

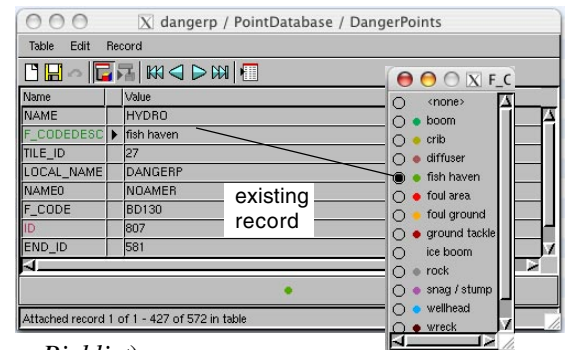
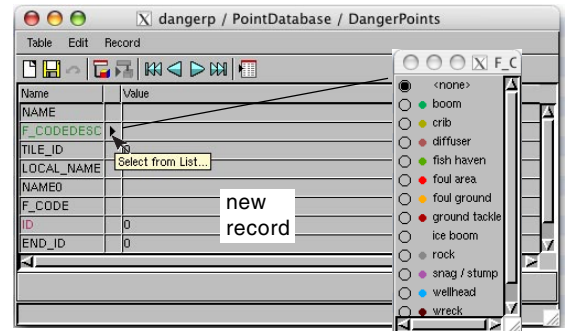
Database

Choose Attributes Using a Picklist

A single click of the mouse on a value in a picklist can assign that value and its associated style to one or more geometric elements you draw or select.

Picklists enable you to quickly assign attributes to geometric elements from a predetermined set of attributes set up for the geometric object you are working with. You can open and use multiple picklists to assign attributes to new elements, to existing elements that previously lacked attributes, or to change currently assigned attributes. Picklists are **automatically available** for any database table string-field with a foreign key relationship to another table. If styles have been assigned to the primary key field the foreign key points to, you will also get style samples next to the attribute values in the pick list (as shown in the illustration at the right). To make the maximum use of picklists, you need to structure your relational database appropriately. Appropriate structure is discussed in the Technical Guide entitled *Database: Picklist Relational Structure*.

Picklists are opened from the single record view window. If one or more string fields in the table is a foreign key field, it has a picklist to assign its attributes. This automatic availability of a picklist is indicated by a right-pointing arrowhead in the column next to the field name of each foreign key. Clicking on this arrowhead opens a picklist window containing all the available attribute values for that field. The values are in alphabetical order and the styles assigned to them are shown if set up. More than one single record view can be open in a TNT product, and each can be used to open multiple picklists as illustrated on the following page. You can use the picklist wizard to set up the necessary database relationships for new and existing tables that lack them (see the TechGuide entitled *Database: Wizard to Create a New Picklist*).

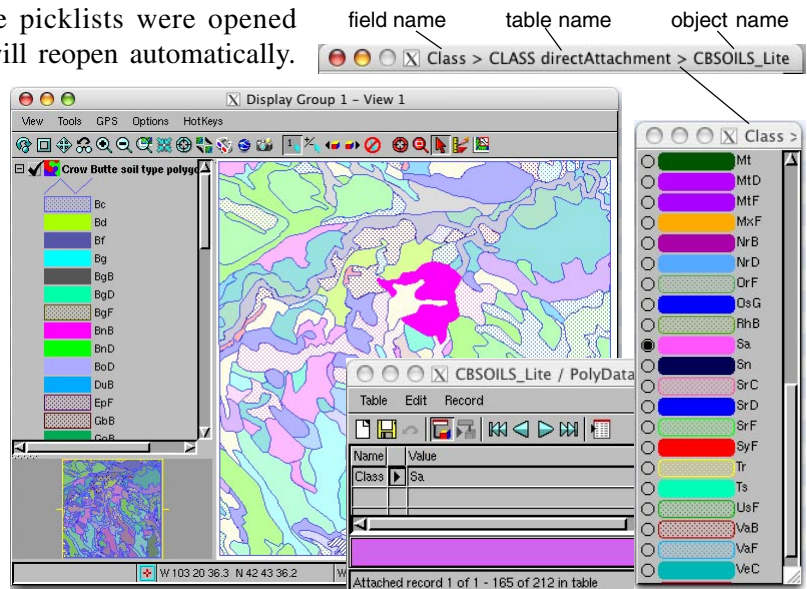


Using Picklists

TNT remembers the picklists that were open the last time a specific single record view was open. If that single record view is reopened, these same picklists will reopen automatically, even if the TNT product has been restarted. If the table has more than one foreign key and multiple picklists were opened from the single record view, all of those picklists will reopen automatically.

The picklist can be used to assign new attribute values to a record or to change already assigned attribute values. Choosing a value in the list immediately updates the corresponding value in the associated single record view. The list remains open for additional use after field value assignment until

This illustration shows a selected polygon, the associated single record view that provides the soil class, and the picklist for soil classes. The picklist opens by default to the width of the style sample (if any) and the width of the widest attribute value. This width is convenient for showing the items in the list but the title bar width may not be sufficient to show the full name of the field the picklist is used to populate. Thus, the field name is presented first since it is the most likely part of the full name to be of use in distinguishing between different picklists (see the expanded title bar above right).



it is closed using the Close icon in its window or the associated single record view is closed. There is no danger of the picklist becoming lost if you have many database and other windows open on your desktop. Depending on the placement of your currently open applications and windows the picklist may come to the front with the open table that refers to it. If it does not, simply click on the button that opens the picklist and it will come to the front. Closing and reopening the table will also bring both the table and its picklist to the front if the picklist was open before.

If there are additional fields in the table into which the picklist values are inserted, you will need to make sure to update the other fields if necessary to match your selection from the picklist. You can also use computed or string expression fields to pull appropriate attribute values from other tables based on your picklist selection or other information (shown at right).

Templates with Picklists

A template is a skeletal object you design for repeated use with your project(s). Because picklists are maintained in related only tables, they become part of any object template saved in the spatial Editor and are automatically available for use with any new object you create using that template. A template provides a standardized approach that can easily be used over and over by its designer or any other project participant. Any existing object can be converted to a template. All tables with a related-only attachment type are populated with their original records and directly attached tables have all fields defined but no records in the template object. See the TechGuide entitled *Spatial Editor: Creating and Using Geodata Templates* for more information on this topic.

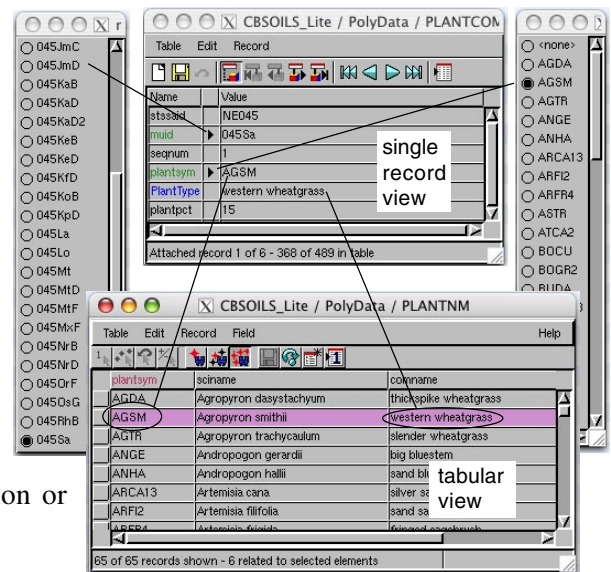
Templates can be created in TNT's spatial Editor from newly created or previously existing objects. There is no point in creating a template from a new object until its structure is finalized and all necessary database tables, relationships, and picklists have been set up. If there are multiple, similar projects to be completed by different people, you may want to create the template early in the production of the first object that will use it, in other words, before all elements have been added. Waiting until the initial object is complete before the template is created lets you incorporate all of the redesign of the database structure that may occur as the project develops.

Picklists for Shapefiles

Shapefiles in their native format can have only **one associated database table**. Thus, the criterion for automatically available picklists (any string-field attribute with a foreign key relationship to another table) would seem to exclude shapefiles. However, you have the ability to add such tables to shapefiles when they are being used directly in the TNT products. The tables that supply the picklists are visible only within the TNT products, but the table populated from the pick lists (assuming it is the implied one-to-one *.dbf table used by TNT and other systems with shapefiles) can be viewed and used in any software product that supports direct use or import of shapefiles. See the TechGuide entitled *Database: Create a Picklist for a Shapefile* for more information.

Using Field Constraints

A feature quite similar to picklists is available in earlier versions of the TNT products using database field constraints, but it requires considerably more user input for its setup. In earlier versions and in TNT 2009, you can still use this method and specify that a foreign key field only be allowed values from the primary key field it points to and that a popup window could provide these values. Attribute selection lists established in this manner with database constraints can be accessed from either a single record or tabular view of a database table. These relationships and actions must be established on a field by field basis using the Constraints interface accessed from the Table Properties window. However, picklists are automatically available for your use with string fields (including string expression fields) in single record view if a foreign key/primary key relationship exists in version 2009 or later.



The table at the top has two picklists (field name in green) and a string expression field (field name in blue). The string expression field returns a value based on your selection from the picklist on the right. The use of computed and string expression fields in this example lets you automatically fill in additional fields that are dependent on your picklist choice. The tables and picklists shown above are for the polygon selected at the bottom of the page on the reverse side. Note that styles have not been assigned for the picklist tables above.