Appraisal Data Study

Developing a tool to assist counties in focusing their reappraisal work on the areas that will produce the greatest return.

Local Government Division

- The Local Government Division provides support and services to the counties and municipalities of North Carolina as well as taxpayers concerning taxes collected locally by the counties and municipalities.

Don’t I have enough to do?

Why do it?

- We have limited resources so we need to focus our attention on the critical issues
- We still have to provide accurate and equitable valuations
- This basic process can help focus our efforts on areas that need more attention
- The process can help document the need for additional resources
- The process can also provide evidence that the County has followed best practice in their reappraisal
- We all have data that needs to be cleaned

NCDOR Documents

- Reappraisal Standards Dates.xlsx
  - Indicates the deadlines that each County should meet for their documentation
- Guidelines on Reappraisal Type.docx
  - Provides the minimum standards the County should follow based on the results of the study
- Sample Size Per Improved Parcels (Forsyth 2021).xlsx
  - Identifies the parcel counts for the County and identifies the random sample size
- Standards Data Measures (Forsyth 2021).xlsx
  - Provides the basic format to be used in reporting to the NCDOR
- Reappraisal plan DOR model_2.xlsx
  - Provides the format for a Reappraisal Plan to be submitted to the NCDOR

Reappraisal Standards Dates (Forsyth 2021).xlsx

3		
4	Enter the Reappraisal Year	2021
5		
6	Enter the # of Years in Reappraisal Cycle	4
7		
8		
9	Reappraisal Plan Due Date	January 1st of 2019
10	DOR Sends Random Sample #	January 1st of 2018
11	County Submits Random Sample for Approval	January 15th of 2018
12	County Submits Final Random Sample	September 1st of 2018
13	DOR 's Findings of Random Sample	November 1st of 2018
14		
15	Sales Ratio/COD Findings	April 30th of Each Year
16		
17		

Recommendations on Review of County Data Accuracy

With the exception of a full measure and list, the recommendations below are the minimum recommendations on type of reappraisal to be conducted based on the county's random sample.

Desktop reappraisal-the minimum recommendation for any reappraisal regardless of data accuracy.

Full measure and list-recommended for all reappraisals, but more especially when the accuracy of the square footage is below 95%.

Walk around-recommended when the accuracy of the county's square footage data is above 95%, but the objective data is below 95%. If the objective data is below 95% due to interior features, then the county should consider a full measure and list or send out questionnaires to property owners. If the county sends listing forms annually, then the county may want to consider putting the objective data questions on those forms for verification.

Street review-recommended when square footage and objective data are both above 95%, but the subjective data falls below 90%.

Sample Size Per Improved Parcels (Forsyth 2021).xlsx

	A	B	C	D	E	F	G	H	I
1	County	CAMA	Total Parcels	Improved Parcels	Sample	Modified		Jurisdiction	# of Parcels
2	Alamance	Cox and Company	71,502	55,117	551			Large	
3	Alexander	Cox and Company	24,468	16,051	161			Small	
4	Alleghany	Tyler Technology	16,000	7,500	75	100		Small	
5	Anson	Tyler Technology	20,446	15,151	152			Small	
6	Ashe	Thompson-Reuters	39,500	18,500	185			Medium	
7	Avery	Bi-tek	24,366	13,699	137			Small	
8	Beaufort	NCPTS	45,347	26,282	263			Medium	
32	Duplin	In House	39,313	18,284	183			Medium	
33	Durham	Cox and Company	114,644	93,139	931			Large	
34	Edgecombe	Keystone	31,053	21,378	214			Medium	
35	Forsyth	NCPTS	158,359	132,851	1329			Large	158,359
36	Franklin	Tyler Technology	39,474	27,938	279			Medium	
37	Gaston	Cox and Company	105,000	87,000	870			Large	
38	Gates	Keystone	7,926	4,950	50	100		Small	
39	Graham	Bi-tek	7,899	5,200	52	100		Small	
40	Granville	Bormuth	34,176	25,078	251			Medium	
41	Greene	Tyler Technology	11,876	7,179	72	100		Small	
42	Guilford	NCPTS	210,000	185,000	1850			Large	
43	Halifax	Tyler Technology	39,294	23,476	235			Medium	
44	Harnett	Bi-tek	65,773	41,897	419			Medium	
45	Haywood	Keystone	49,655	32,674	327			Medium	

Standards Data Measures (Forsyth 2021).xlsx

	A	B	C	D	L	M	N	O	P	Q	R	S	X	Y	Z	AA	AB
1					Objective Data								Subjective Data				
2	Parcel #	Orginal Square Footage	New Square Footage	% Difference	Element	Element	Element	Element	Element	Element	Element	Element	Element	Element	Element	Element	Element
3																	
4																	
5																	
6																	
7																	
8																	
9																	
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19																	
20																	
21																	
22																	
23																	
24																	
25																	

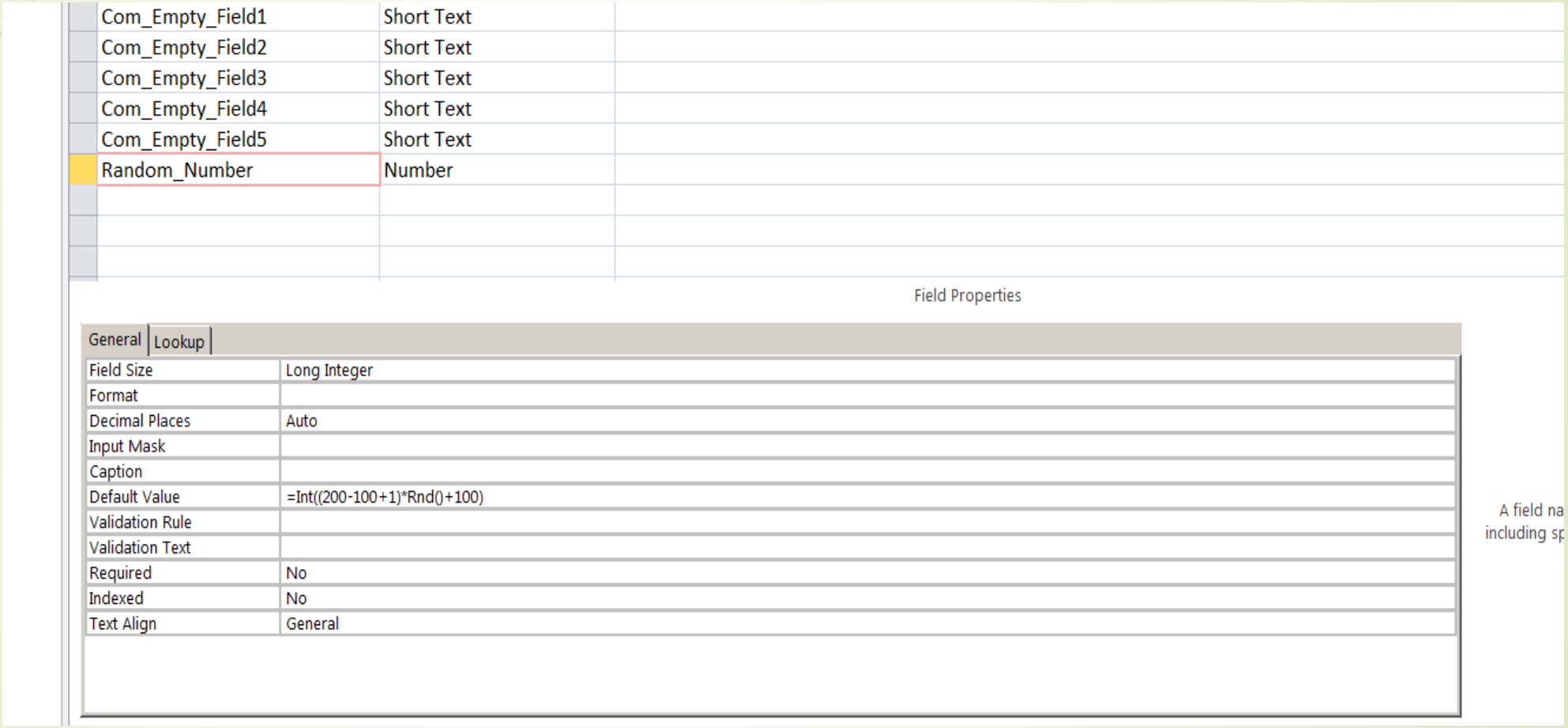
Where to begin?

- Denali CAMA did not have a query that provided the necessary data to populate a query with the specific information needed
- A request was made of the vendor, Farragut Systems, to provide a pipe (|) delimited text file that contained all improved parcels that were active in the 2018 tax year at the time the file was created. The following fields were included:
  - Parcel_Number, Retired_Date, Num_Bldgs, Orig_SQFT, New_SQFT, Percent_Diff, Value_Approach, Open_Permit, MAS_FRAME, Num_Stories, Basement, Basement_Area, Attic, Attic_Area, Plumb_Fix, Refinements, Res_Additions, Res_Misc_Imp, Grade, Res_Condition, Res_Effective_Year, Res_Econ_Obs, Res_Func_Obs, Res_Empty_Field1, Res_Empty_Field2, Res_Empty_Field3, Res_Empty_Field4, Res_Empty_Field5, Occupancy, Class_Qual, Num_Stories, Story_Height, Perimeter, Heat, Sprinkler, Refinements, Com_Additions, Com_Misc_Imp, Com_Condition, Com_Effective_Year, Com_Econ_Obs, Com_Func_Obs, Com_Empty_Field1, Com_Empty_Field2, Com_Empty_Field3, Com_Empty_Field4, Com_Empty_Field5

The Data

```
122802  6834554913000|NULL|1 of 1|1464|||C|N|MAS|1.00|N||N||6||Y|Y|C-5|AVERAGE|1978|10|||||||||||||||||||||||||CRLF
122803  6829172051000|NULL|1 of 1|1874|||C|N|FRAME|1.50|Y|1136|N||9||Y|N|C|AVERAGE|2000|15|||||||||||||||||||||||CRLF
122804  6866649688000|NULL|1 of 1|3793|||C|N|MAS|1.50|N||N||10||Y|Y|B|AVERAGE|1997|||||||||||||||||||||||||CRLF
122805  6817401192000|NULL|1 of 1|2490|||C|N|MAS|1.70|Y|1302|N||15||Y|Y|B+10|AVERAGE|1999|||||||||||||||||||||||CRLF
122806  6874463236000|NULL|1 of 1|3077|||C|N|FRAME|2.00|N||N||8||Y|N|C+5|AVERAGE|2016|||||||||||||||||||||||||CRLF
122807  6849782897000|NULL|1 of 2|2016|||C|N|FRAME|1.00|N||N||6||Y|Y|D-20|AVERAGE|1994|5|||||||||||||||||||||||CRLF
122808  6849782897000|NULL|2 of 2|1378|||C|N|MAS|1.00|Y|1378|N||5||Y|N|C|AVERAGE|1987|||||||||||||||||||||||||CRLF
122809  6874463296000|NULL|1 of 1|2860|||C|N|FRAME|2.00|N||N||10||Y|N|C+5|AVERAGE|2016|||||||||||||||||||||||||CRLF
122810  6875448518000|NULL|1 of 1|3204|||C|N|FRAME|2.00|Y|2652|N||14||Y|N|C+5|AVERAGE|2016|15|||||||||||||||||||||||CRLF
122811  6874463478000|NULL|1 of 1|2874|||C|N|FRAME|2.00|N||N||10||Y|N|C+5|AVERAGE|2016|||||||||||||||||||||||||CRLF
122812  6874463141000|NULL|1 of 1|3182|||C|N|FRAME|2.00|N||N||13||Y|N|C+5|AVERAGE|2016|||||||||||||||||||||||||CRLF
122813  6874463005000|NULL|1 of 1|3256|||C|N|FRAME|2.00|N||N||10||Y|N|C+5|AVERAGE|2016|||||||||||||||||||||||||CRLF
122814  6874452936000|NULL|1 of 1|3332|||C|N|FRAME|2.00|N||N||10||Y|N|C+5|AVERAGE|2016|||||||||||||||||||||||||CRLF
122815  6874461174000|NULL|1 of 1|2712|||C|N|FRAME|2.00|N||N||10||Y|N|C+5|AVERAGE|2016|||||||||||||||||||||||||CRLF
122816  6874462302000|NULL|1 of 1|2765|||C|N|FRAME|2.00|N||N||10||Y|N|C+5|AVERAGE|2016|||||||||||||||||||||||||CRLF
122817  6835182586000|NULL|1 of 1|3240|||C|N|||||||||||||||||||||||1307|C/LC|1.00||||||Y|N|FAIR|1980|30.00||||||CRLF
122818  6835182588000|NULL|1 of 1|3600|||C|N|||||||||||||||||||||||1307|C/LC|1.00||||||Y|N|FAIR|1982|40.00||||||CRLF
122819  6835182692000|NULL|1 of 1|5180|||I|N|||||||||||||||||||||||1501|C/GD-AVG|2.00||||||Y|Y|AVERAGE|1989|10.00||||||CRLF
122820  6835181549000|NULL|1 of 2|3924|||C|N|||||||||||||||||||||||1450|C/BSMTAVG|1.00||||||Y|Y|FAIR|1990|30.00||||||CRLF
122821  6835181549000|NULL|2 of 2|4256|||C|N|||||||||||||||||||||||1450|C/BSMTAVG|1.00||||||N|N|FAIR|1990|30.00||||||CRLF
122822  6835187155000|NULL|1 of 1|7560|||C|N|||||||||||||||||||||||1307|C/AVG|2.00||||||N|N|AVERAGE|1990|15.00||||||CRLF
122823  6835187241000|NULL|1 of 1|6695|||I|N|||||||||||||||||||||||1307|C/LC|1.00||||||Y|N|AVERAGE|1986|20.00||||||CRLF
122824  6835186486000|NULL|1 of 1|432|||C|N|||||||||||||||||||||||1326|C/LC|1.00||||||Y|Y|AVERAGE|1982|40.00||||||CRLF
122825  6835186491000|NULL|1 of 1|544|||C|N|||||||||||||||||||||||1307|C/LC|1.00||||||N|Y|FAIR|1986|25.00||||||CRLF
122826  6835186297000|NULL|1 of 1|4092|||I|N|||||||||||||||||||||||1307|C/LC|1.00||||||Y|N|AVERAGE|1990|20.00||||||CRLF
122827  6835186380000|NULL|1 of 1|2783|||C|N|||||||||||||||||||||||1304|C/AVG-LC|1.00||||||N|N|AVERAGE|1997|20.00||||||CRLF
122828  6835186382000|NULL|1 of 1|2783|||C|N|||||||||||||||||||||||1304|C/AVG-LC|1.00||||||Y|Y|AVERAGE|1997|20.00||||||CRLF
122829  6835186168000|NULL|1 of 1|14170|||C|N|||||||||||||||||||||||1307|C/AVG|2.00||||||Y|Y|AVERAGE|1986|||||||CRLF
122830  6835186385000|NULL|1 of 1|11480|||I|N|||||||||||||||||||||||1307|C/LC|1.00||||||Y|Y|AVERAGE|1984|25.00||||||CRLF
```

Using Access to Generate a Random Number



Com_Empty_Field1	Short Text
Com_Empty_Field2	Short Text
Com_Empty_Field3	Short Text
Com_Empty_Field4	Short Text
Com_Empty_Field5	Short Text
Random_Number	Number

Field Properties

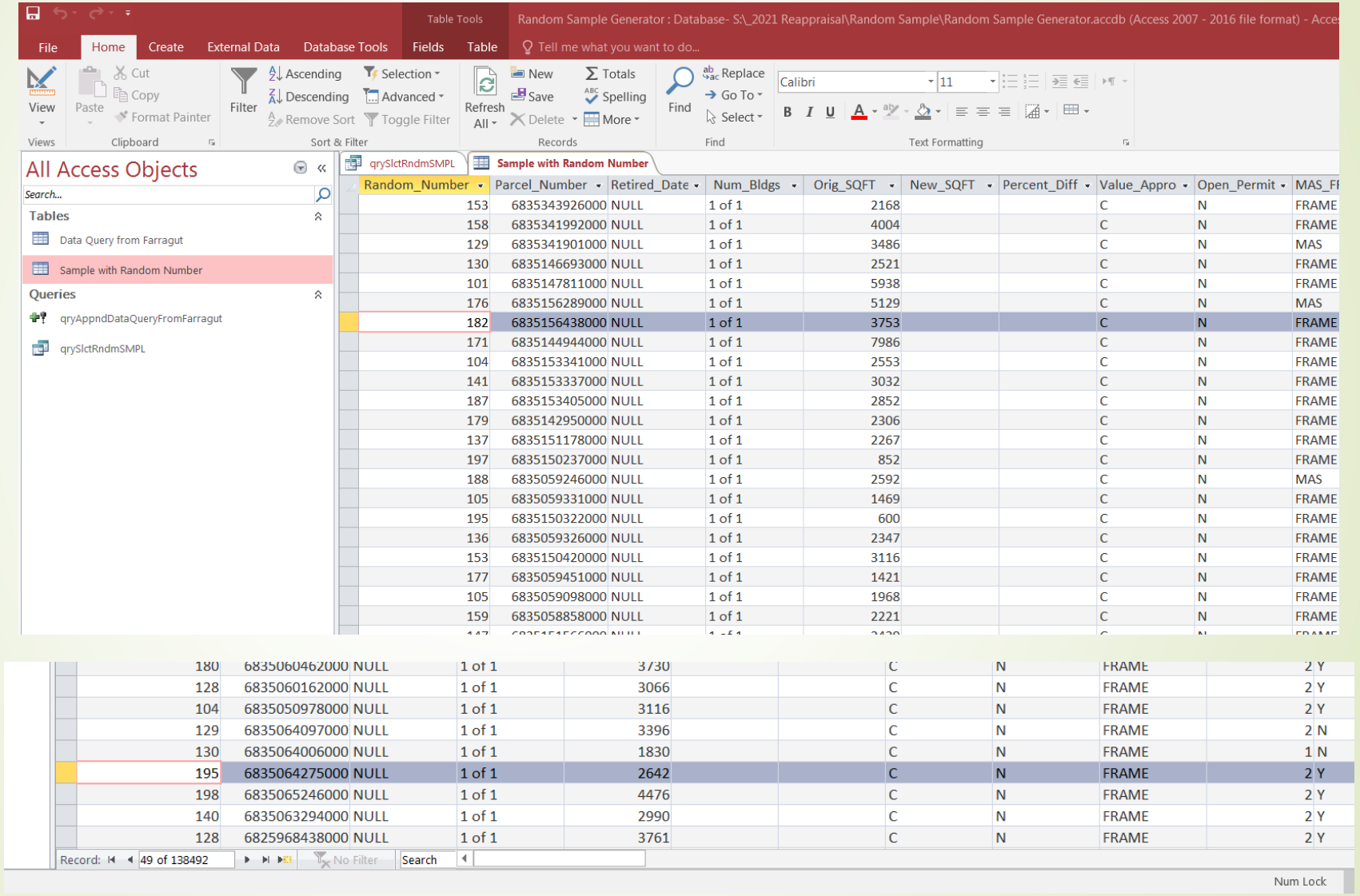
General | Lookup

Field Size	Long Integer
Format	
Decimal Places	Auto
Input Mask	
Caption	
Default Value	=Int((200-100+1)*Rnd()+100)
Validation Rule	
Validation Text	
Required	No
Indexed	No
Text Align	General

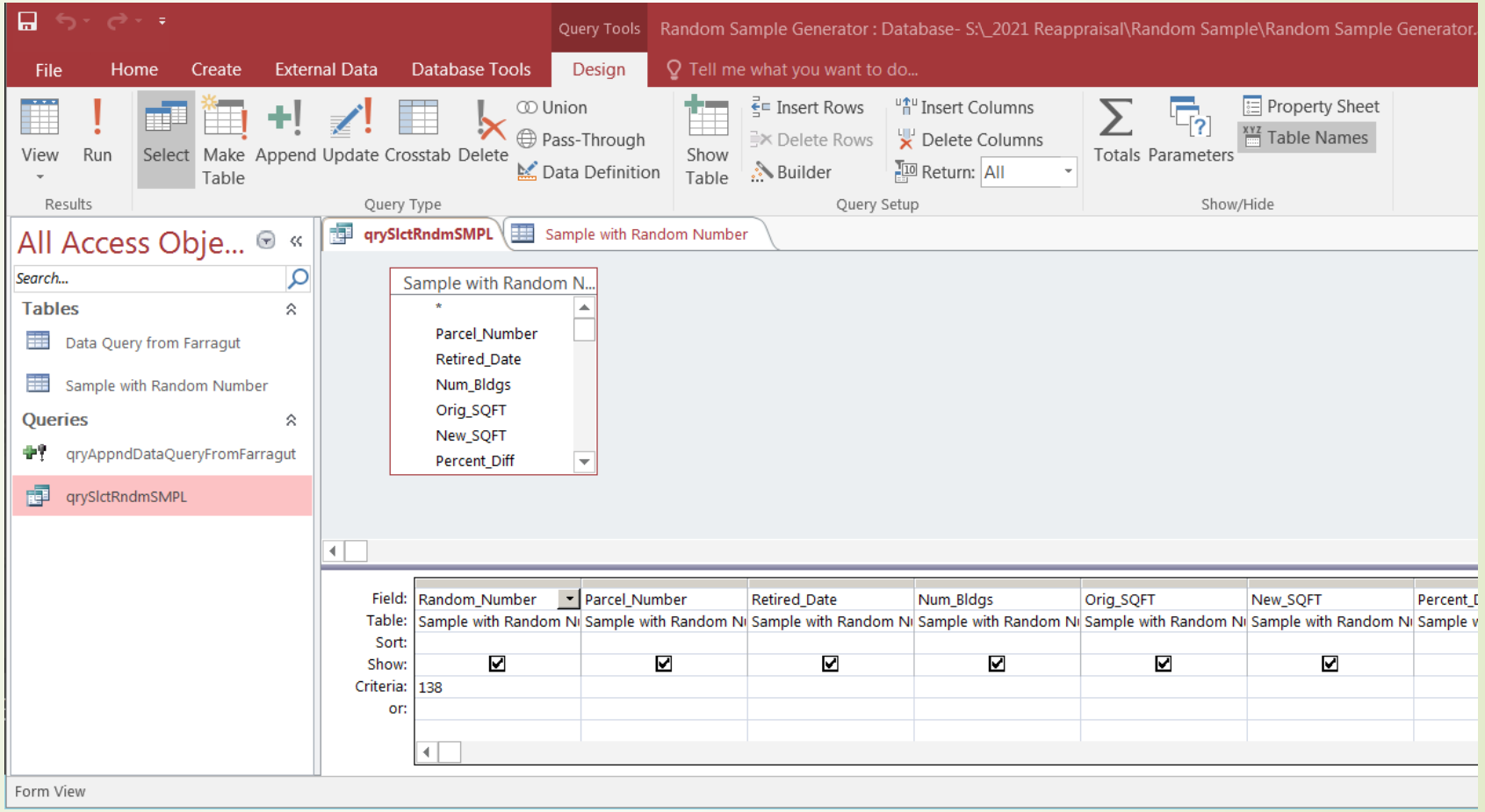
A field na
including sp

https://www.techonthenet.com/access/functions/numeric/rnd.php

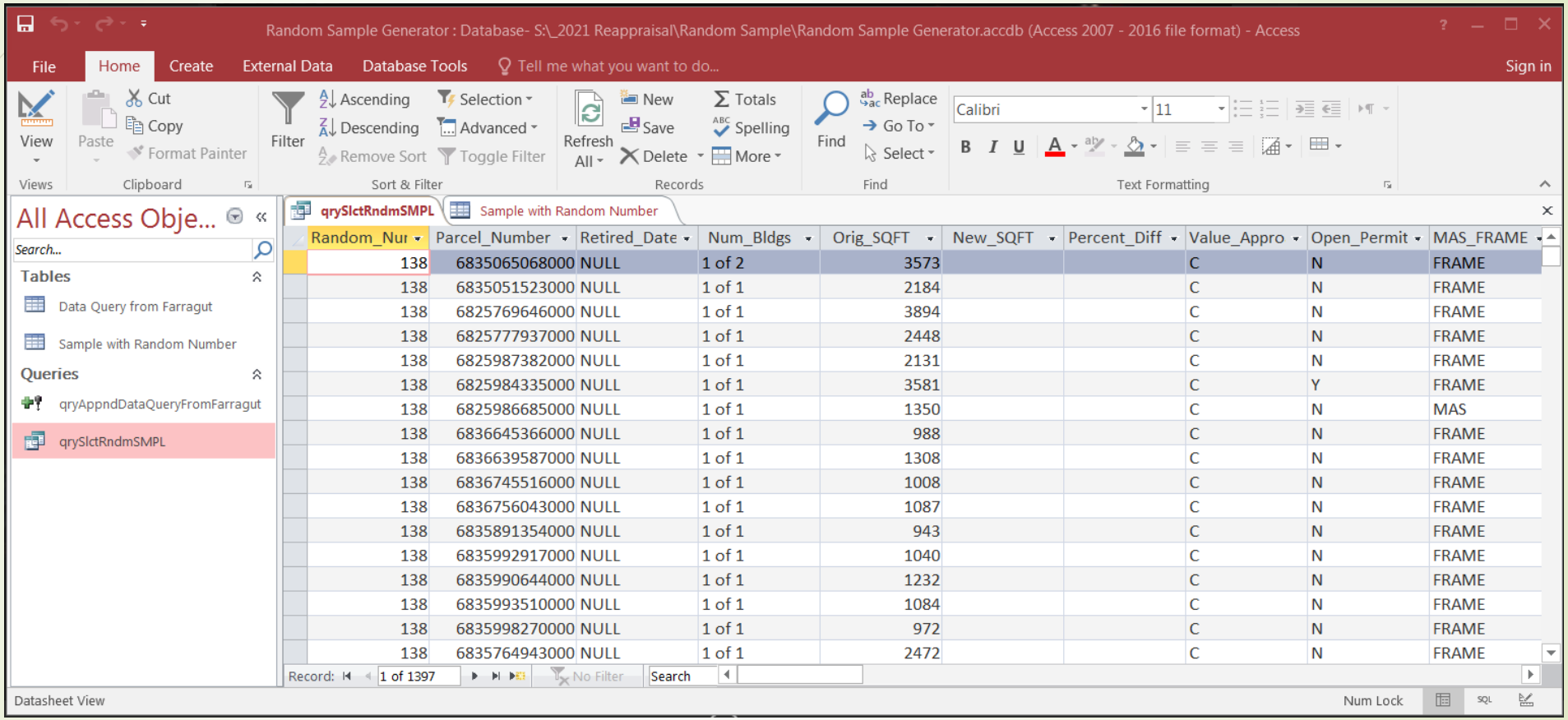
Sample Data with a Random Number Added



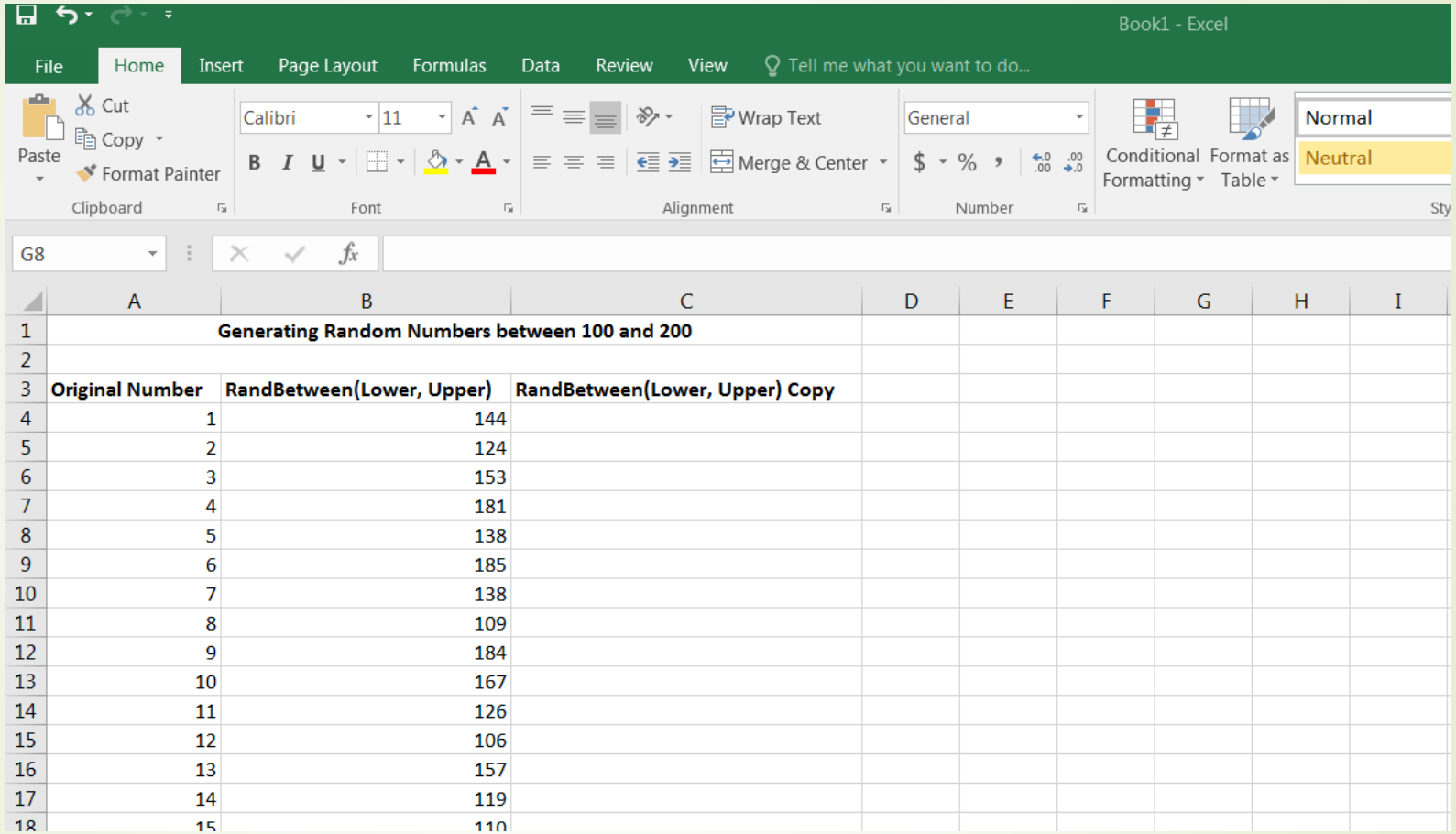
Pulling the Sample by Query



The Results


Random Sample Generator : Database- S:_2021 Reappraisal\Random Sample\Random Sample Generator.accdb (Access 2007 - 2016 file format) - Access
File
Home
Create
External Data
Database Tools
Tell me what you want to do...
Sign in
View
Paste
Cut
Copy
Format Painter
Filter
Ascending
Descending
Remove Sort
Selection
Advanced
Toggle Filter
Refresh All
New
Save
Delete
Totals
Spelling
More
Find
Replace
Go To
Select
Calibri
11
Views
Clipboard
Sort & Filter
Records
Find
Text Formatting
All Access Obje...
Search...
Tables
Data Query from Farragut
Sample with Random Number
Queries
qryAppndDataQueryFromFarragut
qrySlctRndmSMPL
qrySlctRndmSMPL
Sample with Random Number
Random_Nur
Parcel_Number
Retired_Date
Num_Bldgs
Orig_SQFT
New_SQFT
Percent_Diff
Value_Appro
Open_Permit
MAS_FRAME
138 6835065068000 NULL 1 of 2 3573 C N FRAME
138 6835051523000 NULL 1 of 1 2184 C N FRAME
138 6825769646000 NULL 1 of 1 3894 C N FRAME
138 6825777937000 NULL 1 of 1 2448 C N FRAME
138 6825987382000 NULL 1 of 1 2131 C N FRAME
138 6825984335000 NULL 1 of 1 3581 C Y FRAME
138 6825986685000 NULL 1 of 1 1350 C N MAS
138 6836645366000 NULL 1 of 1 988 C N FRAME
138 6836639587000 NULL 1 of 1 1308 C N FRAME
138 6836745516000 NULL 1 of 1 1008 C N FRAME
138 6836756043000 NULL 1 of 1 1087 C N FRAME
138 6835891354000 NULL 1 of 1 943 C N FRAME
138 6835992917000 NULL 1 of 1 1040 C N FRAME
138 6835990644000 NULL 1 of 1 1232 C N FRAME
138 6835993510000 NULL 1 of 1 1084 C N FRAME
138 6835998270000 NULL 1 of 1 972 C N FRAME
138 6835764943000 NULL 1 of 1 2472 C N FRAME
Record: 1 of 1397
No Filter
Search
Datasheet View
Num Lock

In Excel



	A	B	C	D	E	F	G	H	I
1	**Generating Random Numbers between 100 and 200**								
2									
3	**Original Number**	**RandBetween(Lower, Upper)**	**RandBetween(Lower, Upper) Copy**						
4	1	144							
5	2	124							
6	3	153							
7	4	181							
8	5	138							
9	6	185							
10	7	138							
11	8	109							
12	9	184							
13	10	167							
14	11	126							
15	12	106							
16	13	157							
17	14	119							
18	15	110							

https://exceljet.net/formula/random-number-between-two-numbers

The Final Report

Forsyth County

Improved Parcels		Sample Size	RIP	Revised Sample
132851		1328		0

1 If correct, 0 if incorrect

											Residential									
							Value Method	Permit	Inactive	Notes	Objective									
Sort	REID	Parcel #	# Bldgs	Orginal Square Footage	New Square Footage	% Difference	C, CS, I	YES/NO	NO/YES		MAS/ Frame	Chng MAS/ Frame	# of Stories	Chng # of Stories	Basement	Basement finish	Attic	Attic Fin	Plumb Fixtures	Refinem
Weight																				
771	6823216949000	6823-21-6949.000	1 of 1	1248	1248	0	C	N	N		FRAME	N	1	N	1	1	1	1	1	
772	6824118200000	6824-11-8200.000	1 of 1	1649	1649	0	C	N	N		FRAME	N	1.5	N	1	1	1	1	1	
773	6826204943000	6826-20-4943.000	1 of 1	3805	3805	0	C	N	N		MAS	N	2	N	1	1	1	1	1	
774	6827350066000	6827-35-0066.000	1 of 1	1608	1608	0	C	N	N		MAS	N	1	N	1	1	1	1	1	
775	6827251524000	6827-25-1524.000	1 of 1	1607	1607	0	C	N	N		FRAME	N	2	N	1	1	1	1	1	
776	6920147071000	6920-14-7071.000	1 of 1	1568			C	N		Posted, No Access	MAS		1							
777	6823262538000	6823-26-2538.000	1 of 1	1672	1672	0	C	N	N		FRAME	N	2	N	1	1	1	1	1	
778	6823269064000	6823-26-9064.000	1 of 1	1664	1664	0	C	N	N		FRAME	N	1	N	1	1	1	1	1	
779	6824219964000	6824-21-9964.000	1 of 1	886	886	0	C	N	N		FRAME	N	1	N	1	1	1	1	1	
780	6824076235000	6824-07-6235.000	1 of 1	984	984	0	C	N	N		MAS	N	1	N	1	1	1	1	1	
781	6824074090000	6824-07-4090.000	1 of 1	912	912	0	C	N	N		FRAME	N	1	N	1	1	1	1	1	
782	6824187362000	6824-18-7362.000	1 of 1	1310	1310	0	C	N	N		MAS	N	1	N	1	1	1	1	1	
783	6824186323000	6824-18-6323.000	1 of 1	884	884	0	C	N	N		FRAME	N	1	N	1	1	1	1	1	
784	6824183656000	6824-18-3656.000	1 of 1	864	864	0	C	N	N		FRAME	N	1	N	1	1	1	1	1	
785	6824280837000	6824-28-0837.000	1 of 1	1323	1323	0	C	N	N		FRAME	N	1.1	N	1	1	1	1	1	
786	6824174119000	6824-17-4119.000	1 of 1	960	960	0	C	N	N		FRAME	N	1	N	1	1	1	1	1	
787	6824166676000	6824-16-6676.000	1 of 1	1500	1500	0	C	N	N		MAS	N	1	N	1	1	1	1	1	
788	6824068735000	6824-06-8735.000	1 of 1	1284	1284	0	C	N	N		MAS	N	1	N	1	1	1	1	1	
789	6824099505000	6824-09-9505.000	1 of 1	1722	1722	0	C	N	N		FRAME	N	1.1	N	1	1	1	1	1	
790	6824373552000	6824-37-3552.000	1 of 1	1456	1456	0	C	N	N		FRAME	N	1	N	1	1	1	1	1	
791	6824380121000	6824-38-0121.000	1 of 1	1937	1937	0	C	N	N		FRAME	N	1.5	N	1	1	1	1	1	
792	6825610519000	6825-61-0519.000	1 of 1	1800	1800	0	C	N	N		FRAME	N	1	N	1	1	1	1	1	
793	6825518599000	6825-51-8599.000	1 of 1	1747	1747	0	C	N	N		FRAME	N	1	N	1	1	1	1	1	
794	6825612087000	6825-61-2087.000	1 of 1	1748	1748	0	C	N	N		MAS	N	1	N	1	1	1	1	1	

In the end…

…we all want our data cleaned up!