

Massachusetts Department of Revenue
Division of Local Services



QUERY BUILDER
RPIS VERSION 3

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Sean R. Cronin, Senior Deputy Commissioner of Local Services
Kirsten Shirer, Deputy Director of Information Technology

QUERY BUILDER

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Query Builder – Overview

Query Builder is an exciting new tool found in RPIS Version 3. Users of previous RPIS versions could search the database for a specific parcel using three key fields: parcel ID, owner name and parcel location. Query Builder allows more complex searches and adds several new functions to Data Management. In addition to searching for the usual key fields, Query Builder can also:

- Display any specified database field(s) in its search results
- Search for parcels using any field(s) in the database
- Create PID (Parcel ID) files
- Create comma-delimited text files (Microsoft Excel “CSV” format)
- Display search results sorted by any field(s)

Custom searches, or queries, can be saved and reused by any RPIS system user. After running a custom query created in Query Builder, RPIS returns all matching parcels in the familiar “Matching Parcels” screen. Two options have been added to this screen: Save PID List and Write to CSV File.

PARCEL_YEAR	PARCEL_ID	PAR_ADD_NO_1	PAR_ADD_NO_A	PAR_ADD_ST_1	OWNER_NAME_1
2005	297/406.0-0000-0024.0	137		EAST RD	BROWN CLYDE S & KA
2005	297/407.0-0000-0013.0			WEST RD	BROWN ELLEN RUDLEY

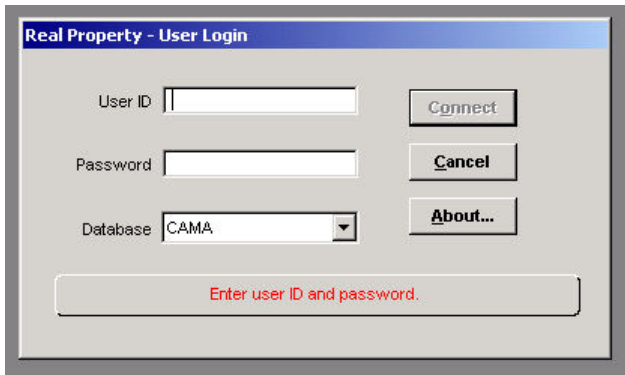
These new options make it possible to create text and PID files within the Data Management environment; it is no longer necessary to use IQ Objects for these tasks.

It is also possible to add fields to the columnar search results list. The Matching Parcels screen automatically displays the fields Parcel_Year, Parcel_ID, Par_Add_No_1, Par_Add_No_A, Par_Add_St_1 and Par_Owner_Name_1. Additional fields can be displayed to the right of the owner name by selecting them in Query Builder.

Accessing Query Builder

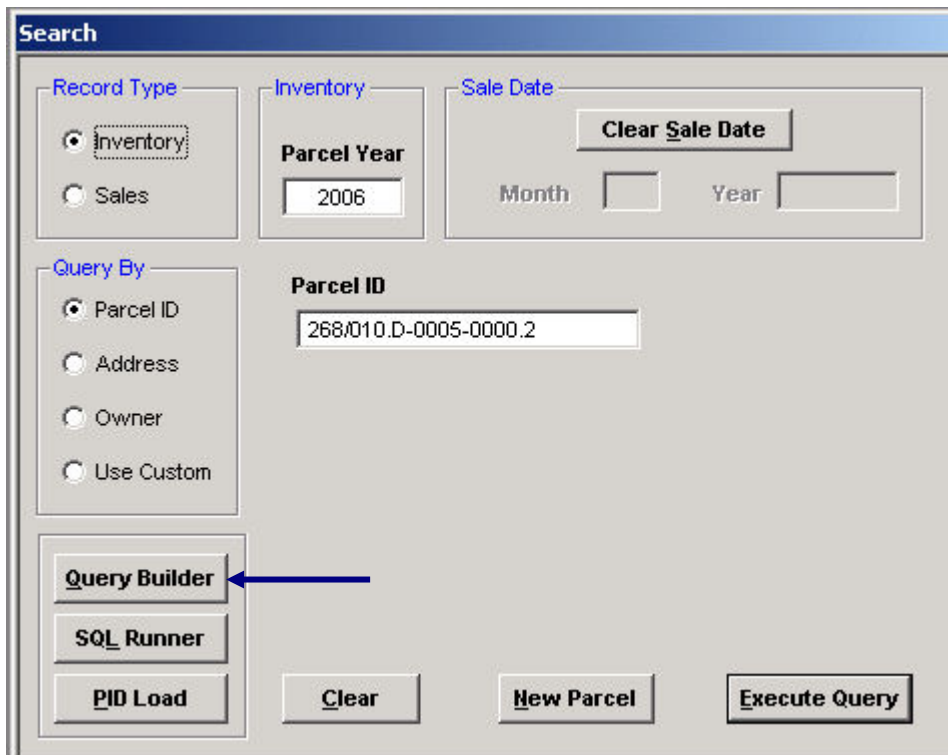
To use the Query Builder, follow these steps:

If there is an icon for Data Management, or DMT, on your desktop, double-click it to start the program. If you don't have a desktop shortcut icon for DMT, Click Start > Programs > Sigma Systems > Data Management.



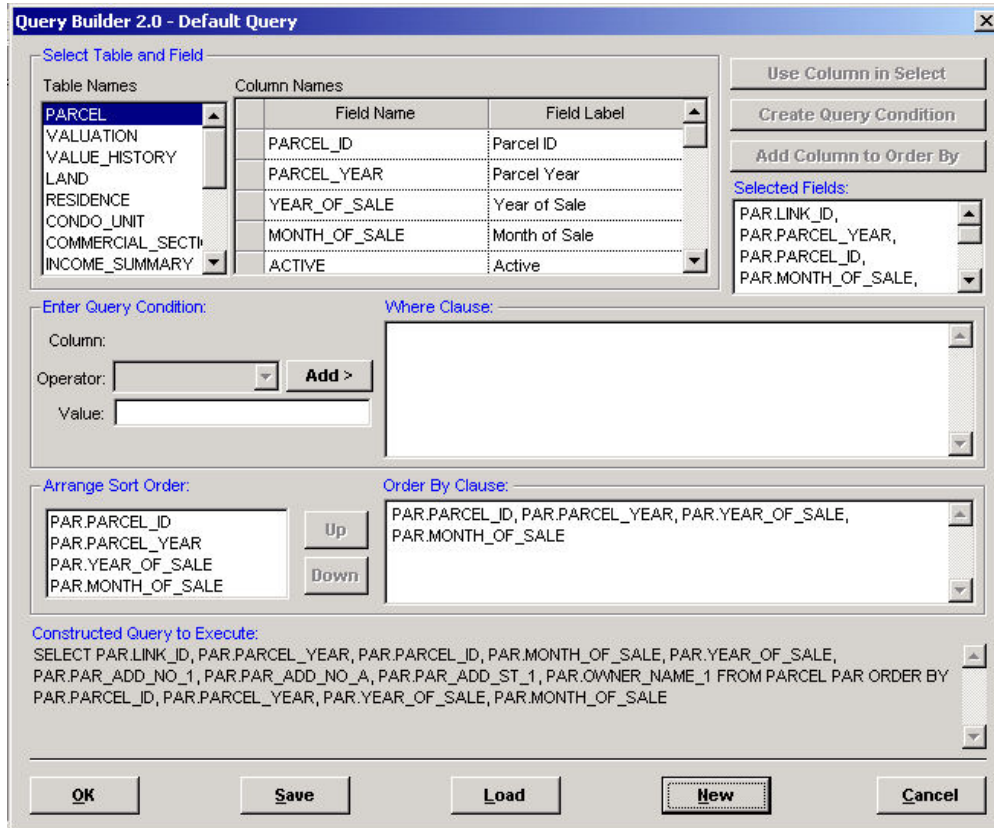
Enter your User ID and your password, then click the Connect button, or just press the Enter key.

The Search Screen will appear after you have logged in.



To access Query Builder, click the Query Builder button. The main Query Builder screen will appear.

Using Query Builder



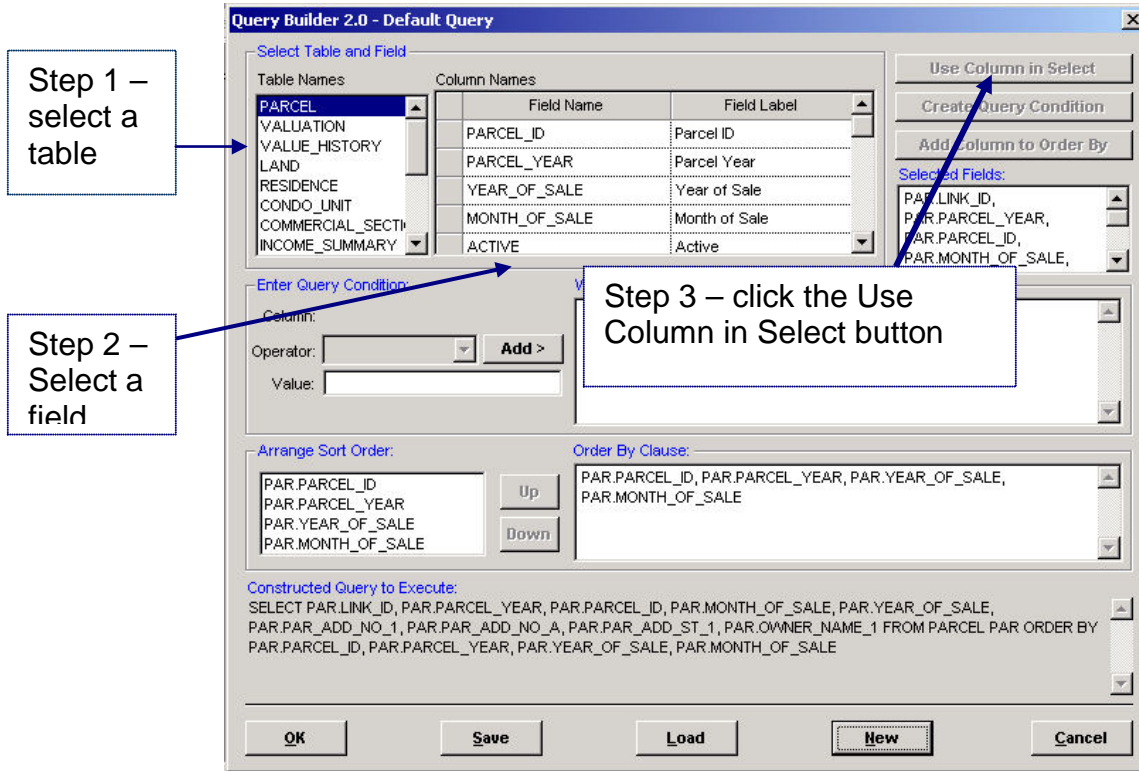
There are three main steps in building a custom Query Builder search:

1. Select the fields you wish to see in the results screen
2. Assign search criteria so Query Builder knows which parcels to select
3. Tell Query Builder how to sort the parcels it finds (optional.)

If you have used the IQ Objects report generator, you will already be familiar with these steps. IQ Objects and Query Builder both select data from the database, they both filter the data based on specified criteria, and they return selected information in a columnar format. They also both return data in map and lot (Parcel ID) order unless instructed otherwise.

Each step in building a custom Query Builder query will be covered separately in this user guide.

Selecting Columns for display

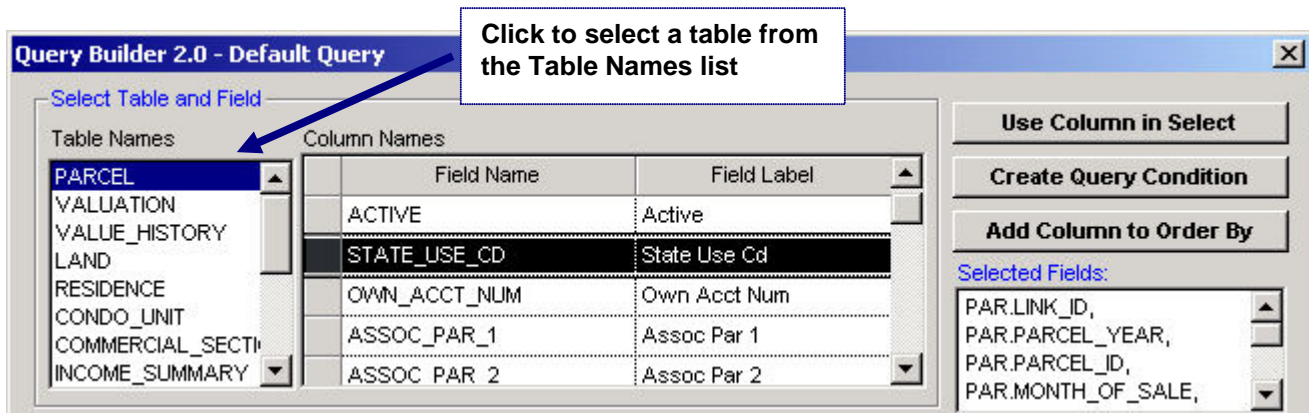


The first step in building a custom query is selecting the database columns (also known as fields) that will appear in the query results screen. To specify which columns appear in the results screen:

1. Select a table in the Select Table and Field section
2. Select a column (field)
3. Click the Use Column in Select button.

Select a Table

Click a table name in the Table Names box to select it; if the name isn't displayed, use the scroll bar to locate the table in the list. The Parcel table always appears first on the list. You can also type a letter to move the cursor to the first table name beginning with that letter.



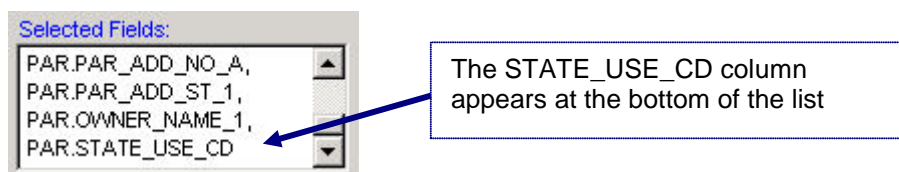
Select a Column

When a table name has been selected, the list of columns in that table will be displayed in the Column Names box (Parcel table columns are displayed by default.) Find the column name you wish to include in the query results and click once on the name to select it. In the picture above, the column STATE_USE_CD has been selected from the Parcel table.

Click “Use Column in Select”

Once a column name has been selected, click the **Use Column in Select** button to the right of the Column Names table. This button will not be active until a field is selected; if the button name appears gray instead of black, you need to select a column name.

The selected column name will be added to the bottom of the Selected Fields box.



When the query is run, the Matching Parcels screen will display all fields listed in the Selected Fields box.

Creating Query Conditions

Query Builder searches will return all parcels in the database unless query conditions are specified. Query conditions are called “filters” in IQ Objects, but the idea is the same in both IQ Objects and RPIS – one or more condition, or filter, statements are built in order to restrict the query results to only certain parcels. The query language passed from Query Builder to the RPIS system goes something like this:

“Select these columns (parcel ID, state use code, parcel street name and so on) in only the parcels where this column equals something that I’ll specify.”

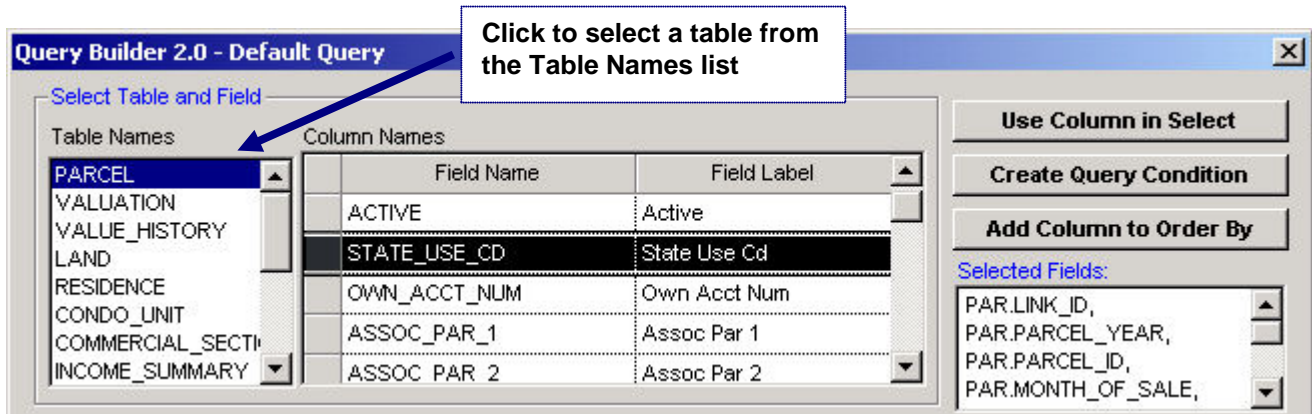
The basic steps in creating a query condition are:

1. Select a table
2. Select a column
3. Click the Create Query Condition button
4. Select an operator
5. Enter the column value to search for
6. Click the Add button.

In the following example, RPIS will be asked to return only the parcels with a year tag of 2006 that have a use code in the 700’s (the 61A properties.) This will require 2 query condition statements: one to find all the parcels with a 2006 year tag, and one to find the parcels in that 2006 group that also have a use code between 700 and 799.

Select a Table

Click a table name in the Table Names box to select it; if the name isn't displayed, use the scroll bar to locate the table in the list. The Parcel table always appears first on the list. You can also type a letter to move the cursor to the first table name beginning with that letter.



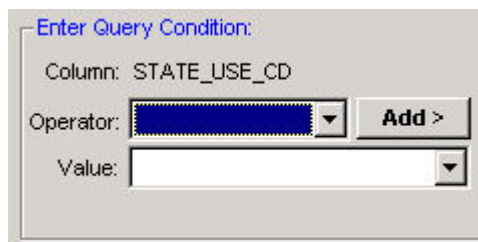
Select a Column

When a table name has been selected, the list of columns in that table will be displayed in the Column Names box (Parcel table columns are displayed by default.) Find the column name you wish to include in the query results and click once on the name to select it. In the picture above, the column STATE_USE_CD has been selected from the Parcel table.

Click the Create Query Condition button

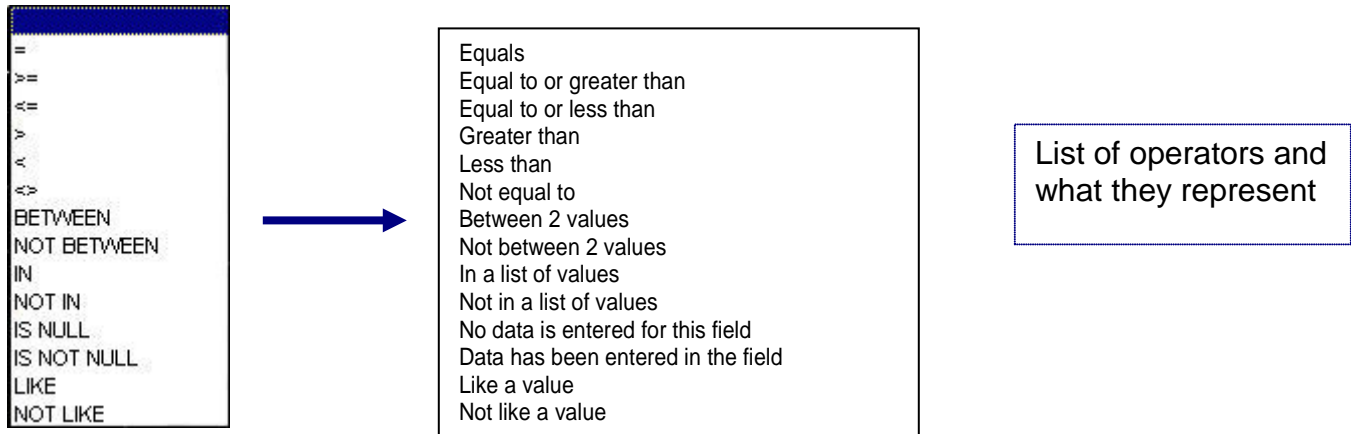
Once a column name has been selected, click the **Create Query Condition** button to the right of the Column Names table. This button will not be active until a field is selected; if the button name appears gray instead of black, you need to select a column name.

The selected column name will be added to the Query Conditions box.



Select an Operator

The next step is choosing an operator. This tells RPIS what kind of comparison to make between the value you provide and the contents of the database field.



In this example, the selected parcels should have a use code somewhere in the 700s. There are several ways to phrase the condition:

- Where state use code is in a list (711, 712, 713, 714 and so on, with all 700 codes in the list)
- Where state use code is between 700 and 799
- Where state use code is like 7% (begins with 7.)

The last example is the simplest and will be used in the rest of the examples.

Click an operator from the list to select it.

The screenshot shows the "Enter Query Condition" dialog box. The "Column" field is set to "STATE_USE_CD". The "Operator" dropdown menu is set to "LIKE". There is an "Add >" button next to the operator dropdown. The "Value" field is currently empty.

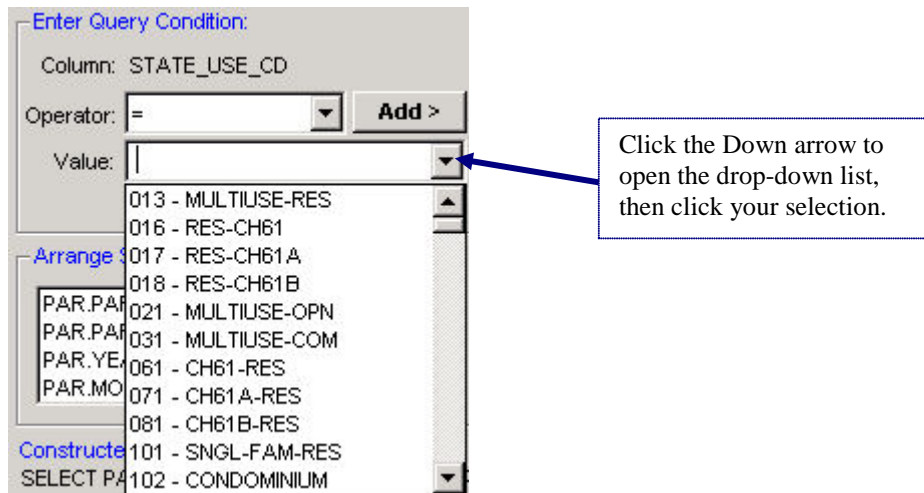
Enter a value

Once the operator has been chosen, type in the value that RPIS should look for in the database. Click the **Add>** button to add the query condition to the query.

This screenshot shows the "Enter Query Condition" dialog box with the "Value" field now containing the number "7". A blue arrow points from a callout box on the right to the "Value" field. The callout box contains the text "Type a value in the Value box".

Selecting a value from a list

If the selected column has a list of values, the values will appear as a drop-down list.

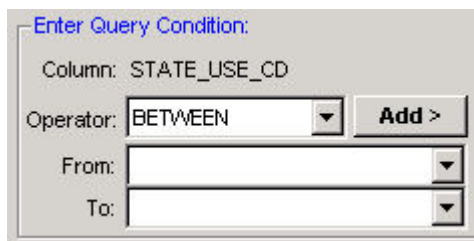


To select a value from a list:

- Click the down arrow at the right of the Value box and the list of values will drop underneath the box.
- Use the scroll bar to scroll through the list of values. Click the desired value with the mouse, or simply type it into the Value box.
- Click the **Add>** button to add the finished condition to the query.

Using “Between” as an operator

Select *Between* as the condition operator to enter a range of values rather than just a single value. When *Between* is selected as the operator, the query condition section will automatically add a second Value box. Type the first value in the range in the upper box (From:) and the last value in the lower box (To:).

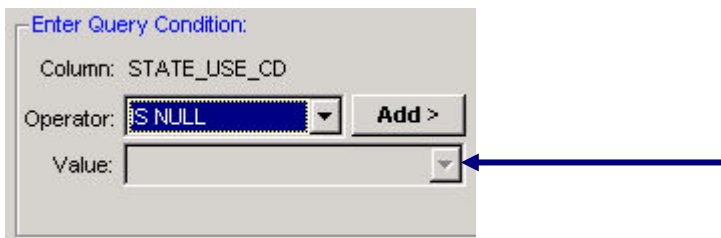


If the selected column has a list of values, the values will appear as a drop-down list. Use the drop down list to select each value from a list, or simply type the desired value in each box. Click the **Add>** button to add the finished condition to the query.

Note: The *Not Between* operator also displays the same “From:” and “To:” boxes.

Using “Is Null” as an operator

The *Is Null* operator is used when trying to find parcels where the specified column contains no data. Because the query is looking for parcels with no data in a specific field, the Value box will be inactive (the box appears gray, indicating that data can't be entered in the box.)



Enter Query Condition:

Column: STATE_USE_CD

Operator: IS NULL Add >

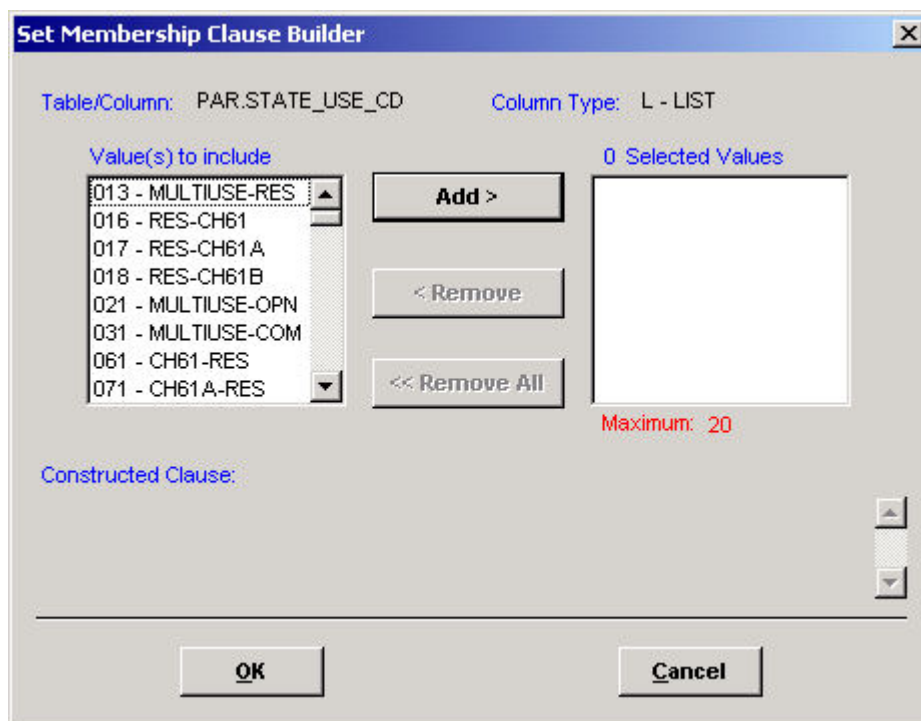
Value: [Grayed out] [Inactive dropdown arrow]

Notice that both the Value box and drop-down list arrow both appear gray; the drop-down list is also inactive. When selecting *Is Null* as an operator, simply click the **Add>** button after selecting *Is Null* from the operator list.

Using “In” as an operator

The operators *In* and *Not In* tell RPIS to find parcels where the column value is found in, or not in, a list. This example will demonstrate the *In* operator; *Not In* works the same way.

Once the *In* operator is selected, the Clause Builder dialog box opens.



Set Membership Clause Builder

Table/Column: PAR.STATE_USE_CD Column Type: L - LIST

Value(s) to include

- 013 - MULTIUSE-RES
- 016 - RES-CH61
- 017 - RES-CH61A
- 018 - RES-CH61B
- 021 - MULTIUSE-OPN
- 031 - MULTIUSE-COM
- 061 - CH61-RES
- 071 - CH61A-RES

Add >

< Remove

<< Remove All

0 Selected Values

Maximum: 20

Constructed Clause:

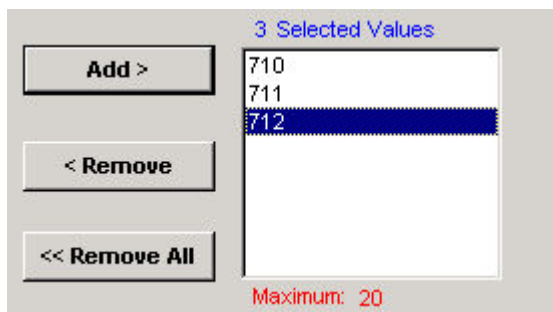
OK Cancel

Available values from the selected column appear in the box on the left. The right-hand box contains the values you wish to use in the query. To build a list of values for the query:

- Click a field value in the left-hand box
- Click the **Add>** button.

The value will be added to the Selected Values box on the right; the field will also be added to the “Constructed Clause” statement at the bottom of the dialog box.

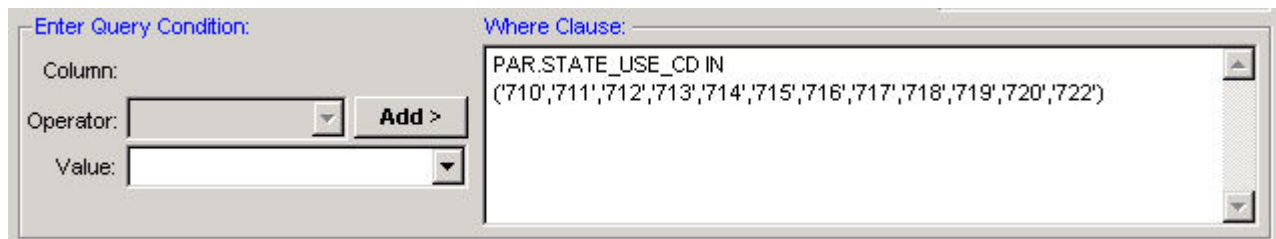
A field value can also be removed from the Selected Value list:



- Click the field value you wish to remove in the right-hand Selected Value box
- Click the **Remove**< button.

To remove all values and start over, click the <<**Remove All** button.

When all field values for the list have been selected, click the OK button to return to the Query Builder screen.



The value list will be automatically added to the Where Clause box – you do not need to click the Add button.

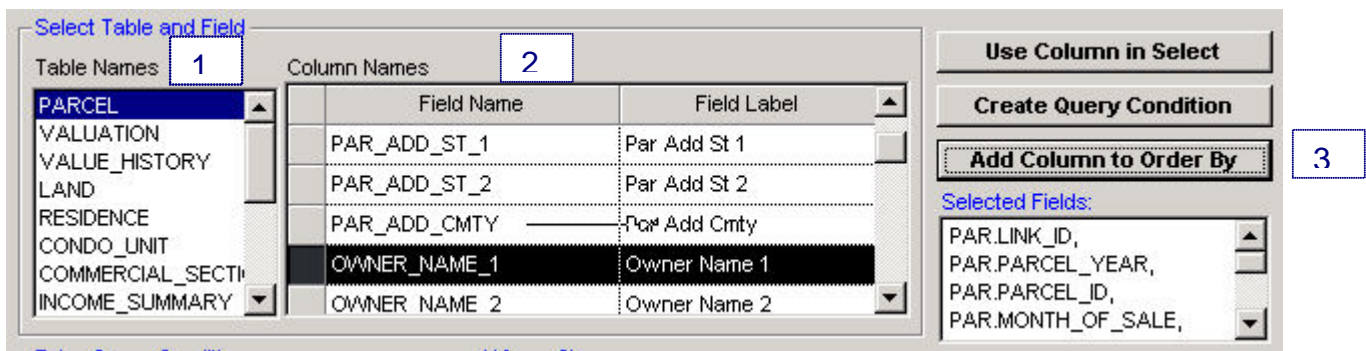
Sorting the Query Results

RPIS returns query results in Parcel ID (map and lot) order unless instructed otherwise. It is possible to sort the query results by any other column in the database. The Sort column does not have to be part of a condition statement, nor does it have to appear in the query results.

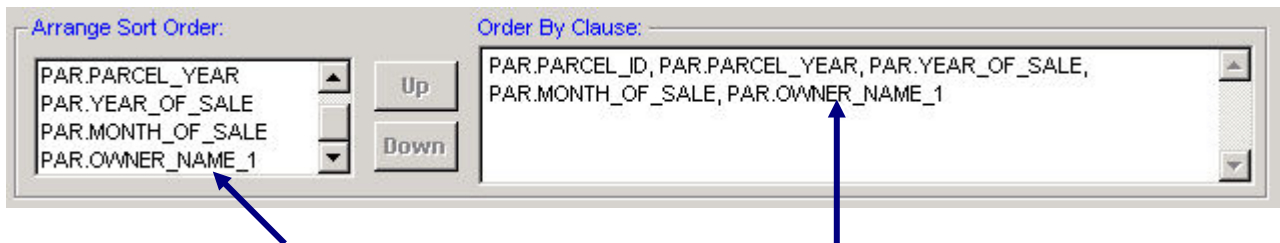
To sort query results by a particular column:

Select a table name

1. Click the desired table name in the Table Names box; use the scroll bar to locate the table in the list.
2. Select the column you wish to sort by.
3. Click the Add Column to Order By button.



The selected column name will be added to the Arrange Sort Order section.

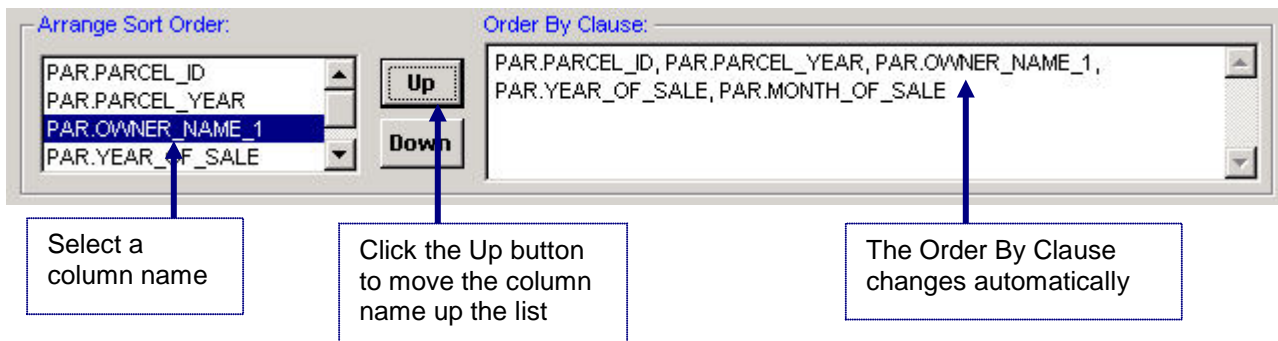


The Arrange Sort Order box determines the order in which data is returned. Notice that the column appears last in the list, after the default fields that always appear in every query. To sort the query results by the newly selected column name, that column must be moved up to the **top** of the Sort Order list.

To move a column name up the Sort Order list:

1. Click the column name in the Arrange Sort Order box to select it
2. Click the **Up** button to move the column up one position
3. Click the **Up** button again as many times as necessary to move the column name to the top.

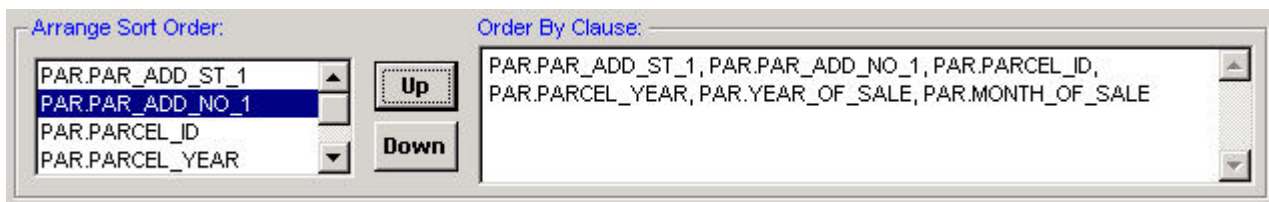
As you click the **Up** button, the column name will also move within the Order By Clause box on the right.



Additional columns can be added to the Sort Order. Repeat the steps above to add additional columns and to arrange them in the desired order.

In the example below, the query results will be sorted first by street name (Par.Add_St_1) then by street number (Par.Add_St_No_1). The steps followed to produce this result were:

- The Parcel table was selected
- The columns Par.Add_St_1 and Par.Add_St_No_1 were each selected using the **Add Column to Order By** button
- The Par.Add_St_1 column was moved to the top of the Arrange Sort Order box using the **Up** button
- The Par.Add_St_No_1 column was moved up into the second position underneath Par.Add_St_1.



This query produces the results shown below.

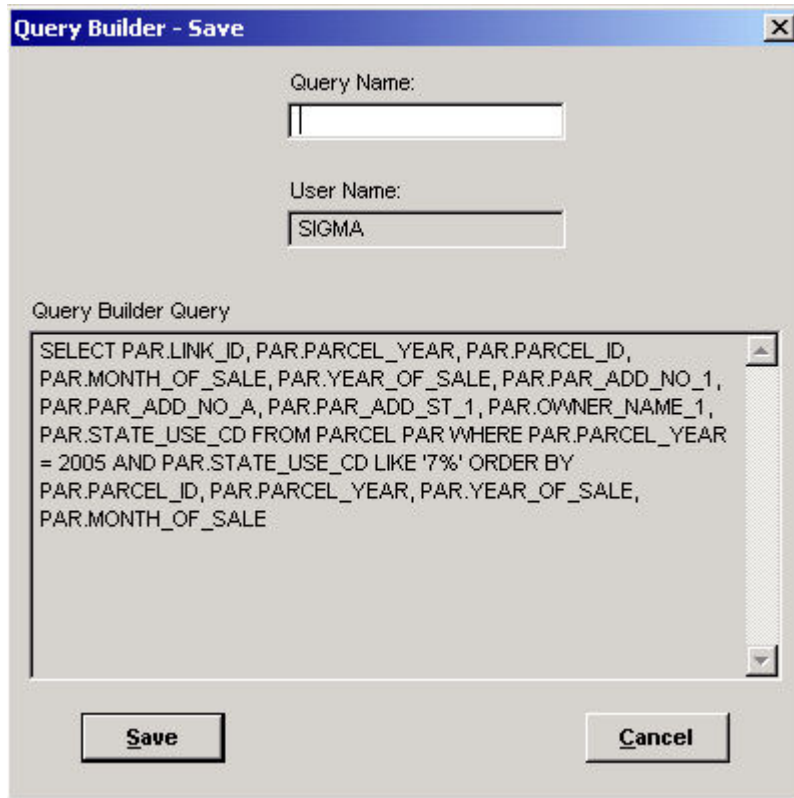
PARCEL_YEAR	PARCEL_ID	PAR_ADD_NO_1	PAR_ADD_NO_A	PAR_ADD_ST_1	OWNER_NAME_1
2006	156/002.0-0000-0006.0	529		BRATTLEBORO RD	FISKE, DOUGLAS P & S
2006	156/002.0-0000-0004.3	562		BRATTLEBORO RD	POLLEN, MICHAEL P & N
2006	156/002.0-0000-0009.D	580		BRATTLEBORO RD	PACHALIS, JAMES M
2006	156/009.0-0000-0046.0	63		BROOKS RD	BROOKS, DAVID & JOH
2006	156/012.0-0000-0010.0	0		COATES RD	VINTEN, DEAN & SHAR
2006	156/012.0-0000-0028.0	0		COATES RD	VINTEN, DEAN & SHAR
2006	156/012.0-0000-0008.0	8		COATES RD	AINSWORTH, KATHERIN
2006	156/012.0-0000-0007.1	11		COATES RD	BROWN, PAMELA J & G
2006	156/012.0-0000-0007.2	13		COATES RD	ANSON, ROBERT & MAF

Parcel Search Save PID List Write to CSV File Parcel List PR Card 683 Rows Found

Saving a query

Finished queries can be saved for future use. To save a finished query:

- Click the Save button. The Save dialog box will appear.



Query Builder - Save

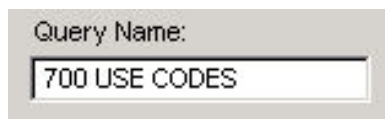
Query Name:

User Name:

Query Builder Query

```
SELECT PAR.LINK_ID, PAR.PARCEL_YEAR, PAR.PARCEL_ID,  
PAR.MONTH_OF_SALE, PAR.YEAR_OF_SALE, PAR.PAR_ADD_NO_1,  
PAR.PAR_ADD_NO_A, PAR.PAR_ADD_ST_1, PAR.OWNER_NAME_1,  
PAR.STATE_USE_CD FROM PARCEL PAR WHERE PAR.PARCEL_YEAR  
= 2005 AND PAR.STATE_USE_CD LIKE '7%' ORDER BY  
PAR.PARCEL_ID, PAR.PARCEL_YEAR, PAR.YEAR_OF_SALE,  
PAR.MONTH_OF_SALE
```

- Enter a Query Name in the box at the top; names cannot exceed 15 characters in length.



Query Name:

- Click the Save button.

The query will be stored with the specified name. Queries are stored under the user name of the user creating the query. It is possible, with the right permissions, to use queries created by other users.

Executing a finished query

Reviewing the steps in building a query:

1. Select the fields you wish to see in the results screen
2. Assign search criteria so Query Builder knows which parcels to select
3. Tell Query Builder how to sort the parcels it finds (optional.)

Once the query is finished (and saved, if desired) it must be run, or executed, for it to do its work and return data from the database.

When the query is finished, click OK to return to the Search screen. The query language will be displayed in the Custom Query box, and the radio button *Use Custom* will be selected.

Click the **Execute Query** button to run the query. All parcels matching the specified query conditions will be displayed in the query results screen.

PARCEL_YEAR	PARCEL_ID	PAR_ADD_NO_1	PAR_ADD_NO_A	PAR_ADD_ST_1	OWNER_NAME_1	STATE_US
2006	156/002.0-0000-0004.0	0		BRATTLEBORO RD	BERGERON, ROBERT	717
2006	156/013.0-0000-0003.0	0		GLEN RD	CROUTWORST, ROBER	718
2006	156/004.0-0000-0017.0	0		WEST LEYDEN RD	DAMON, EDWIN JR & JU	716
2006	156/002.0-0000-0045.0	0		BRATTLEBORO RD	DOBIAS, BRUCE	713
2006	156/018.0-0000-0001.0	0		BERNARDSTON TOWNL	DYER, EDWIN & CARYL	716
2006	156/017.0-0000-0031.0	0	OFF	OAK HILL RD	DYER, EDWIN, CARYL	718
2006	156/001.0-0000-0032.0	0		ROLLING LANE	FACEY, WARREN E & S	717
2006	156/001.0-0000-0030.0	0		NORTH COUNTY RD	FACEY, WARREN E JR	717
2006	156/008.0-0000-0003.0	0		GEORGE LAMB RD	FACEY, WARREN E JR	718

The Query Results Screen

If RPIS finds parcels matching the search conditions in your query, it will return a list of those parcels in the query results screen. The list will be ordered according to the fields specified in your query; if you did not specify a field to order the results by, the parcels will appear in map and lot (parcel ID) order. The columns (fields) you selected will appear in the order you selected them, from left to right. Scroll bars allow you to view any part of a column or row not immediately visible.

Several important options appear on the query results screen. The buttons at the bottom of the screen allow you to:

- print a property record (PR) card for a selected parcel
- print a parcel listing report for a selected parcel
- save the query results as a PID list
- save the query results as a comma-delimited Excel text file (CSV format)
- return to the Search screen.

Another important feature of the query results screen: double-clicking a single row in the query results list will automatically load that specific parcel ID into the DMT screen.

Moving around the Query Results screen

There are several ways to move around the query results screen:

- Use the scroll bars at the bottom and right side of the results list to scroll through the list
- Use the Page Up and Page Down keys to advance or move back a page at a time
- Use the Up and Down arrows to move up or down the list one parcel at a time.

Selecting a specific parcel

To select a specific parcel and load it into DMT:

- Find the parcel you wish to select
- Double-click anywhere inside that parcel's row to load the parcel into DMT.

Printing a property record card

To print a property record card for one of the parcels in the query results:

- Click once anywhere in the row of the desired parcel
- Click the **PR Card** button to print the property record card.

Printing a Parcel List report

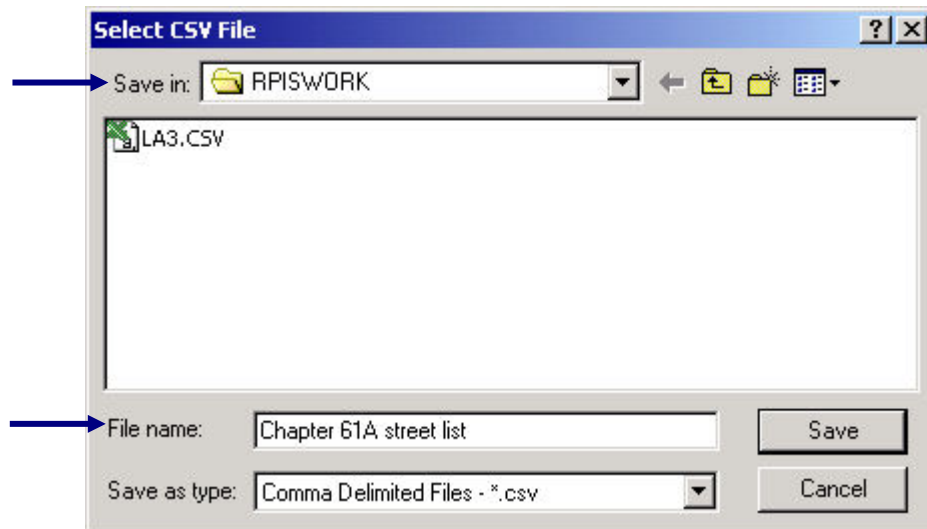
To print a parcel list report for one of the parcels in the query results:

- Click once anywhere in the row of the desired parcel to select it
- Click the **Parcel List** button to print the Parcel List report.

Saving the results as a text (CSV) file

To save the query results as a comma-delimited text file:

Click the **Write to CSV File** button at the bottom of the screen. The Select CSV File dialog box will appear.



- Select a drive and folder in the *Save in:* drop down list; the CSV file will be saved to this location.
- Type a file name (with or without the .CSV extension) in the *File Name:* box.
- Click the **Save** button.

The query results will be stored in a comma-delimited text file. Microsoft Excel will recognize this file and load it into a standard workbook. It can also be used in any other application that can read and import text files.

Saving the results as a PID list

The parcel IDs in the query results can be saved as a PID list; this eliminates the need for using IQ Objects to create PID lists. A PID list can be used in any RPIS program whether it was created using Query Builder or IQ Objects.

To save the parcel IDs in the query results screen as a PID list:

- Click the Save PID List button; the Save PID List dialog box will appear.



- Enter a PID table name of no more than 15 characters.
- Click the **OK** button to save the PID list.

Returning to the Search Screen

To leave the query results and return to the Search screen, click the **Parcel Search** button.

Running a previously saved query

A saved query can be run again at any time. A query is attached to the user who created and stored it; any user can recall and run a query created by another user if RPIS and/or network system permissions allow it.

The screenshot shows a 'Search' window with several sections. The 'Record Type' section has 'Inventory' selected. The 'Inventory' section has 'Parcel Year' set to '2006'. The 'Sale Date' section has a 'Clear Sale Date' button and empty 'Month' and 'Year' fields. The 'Query By' section has 'Use Custom' selected. The 'Custom Query' section contains a SQL query: `SELECT PAR.LINK_ID, PAR.PARCEL_YEAR, PAR.PARCEL_ID, PAR.MONTH_OF_SALE, PAR.YEAR_OF_SALE, PAR.PAR_ADD_NO_1, PAR.PAR_ADD_NO_A, PAR.PAR_ADD_ST_1, PAR.OWNER_NAME_1, PAR.STATE_USE_CD FROM PARCEL PAR WHERE PAR.PARCEL_YEAR = 2006 AND PAR.STATE_USE_CD LIKE '7%' ORDER BY PAR.OWNER_NAME_1, PAR.PARCEL_ID,`. The 'Username' dropdown is set to 'SIGMA'. The 'Saved Custom Query to use:' dropdown is set to '700 USE CODES'. The 'Execute Query' button is highlighted with a blue arrow labeled '4'. Other buttons include 'Clear', 'Query Builder', 'New Parcel', and 'PID Load'. Blue arrows labeled '1', '2', and '3' point to the 'Use Custom' radio button, the 'Username' dropdown, and the 'Saved Custom Query to use:' dropdown respectively.

To use a previously saved query:

1. Click the Use Custom radio button in the Query By section.
2. Select a Username from the drop-down list.
3. Select Saved Custom Query to Use from the drop-down list – the query language will appear in the Custom query box.
4. Click the **Execute Query** button to run the query.

For training and technical support...

Contact any of the DLS IT Information Technology Staff for further assistance or to ask about training opportunities.

DLS IT Support Help Desk
Monday – Friday 9A-4PM excluding holidays
1-800-521-5536 (ask for IT Support or extension 62350)

Advisor	Phone	E-mail
Linda Bradley	617-626-2394	bradleyl@dor.state.ma.us
Tod Jackson	413-452-3974	jacksont@dor.state.ma.us

All Boston staff can be reached by dialing their direct numbers or through the DLS IT Support Help Desk.

CAMA Version 3 User Guides, our Support Guidelines and other useful information from the Information Technology section of the Division of Local Services can be found online at <http://www.mass.gov/dls>. Information about the Community Software Consortium can be found online at csc-cloud.us.

Division of Local Services Information Technology Section

P.O. Box 9569
Boston, MA 02114-9569
(617) 626-2300 or toll free 1-800-521-5536
Fax (617) 626-2330

Kirsten Shirer, Deputy Director of Information Technology
436 Dwight St. Room 401
Springfield, MA 01103
(413) 452-3988