transit or where cargo is handled, including associated ticketing, freight, and other commercial offices.
K2455	Seaplane Anchorage	A place where an airplane equipped with floats for landing on or taking off from a body of water can debark and load.
K2456	Airport—Intermodal Transportation Hub/Terminal	A major air transportation facility where travelers can board and exit airplanes and connect with other (i.e. non-air) modes of transportation.
K2457	Airport—Statistical Representation	The area of an airport adjusted to include whole 2000 census blocks used for the delineation of urban areas.
K2458	Park and Ride Facility/Parking Lot	A place where motorists can park their cars and transfer to other modes of transportation.
K2459	Runway/Taxiway	A fairly level and usually paved expanse used by airplanes for taking off and landing at an airport.
K2460	Helicopter Landing Pad	A fairly level and usually paved expanse used by helicopters for taking off and landing.
K2540	University or College	A building or group of buildings used as an institution for post-secondary study, teaching, and learning. [including seminary]
K2545	Museum, Visitor Center, Cultural Center, or Tourist Attraction	An attraction of historical, cultural, educational or other interest that provides information or displays artifacts.
K2561	Golf Course	A place designed for playing golf.
K2564	Amusement Center	A facility that offers entertainment, performances or sporting events. Examples include arena, auditorium, theater, stadium, coliseum, race course, theme park, fairgrounds and shooting range.
K2582	Cemetery	A place or area for burying the dead. [including burying ground and memorial garden]
K2586	Zoo	A facility in which terrestrial and/or marine animals are confined within enclosures and displayed to the public for educational, preservation, and research purposes.
K3544	Place of Worship	A sanctified place or structure where people gather for religious worship; examples include church, synagogue, temple, and mosque.
L4010	Pipeline	A long tubular conduit or series of pipes, often underground, with pumps and valves for flow control, used to transport fluid (e.g., crude oil, natural gas), especially over great distances.
L4020	Powerline	One or more wires, often on elevated towers, used for conducting high-voltage electric power.
L4031	Aerial Tramway/Ski Lift	A conveyance that transports passengers or freight in carriers suspended from cables and supported by a series of towers.
L4040	Conveyor	A mechanical apparatus that uses a moving belt to transport items from one place to another.
L4110	Fence Line	A man-made barrier enclosing or bordering a field, yard, etc., usually made of posts and wire or wood, used to prevent entrance, to confine, or to mark a boundary.

MTFCC	Feature Class	Feature Class Description
L4121	Ridge Line	The line of highest elevation along a ridge.
L4125	Cliff/Escarpment	A very steep or vertical slope. [including bluff, crag, head, headland, nose, palisades, precipice, promontory, rim and rimrock]
L4130	Point-to-Point Line	A line defined as beginning at one location point and ending at another, both of which are in sight.
L4140	Property/Parcel Line (Including PLSS)	This feature class may denote a nonvisible boundary of either public or private lands (e.g., a park boundary) or it may denote a Public Land Survey System or equivalent survey line.
L4150	Coastline	The line that separates either land or Inland water from Coastal, Territorial or Great Lakes water. Where land directly borders Coastal, Territorial or Great Lakes water, the shoreline represents the Coastline. Where Inland water (such as a river) flows into Coastal, Territorial or Great Lakes water, the closure line separating the Inland water from the other class of water represents the Coastline.
L4165	Ferry Crossing	The route used to carry or convey people or cargo back and forth over a waterbody in a boat.
R1011	Railroad Feature (Main, Spur, or Yard)	A line of fixed rails or tracks that carries mainstream railroad traffic. Such a rail line can be a main line or spur line, or part of a rail yard.
R1052	Cog Rail Line, Incline Rail Line, Tram	A special purpose rail line for climbing steep grades that is typically inaccessible to mainstream railroad traffic. Note that aerial tramways and streetcars (which may also be called "trams") are accounted for by other MTFCCs and do not belong in R1052.
S1100	Primary Road	Primary roads are generally divided, limited-access highways within the interstate highway system or under state management, and are distinguished by the presence of interchanges. These highways are accessible by ramps and may include some toll highways.
S1200	Secondary Road	Secondary roads are main arteries, usually in the U.S. Highway, State Highway or County Highway system. These roads have one or more lanes of traffic in each direction, may or may not be divided, and usually have at-grade intersections with many other roads and driveways. They often have both a local name and a route number.
S1400	Local Neighborhood Road, Rural Road, City Street	Generally a paved non-arterial street, road, or byway that usually has a single lane of traffic in each direction. Roads in this feature class may be privately or publicly maintained. Scenic park roads would be included in this feature class, as would (depending on the region of the country) some unpaved roads.
S1500	Vehicular Trail (4WD)	An unpaved dirt trail where a four-wheel drive vehicle is required. These vehicular trails are found almost exclusively in very rural areas. Minor, unpaved roads usable by ordinary cars and trucks belong in the S1400 category.
S1630	Ramp	A road that allows controlled access from adjacent roads onto a limited access highway, often in the form of a cloverleaf interchange. These roads are unaddressable.
S1640	Service Drive usually along a limited access highway	A road, usually paralleling a limited access highway, that provides access to structures along the highway. These roads can be named and may intersect with other roads.
S1710	Walkway/Pedestrian Trail	A path that is used for walking, being either too narrow for or legally restricted from vehicular traffic.
S1720	Stairway	A pedestrian passageway from one level to another by a series of steps.
S1730	Alley	A service road that does not generally have associated addressed structures and is usually unnamed. It is located at the rear of buildings and properties and is used for deliveries.

MTFCC	Feature Class	Feature Class Description
S1740	Private Road for service vehicles (logging, oil fields, ranches, etc.)	A road within private property that is privately maintained for service, extractive, or other purposes. These roads are often unnamed.
S1750	Internal U.S. Census Bureau use	Internal U.S. Census Bureau use.
S1780	Parking Lot Road	The main travel route for vehicles through a paved parking area.
S1820	Bike Path or Trail	A path that is used for manual or small, motorized bicycles, being either too narrow for or legally restricted from vehicular traffic.
S1830	Bridle Path	A path that is used for horses, being either too narrow for or legally restricted from vehicular traffic.
S2000	Road Median	The unpaved area or barrier between the carriageways of a divided road.
P0001	Nonvisible Linear Legal/Statistical Boundary	A legal/statistical boundary line that does not correspond to a shoreline or other visible feature on the ground.
P0002	Perennial Shoreline	The more-or-less permanent boundary between land and water for a water feature that exists year-round.
P0003	Intermittent Shoreline	The boundary between land and water (when water is present) for a water feature that does not exist year-round.
P0004	Other non-visible bounding Edge (e.g., Census water boundary, boundary of an areal feature)	A bounding Edge that does not represent a legal/statistical boundary, and does not correspond to a shoreline or other visible feature on the ground. Many such Edges bound area landmarks, while many others separate water features from each other (e.g., where a bay meets the ocean).

APPENDIX C: PARTNERSHIP SHAPEFILE DATA DICTIONARY

-Partnership Shapefiles-		
Shapefile Layer	**Geographic Level**	**<layer> Name**
American Indian Areas (AIA) - Legal	County/State	Aial
American Indian / Alaska Native Areas (AIANA) - Statistical	County/State	Aias
American Indian Tribal Subdivisions (AITS) - Legal	County/State	Aitsl
American Indian Tribal Subdivisions (AITS) - Statistical	County/State	Aitss
Alaska Native Regional Corporations (ANRC)	County/State	Anrc
Area Landmark	County only	Arealm
Block Area Grouping	County/State	Bag
Census Block Groups	County only	Bg
Block Size Indicator	County only	Block
Metropolitan/ Micropolitan Statistical Area	County/State	Cbsa
County Subdivisions – Statistical	County/State	Ccd
Congressional Districts (CD)	County/State	Cd
Census Designated Places (CDP)	County/State	Cdp
Consolidated Cities	County only	Concity
Counties and Equivalent Areas	County/State	County
Census Tracts	County only	Curtracts
Edges (All Lines)	County only	Edges
School Districts (Elementary)	County/State	Elsd
County Subdivisions – Legal	County/State	Mcd
New England City and Town Area	County/State	Necta
Offsets	County only	Offset
Incorporated Places	County/State	Place
Point Landmarks	County only	Pointlm
Public Use Microdata Areas – Census 2010	County/State	Puma2010
School Districts (Secondary)	County/State	Scsd
State Legislative Districts (Lower/House)	County/State	Sldl
State Legislative Districts (Upper/Senate)	County/State	Sldu
States and Equivalent Areas	State only	State
Subbarrios	County only	Submcd
Census Blocks - Current	County only	Tabblock
Census Blocks – Census 2010	County only	Tabblock2010
Traffic Analysis Districts – Census 2010	County only	Tad2010
Traffic Analysis Zone	County only	Taz2010
Tribal Block Group	County/State	Tbg
Census Tracts – Census 2010	County/State	Tracts2010
Urban Area/ Urban Cluster – Census 2010	County/State	Uac
Urban Growth Areas (UGA)	County only	Uga
School Districts (Unified)	County/State	Unsd
Hydrography - Area	County only	Water

Address Ranges (Relationship Table)	County	Addr
Linear Feature Names (Relationship Table)	County	Allnames
Topological Faces - Area Landmark Relationship	County	Areafaces
Topological Faces (Listing of faces with all geocodes)	County	Faces
Topological Faces - Area Hydrography Relationship	County	Hydrofaces

-Alaska Native Regional Corporations (Alaska Only)-			
ATTRIBUTE FIELD	**LENGTH**	**TYPE**	**DESCRIPTION**
STATEFP	2	String	FIPS State Code
COUNTYFP*	3	String	FIPS County Code
ANRCFP	5	String	FIPS ANRC Code (State Based)
ANRCCE	2	String	Current Census ANRC Code
NAMELSAD	100	String	Name with translated LSAD
LSAD	2	String	Legal/Statistical Area Description
AIANNHNS	8	String	ANSI numeric identifier for AIANNH Areas
FUNCSTAT	1	String	Functional Status
CLASSFP	2	String	FIPS55 class code describing entity
PARTFLG*	1	String	Part Flag Indicator
CHNG_TYPE	2	String	Type of area update
EFF_DATE	8	String	Effective Date or Vintage
DOCU	120	String	Supporting documentation
FORM_ID	4	String	Record ID for any boundary update
AREA	10	Numeric (3 decimal places)	Acreage of area update
RELATE	120	String	Relationship description
JUSTIFY	150	Char	Justification
NAME	100	String	Name
VINTAGE	2	String	Vintage updated with returned data
AIANHFSR	1	String	Flag indicating level of recognition of an American Indian, Alaska Native, or Native Hawaiian tribe or group.

-American Indian Areas – Legal -			
ATTRIBUTE FIELD	**LENGTH**	**TYPE**	**DESCRIPTION**
STATEFP	2	String	FIPS State Code
COUNTYFP*	3	String	FIPS County Code
AIANNHCE	4	String	Census AIANNH Code
COMPTYP	1	String	Indicates if reservation (or equivalent) or off-reservation trust land is present, or both
AIANNHFSR	1	String	Flag indicating level of recognition of an American Indian, Alaska Native, or Native Hawaiian tribe or group.
NAMELSAD	100	String	Name with translated LSAD
AIANNHNS	8	String	ANSI numeric identifier for AIANNH Areas
LSAD	2	String	Legal/Statistical Area Description
FUNCSTAT	1	String	Functional Status
CLASSFP	2	String	FIPS55 class code describing entity
PARTFLG*	1	String	Part Flag Indicator
CHNG_TYPE	2	String	Type of area update
EFF_DATE	8	String	Effective Date or Vintage
DOCU	120	String	Supporting documentation
FORM_ID	4	String	Record ID for any boundary update
AREA	10	Numeric (3 decimal places)	Acreage of area update
RELATE	120	String	Relationship description
JUSTIFY	150	Char	Justification
NAME	100	String	Name
VINTAGE	2	String	Vintage updated with returned data

-American Indian / Alaska Native Areas – Statistical-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
STATEFP	2	String	FIPS State Code
COUNTYFP*	3	String	FIPS County Code
AIANNHCE	4	String	Census AIANNH Code
COMPTYP	1	String	Indicates if reservation (or equivalent) or off-reservation trust land is present, or both
AIANNHFSR	1	String	Flag indicating level of recognition of an American Indian, Alaska Native, or Native Hawaiian tribe or group.
NAMELSAD	100	String	Name with translated LSAD
AIANNHNS	8	String	ANSI numeric identifier for AIANNH Areas
LSAD	2	String	Legal/Statistical Area Description
FUNCSTAT	1	String	Functional Status
CLASSFP	2	String	FIPS55 class code describing entity
PARTFLG*	1	String	Part Flag Indicator

-American Indian / Alaska Native Areas – Statistical-			
CHNG_TYPE	2	String	Type of area update
EFF_DATE	8	String	Effective Date or Vintage
RELATE	120	String	Relationship description
JUSTIFY	150	Char	Justification
VINTAGE	2	String	Vintage updated with returned data
NAME	100	String	Name

-American Indian Tribal Subdivisions - Legal-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
STATEFP	2	String	FIPS State Code
COUNTYFP*	3	String	FIPS County Code
AIANNHCE	4	String	Census AIANNH Code
TRIBSUBCE	1	String	Census Tribal subdivision
NAMELSAD	100	String	Name with translated LSAD
AIANNHNS	8	String	ANSI numeric identifier for AIANNH Areas
LSAD	2	String	Legal/Statistical Area Description
FUNCSTAT	1	String	Functional Status
CLASSFP	2	String	FIPS55 class code describing entity
PARTFLG*	1	String	Part Flag Indicator
CHNG_TYPE	2	String	Type of area update
EFF_DATE	8	String	Effective Date or Vintage
DOCU	120	String	Supporting documentation
FORM_ID	4	String	Record ID for any boundary update
AREA	10	Numeric (3 decimal places)	Acreage of area update
RELATE	120	String	Relationship description
JUSTIFY	150	Char	Justification
NAME	100	String	Name
VINTAGE	2	String	Vintage updated with returned data
AIANNHFSR	1	String	Flag indicating level of recognition of an American Indian, Alaska Native, or Native Hawaiian tribe or group.

-American Indian Tribal Subdivisions - Statistical-			
ATTRIBUTE FIELD	**LENGTH**	**TYPE**	**DESCRIPTION**
STATEFP	2	String	FIPS State Code
COUNTYFP*	3	String	FIPS County Code
AIANNHCE	4	String	Census AIANNH Code
TRIBSUBCE	1	String	Census Tribal subdivision

-American Indian Tribal Subdivisions - Statistical-			
NAMELSAD	100	String	Name with translated LSAD
AIANNHNS	8	String	ANSI numeric identifier for AIANNH Areas
LSAD	2	String	Legal/Statistical Area Description
FUNCSTAT	1	String	Functional Status
CLASSFP	2	String	FIPS55 class code describing entity
PARTFLG*	1	String	Part Flag Indicator
CHNG_TYPE	2	String	Type of area update
EFF_DATE	8	String	Effective Date or Vintage
DOCU	120	String	Supporting documentation
FORM_ID	4	String	Record ID for any boundary update
AREA	10	Numeric (3 decimal places)	Acreage of area update
RELATE	120	String	Relationship description
JUSTIFY	150	Char	Justification
NAME	100	String	Name
VINTAGE	2	String	Vintage updated with returned data
AIANNHFSR	1	String	Flag indicating level of recognition of an American Indian, Alaska Native, or Native Hawaiian tribe or group.

-Congressional Districts-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
STATEFP	2	String	FIPS State Code
COUNTYFP*	3	String	FIPS County Code
CDFP	2	String	Congressional District Code
CDTYP	1	String	Congressional District Type
NAMELSAD	100	String	Name with translated LSAD
LSAD	2	String	Legal/Statistical Area Description
CHNG_TYPE	2	String	Type of Area Update
EFF_DATE	8	String	Effective date or vintage
NEW_CODE	2	String	New Congressional District Code
RELTYPE1	2	String	Relationship Type 1
RELTYPE2	2	String	Relationship Type 2
RELTYPE3	2	String	Relationship Type 3
RELTYPE4	2	String	Relationship Type 4
RELTYPE5	2	String	Relationship Type 5
REL_ENT1	8	String	Relationship Entity 1
REL_ENT2	8	String	Relationship Entity 2
REL_ENT3	8	String	Relationship Entity 3
REL_ENT4	8	String	Relationship Entity 4
REL_ENT5	8	String	Relationship Entity 5

-Congressional Districts-			
RELATE	120	String	Relationship Description
JUSTIFY	150	Char	Justification
CDSESSN	3	String	Congressional District Session Code
NAME	100	String	Name
VINTAGE	2	String	Vintage updated with returned data
FUNCSTAT	1	String	Functional Status

-Hawaiian Home Lands (Hawaii Only)-			
ATTRIBUTE FIELD	**LENGTH**	**TYPE**	**DESCRIPTION**
STATEFP	2	String	FIPS State Code
COUNTYFP*	3	String	FIPS County Code
AIANNHCE	4	String	Census AIANNH Code
COMPTYP	1	String	Indicates if reservation (or equivalent) or off-reservation trust land is present, or both
NAMELSAD	100	String	Name with translated LSAD
AIANNHNS	8	String	ANSI numeric identifier for AIANNH Areas
LSAD	2	String	Legal/Statistical Area Description
FUNCSTAT	1	String	Functional Status
CLASSFP	2	String	FIPS55 class code describing entity
PARTFLG*	1	String	Part Flag Indicator
CHNG_TYPE	2	String	Type of area update
EFF_DATE	8	String	Effective Date or Vintage
DOCU	120	String	Supporting documentation
FORM_ID	4	String	Record ID for any boundary update
AREA	10	Numeric (3 decimal places)	Acreage of area update
RELATE	120	String	Relationship description
JUSTIFY	150	Char	Justification
VINTAGE	2	String	Vintage updated with returned data
AIANNHFSR	1	String	Flag indicating level of recognition of an American Indian, Alaska Native, or Native Hawaiian tribe or group.
NAME	100	String	Name

-School Districts (Elementary, Secondary, Unified)-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
STATEFP	2	String	FIPS State Code
COUNTYFP*	3	String	FIPS County Code
SDLEA	5	String	Current Local Education Agency Code
NAME	100	String	Name of School District
LSAD	2	Integer	Legal/Statistical Area Description
HIGRADE	2	String	Highest grade for which the district is financially responsible
LOGRADE	2	String	Lowest grade for which the district is financially responsible

-School Districts (Elementary, Secondary, Unified)-			
PARTFLG*	1	String	Part Flag Indicator
POLYID	4	String	Record ID for each update polygon for linking back to the submission log
CHNG_TYPE	1	String	Type of area update
EFF_DATE	8	String	Effective Date or Vintage
RELATE	120	String	Relationship description
JUSTIFY	150	Char	Justification
FUNCSTAT	3	String	Functional Status
VINTAGE	2	String	Vintage updated with returned data

-State Legislative Districts (Upper/Senate)-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
STATEFP	2	String	FIPS State Code
COUNTYFP*	3	String	FIPS County Code
SLDUST	3	String	SLD Upper Chamber Code
NAMELSAD	100	String	Name with translated LSAD
LSAD	2	String	Legal/Statistical Area Description
PARTFLG*	1	String	Part Flag Indicator
CHNG_TYPE	2	String	Type of area update
EFF_DATE	8	String	Effective Date or Vintage
NEW_NAME	100	String	New SLDU Name
NEW_CODE	3	String	New SLDU Code
RELTYPE1	2	String	Relationship Type 1
RELTYPE2	2	String	Relationship Type 2
RELTYPE3	2	String	Relationship Type 3
RELTYPE4	2	String	Relationship Type 4
RELTYPE5	2	String	Relationship Type 5
REL_ENT1	8	String	Relationship Entity 1
REL_ENT2	8	String	Relationship Entity 2
REL_ENT3	8	String	Relationship Entity 3
REL_ENT4	8	String	Relationship Entity 4
REL_ENT5	8	String	Relationship Entity 5
RELATE	120	String	Relationship Description
JUSTIFY	150	Char	Justification
LSY	4	String	Legislative Session Year
NAME	100	String	Name
VINTAGE	2	String	Vintage updated with returned data
FUNCSTAT	1	String	Functional Status

-State Legislative Districts (Lower/Senate)-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION

-State Legislative Districts (Lower/Senate)-			
STATEFP	2	String	FIPS State Code
COUNTYFP*	3	String	FIPS County Code
SLDLST	3	String	SLD Lower Chamber Code
NAMELSAD	100	String	Name with translated LSAD
LSAD	2	String	Legal/Statistical Area Description
PARTFLG*	1	String	Part Flag Indicator
CHNG_TYPE	2	String	Type of area update
EFF_DATE	8	String	Effective Date or Vintage
NEW_NAME	100	String	New SLDL Name
NEW_CODE	3	String	New SLDL Code
RELTYPE1	2	String	Relationship Type 1
RELTYPE2	2	String	Relationship Type 2
RELTYPE3	2	String	Relationship Type 3
RELTYPE4	2	String	Relationship Type 4
RELTYPE5	2	String	Relationship Type 5
REL_ENT1	8	String	Relationship Entity 1
REL_ENT2	8	String	Relationship Entity 2
REL_ENT3	8	String	Relationship Entity 3
REL_ENT4	8	String	Relationship Entity 4
REL_ENT5	8	String	Relationship Entity 5
RELATE	120	String	Relationship Description
JUSTIFY	150	Char	Justification
LSY	4	String	Legislative Session Year
NAME	100	String	Name
VINTAGE	2	String	Vintage updated with returned data
FUNCSTAT	1	String	Functional Status

-Urban Growth Areas-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
STATEFP	2	String	FIPS State Code
COUNTYFP	3	String	FIPS County Code
UGACE	5	String	Urban Growth Area Code
UGATYP	1	String	Urban Growth Area Type
NAMELSAD	100	String	Name with translated LSAD
LSAD	2	String	Legal/Statistical Area Description
PARTFLG	1	String	Part Flag Indicator
CHNG_TYPE	1	String	Type of Area Update
EFF_DATE	8	String	Effective Date or Vintage
AREA	10	Double	Acreage of Update
RELATE	120	String	Relationship Description
JUSTIFY	150	Char	Justification
VINTAGE	2	String	Vintage updated with returned data
NAME	100	String	Name

-Census Block Groups-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
STATEFP	2	String	FIPS State Code
COUNTYFP	3	String	FIPS County Code
TRACTCE	6	String	Census Tract Code
BLKGRPCE	1	String	Block Group Code
BLKGRPID	12	String	FIPS State Code, FIPS County Code, Census Tract Code, Block Group Code
CHNG_TYPE	2	String	Type of Area Update
EFF_DATE	8	String	Effective Date or Vintage
BGTYP	1	String	Block Group Characteristic Flag
RELATE	120	String	Relationship Description
JUSTIFY	150	Char	Justification
VINTAGE	2	String	Vintage updated with returned data

-Census Blocks – Current-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
STATEFP	2	String	FIPS State Code
COUNTYFP	3	String	FIPS County Code
STATEFP10	2	String	FIPS 2010 State Code
COUNTYFP10	3	String	FIPS 2010 County Code
TRACTCE10	6	String	Census Tract Code
BLOCKCE	4	String	Tabulation Block Number

-Census Blocks – Current-			
SUFFIX1CE	2	String	Census Block Suffix 1
SUFFIX2CE	2	String	Census Block Suffix 2
BLOCKID	19	String	FIPS State Code, FIPS County Code, Census Tract Code, Tabulation Block Number, Census Block Suffix 1, Census Block Suffix 2

-Census Blocks – Census 2010-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
STATEFP10	2	String	FIPS 2010 State Code
COUNTYFP10	3	String	FIPS 2010 County Code
TRACTCE10	6	String	Census Tract Code
BLOCKCE	4	String	Tabulation Block Number
BLOCKID10	15	String	FIPS State Code, FIPS County Code, Census Tract Code, Tabulation Block Number
PARTFLG	1	String	Part Flag Indicator
HOUSING10	9	Integer	2010 Housing
POP10	9	Integer	Census 2010 population count

-Census Tracts-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
STATEFP	2	String	FIPS State Code
COUNTYFP	3	String	FIPS County Code
TRACTCE	6	String	Census Tract Code
NAME	100	String	Name
TRACTID	11	String	FIPS State Code, FIPS County Code, Census Tract Code
CHNG_TYPE	2	String	Type of area update
EFF_DATE	8	String	Effective Date or Vintage
TRACTTYP	1	String	Tract Characteristic Flag
RELATE	120	String	Relationship Description
JUSTIFY	150	Char	Justification
TRACTLABEL	7	String	Tract number used for LUCA geocoding
VINTAGE	2	String	Vintage updated with returned data

-Census Designated Places-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
STATEFP	2	String	FIPS State Code
COUNTYFP*	3	String	FIPS County Code
PLACEFP	5	String	FIPS 55 Place Code
PLACENS	5	String	ANSI feature code for the place

-Census Designated Places-			
NAMELSAD	100	String	Name with translated LSAD
LSAD	2	String	Legal/Statistical Area Description
FUNCSTAT	1	String	Functional Status
CLASSFP	2	String	FIPS 55 Class Code describing an entity
PARTFLG	1	String	Part Flag Indicator
CHNG_TYPE	1	String	Type of Area Update
EFF_DATE	8	String	Effective Date or Vintage
RELATE	120	String	Relationship Description
JUSTIFY	150	Char	Justification
NAME	100	String	Name
VINTAGE	2	String	Vintage updated with returned data

-Consolidated City Shapefile-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
STATEFP	2	String	FIPS State Code
COUNTYFP	3	String	FIPS County Code
CONCITYFP	5	String	FIPS 55 Place Code
CONCITYCE	4	String	Census Consolidated City Code
NAMELSAD	100	String	Name with translated LSAD
PLACENS	8	String	ANSI feature code for the place
LSAD	2	String	Legal/Statistical Area Description
FUNCSTAT	1	String	Functional Status
CLASSFP	2	String	FIPS 55 Class Code describing an entity
CHNG_TYPE	1	String	Type of Area Update
EFF_DATE	8	String	Effective Date or Vintage
DOCU	120	String	Supporting Documentation
FORM_ID	4	String	(MTPS and Web BAS only)
AREA	10	Double	Acreage of Update
RELATE	120	String	Relationship Description
JUSTIFY	150	Char	Justification

-County and Equivalent Areas Shapefile-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
STATEFP	2	String	FIPS State Code
COUNTYFP	3	String	FIPS County Code
COUNTYNS	8	String	ANSI Feature Code for the County or Equivalent Feature
NAMELSAD	100	String	Name with translated LSAD code
LSAD	2	String	Legal/Statistical Area Description code
FUNCSTAT	1	String	Functional Status
CLASSFP	2	String	FIPS 55 Class Code describing an entity
CHNG_TYPE	1	String	Type of area update
EFF_DATE	8	String	Effective Date or Vintage
DOCU	120	String	Supporting Documentation
FORM_ID	4	String	(MTPS / Web BAS only)
AREA	10	Double	Acreage of Area Update
RELATE	120	String	Relationship description
JUSTIFY	150	Char	Justification
NAME	100	String	Name
VINTAGE	2	String	Vintage updated with returned data

-County Subdivisions Shapefile – Legal (MCD)-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
STATEFP	2	String	FIPS State Code
COUNTYFP	3	String	FIPS County Code
COUSUBFP	5	String	FIPS County Subdivision Code
NAMELSAD	100	String	Name with translated LSAD
COUSUBNS	8	String	ANSI feature code for the county subdivision
LSAD	2	String	Legal/Statistical Area Description
FUNCSTAT	1	String	Functional Status
CLASSFP	2	String	FIPS 55 Class Code describing an entity
CHNG_TYPE	1	String	Type of Area Update
EFF_DATE	8	String	Effective Date or Vintage
DOCU	120	String	Supporting Documentation
FORM_ID	4	String	(MTPS and Web BAS only)
AREA	10	Double	Acreage of Update
RELATE	120	String	Relationship Description
JUSTIFY	150	Char	Justification
NAME	100	String	Name
VINTAGE	2	String	Vintage updated with returned data

-County Subdivisions Shapefile –Statistical (CCD)-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
STATEFP	2	String	FIPS State Code
COUNTYFP	3	String	FIPS County Code
COUSUBFP	5	String	FIPS County Subdivision Code
NAMELSAD	100	String	Name with translated LSAD
COUSUBNS	8	String	ANSI feature code for the county subdivision
LSAD	2	String	Legal/Statistical Area Description
FUNCSTAT	1	String	Functional Status
CLASSFP	2	String	FIPS 55 Class Code describing an entity
CHNG_TYPE	1	String	Type of Area Update
RELATE	120	String	Relationship Description
JUSTIFY	150	Char	Justification
NAME	100	String	Name
VINTAGE	2	String	Vintage updated with returned data

-Incorporated Place Shapefile-

-Incorporated Place Shapefile-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
STATEFP	2	String	FIPS State Code
COUNTYFP*	3	String	FIPS County Code
PLACEFP	5	String	FIPS 55 Place Code
NAMELSAD	100	String	Name with translated LSAD
PLACENS	8	String	ANSI feature code for the place
LSAD	2	String	Legal/Statistical Area Description
FUNCSTAT	1	String	Functional Status
CLASSFP	2	String	FIPS 55 Class Code describing an entity
PARTFLG	1	String	Part Flag Indicator
CHNG_TYPE	1	String	Type of Area Update
EFF_DATE	8	String	Effective Date or Vintage
DOCU	120	String	Supporting Documentation
FORM_ID	4	String	(MTPS and Web BAS only)
AREA	10	Double	Acreage of Update
RELATE	120	String	Relationship Description
JUSTIFY	150	Char	Justification
NAME	100	String	Name
VINTAGE	2	String	Vintage updated with returned data

-States and Equivalent Areas-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
STATEFP	2	String	FIPS State Code
STATEUSPS	3	String	USPS State Abbreviation
NAME	10	Integer	Name
LSAD	5	String	Legal/Statistical Area Description
STATENS	120	String	ANSI feature code for the state

-Subbarrios-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
STATEFP	2	String	FIPS State Code
COUNTYFP	3	String	FIPS County Code
COUSUBFP	5	String	FIPS County Subdivision Code
SUBMCDFP	5	String	FIPS Sub-minor Civil Division Code
NAMELSAD	100	String	Name with translated LSAD
SUBMCDNS	8	String	ANSI feature code for the sub-minor civil division
LSAD	2	String	Legal/Statistical Area Description
CHNG_TYPE	1	String	Type of Area Update
EFF_DATE	8	String	Effective Date or Vintage

-Subbarrios-			
AREA	10	Double	Acreage of Update
RELATE	120	String	Relationship Description
JUSTIFY	150	Char	Justification
FORM_ID	4	String	(MTPS and Web BAS only)
NAME	100	String	Name
VINTAGE	2	String	Vintage updated with returned data
FUNCSTAT	1	String	Functional Status

-Edges (All Lines) Shapefile-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
STATEFP	2	String	State FIPS Code
COUNTYFP	3	String	County FIPS Code
TLID	10	Integer	Permanent Edge ID
TFIDL	10	Integer	Permanent Face ID (Left)
TFIDR	10	Integer	Permanent Face ID (Right)
MTFCC	5	String	MAF/TIGER Feature Class Code
FIDELITY	1	String	Indication to a respondent when their entity boundary has changed through spatial enhancement
FULLNAME	120	String	Prefix qualifier code, prefix direction code, prefix type code, base name, suffix type code, suffix qualifier code
SMID	22	String	Spatial Tmeta ID
BBSPFLG	1	String	2010 block boundary suggestion
CBBFLG	1	String	Planned 2020 block boundary
BBSP_2020	1	String	BBSP Participant suggested 2020 Census block boundary
CHNG_TYPE	2	String	Type of linear update
JUSTIFY	150	Char	Justification
LTOADD	10	String	Left To Address
RTOADD	10	String	Right To Address
LFROMADD	10	String	Left From Address
RFROMADD	10	String	Right From Address
ZIPL	5	String	Left Zip Code
ZIPR	5	String	Right Zip Code

-Area Landmark Shapefile-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
STATEFP	2	String	FIPS State Code
COUNTYFP	3	String	FIPS County Code
MTFCC	5	String	MAF/TIGER Feature Class Code

-Area Landmark Shapefile-			
FULLNAME	120	String	Prefix direction code, prefix type code, base name, suffix type code, suffix direction code
AREAID	10	Integer	Landmark identification number
ANSICODE	8	String	ANSI code for area landmarks
CHNG_TYPE	1	String	Type of Area Landmark update
EFF_DATE	8	String	Effective Date or Vintage
RELATE	120	String	Relationship description
JUSTIFY	150	Char	Justification
BAG	3	String	Block Area Grouping

-Hydrography Area Shapefile-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
STATEFP	2	String	FIPS State Code
COUNTYFP	3	String	FIPS County Code
ANSICODE	8	String	ANSI code for hydrography area
MTFCC	5	String	MAF/TIGER Feature Class Code
FULLNAME	120	String	Prefix direction code, prefix type code, base name, suffix type, suffix type code, suffix direction code
CHNG_TYPE	1	String	Type of Area Update
HYDROID	10	String	Hydrography Identification Number
RELATE	120	String	Relationship description
JUSTIFY	150	Char	Justification

-Point Landmarks Shapefile-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
STATEFP	2	String	FIPS State Code
COUNTYFP	3	String	FIPS County Code
POINTID	10	Integer	Point Landmark Identification Number
ANSICODE	8	Char	Official Code for Federal Agency use
MTFCC	5	String	MAF/TIGER Feature Class Code
FULLNAME	120	String	Prefix type code, base name, suffix type code
CHNG_TYPE	1	String	Type of Area Update
JUSTIFY	150	Char	Justification

-Topological Faces – Geographic Entity Relationships Table-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
TFID	20	Integer	Permanent Face ID
STATEFP	2	String	FIPS State Code

-Topological Faces – Geographic Entity Relationships Table-			
COUNTYFP	3	String	FIPS County Code
TRIBSUBCE	3	String	Census Tribal Subdivision
TTRACTCE	6	String	Tribal Census Tract Code
TBLKGRPCE	1	String	Tribal Census Block Group Code
AIANNHCE	4	String	Census AIANNH Code
COMPTYP	1	String	Indicates if reservation (or equivalent) or off-reservation trust land is present, or both
ANRCCE	5	String	FIPS ANRC Code
SLDUST	3	String	SLD Upper Chamber Code
SLDLST	3	String	SLD Lower Chamber Code
ELSD	5	String	Current ELSD Local Education Agency (LEA) Code
SCSD	5	String	Current SCSD Local Education Agency (LEA) Code
UNSD	5	String	Current UNSD Local Education Agency (LEA) Code
CDFP	2	String	Congressional District Code
TRACTCE	6	String	Census Tract Code
UACE	5	String	Census Urban Area Code
BLKGRPCE	1	String	Census Block Group Code
BLOCKCE	4	String	Tabulation Block Number
SUFFIX1CE	2	String	Census Block Suffix 1
SUFFIX2CE	2	String	Census Block Suffix 2
TAZCE	6	String	Traffic Analysis Zone Code
SUBMCDFP	5	String	FIPS 55 Sub-minor Civil Division Code
UGACE	5	String	Urban Growth Area Code
VTDST10	6	String	2010 Voting District Code
STATEFP10	2	String	FIPS 2010 State Code
COUNTYFP10	3	String	FIPS 2010 County Code
TRACTCE10	6	String	Census 2010 Tract Code
PLACEFP	5	String	FIPS 55 Place Code
COUSUBFP	5	String	FIPS 55 County Subdivision Code
CONCITYFP	5	String	FIPS 55 Place Code
LWFLG	1	String	Land/Water Flag

-Topological Faces – Area Landmark Relationships Table-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
TFID	20	Integer	Permanent Face ID
AREAID	22	Integer	Object ID

-Topological Faces – Hydrography Area Relationships Table-			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
TFID	20	Integer	Permanent Face ID
HYDROID	22	Integer	Object ID

-Address Ranges Table -			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
TLID	22	Integer	TIGER Line ID
STATEFP	2	String	FIPS State Code
COUNTYFP	3	String	FIPS County Code
FROMHN	12	String	From House Number
TOHN	12	String	To House Number
SIDE	1	String	Side Indicator Flag
ZIP	5	String	5-digit ZIP Code
PLUS4	4	String	ZIP+4 Code
LFROMADD	10	String	Left From Address
LTOADD	10	String	Left To Address
RFROMADD	10	String	Right From Address
RTOADD	10	String	Right To Address
ZIPL	5	String	Left 5-digit ZIP Code
ZIPR	5	String	Right 5-digit ZIP Code
ZIP4L	4	String	Left ZIP+4 Code
ZIP4R	4	String	Right ZIP+4 Code

-Linear Feature Names Table -			
ATTRIBUTE FIELD	LENGTH	TYPE	DESCRIPTION
OID	22	Integer	Object ID
STATEFP	2	String	FIPS State Code
COUNTYFP	3	String	FIPS County Code
NAME	100	String	Name
PREDIR	2	String	Prefix Direction code component of feature name
PRETYP	3	String	Prefix Type code component of feature name
PREQUAL	2	String	Prefix Qualifier code component of feature name
SUFDIR	2	String	Suffix Direction code component of feature name
SUFTYP	3	String	Suffix Type code component of feature name
SUFQUAL	2	String	Suffix Qualifier code component of feature name
MTFCC	5	String	MAF/TIGER Feature Class Code
PAFLAG	1	String	Primary/Alternate flag

APPENDIX D: ACRONYMS

Acronym	Explanation
BAS	Boundary and Annexation Survey
BAG	Block Area Grouping
BBSP	Block Boundary Suggestion Program
CBBFLG	Census Block Boundary Flag
CRVRDO	Census Redistricting and Voting Rights Data Office
GNIS	Geographic Names Information System
GUPS	Geographic Update Partnership Software
MAF/TIGER	Master Address File/Topologically Integrated Geographic and Encoding Reference (System)
MCD	Minor Civil Division
MTFCC	MAF TIGER Feature Classification Code
OGC	Open Geospatial Consortium
SWIM	Secure Web Incoming Module
URL	Uniform Resource Locator
VTD	Voting District Project

APPENDIX E: BBSP PARTICIPANT SUPPORT

Direct all questions regarding the Block Boundary Suggestion Project, including procedural and GUPS technical questions, to:

Census Redistricting and Voting Rights Data Office (301) 763-4039

APPENDIX F: COUNTY COMPLETION TRACKING SHEET

BBSP Participants can use these sheets to track completed work and submissions to the state (for designees) or the Census Bureau (RDP Liaison). This worksheet is available as a downloadable Excel file from *www.census.gov/rdo (website TBD)...*

		GEOGRAPHIC DATA				BBSP UPDATE				QC			SUBMISSION TRACKING	
County FIPS	County Name	Linear Feature Review	Area Landmark Review	Legal Boundary Review	Pt Landmark Review	2010 Feature Extension Rev	Block Size Review	BBSP Flags	BAGs	Block Boundary Review	General Geog Review	Validation Check	Date Sent to State (Designee)	Date Sent To Census (RDP Liaison)