

GIS Centric One Call Ticket Management

Mid-Carolina Electric Cooperative (MCEC)

Looking out for you!



MCEC

MID-CAROLINA ELECTRIC COOPERATIVE, INC.

Your Touchstone Energy[®] Cooperative 

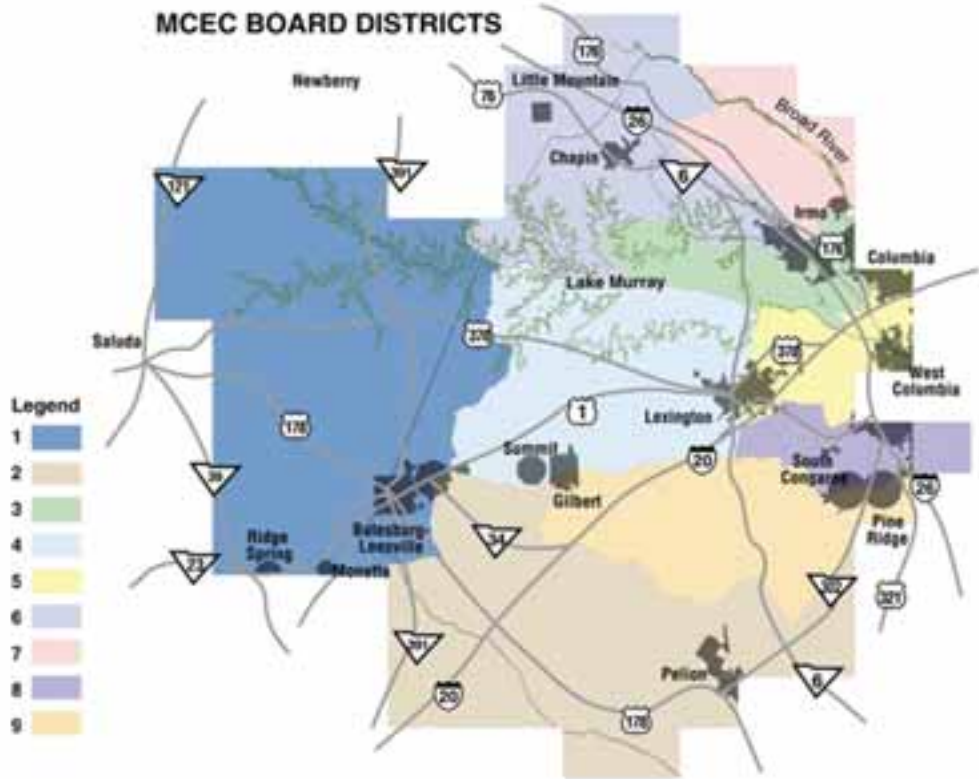
Mid-Carolina Electric distributes electricity in Lexington, Richland, Saluda, Aiken and Newberry counties of South Carolina.

MCEC is primarily an urban cooperative, comprised of 88% single family dwellings, and 12% commercial and industrial facilities.



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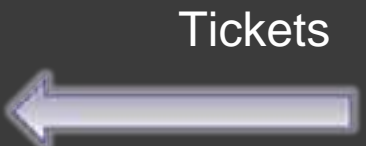
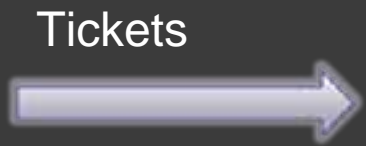


On average, MCEC receives approximately 22,000 tickets per year from the SC 811 call center. This amount varies year to year based on construction and excavation projects.



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What is an
Excavation or
811
Ticket?

```
Untitled - Notepad
File Edit Format View Help
MID55 14 PUPS web 07/20/2011 09:16:00 AM 1107200497 update
Ticket Number: 1107200497
Old Ticket Number: 1106290438
Created By: KML
Seq Number: 14

Created Date: 07/20/2011 09:16:27 AM
Work Date/Time: 07/25/2011 09:30:24 AM
Update: 08/10/2011 Good Through: 08/15/2011

Excavation Information:
State: SC County: LEXINGTON
Place: CHAPIN
Address Number: 304, 300, 266, 262, 260
Street: EAGLE POINTE DRIVE
Inters St: STUCKS POINTE DRIVE
Subd: EAGLES POINTE

Type of work: SWIMMING POOL
Duration: 2 WEEKS

Boring/Drilling: N Blasting: N White Lined: N Near Railroad: N

Work Done By: IRMO GRADING

Remarks/Instructions: LOCATE REAR OF ALL LOTS. DIRECTIONS: I26W TOWARDS SPARTANBURG. EXIT 91 LEFT TOWARDS CHAPIN. GO 1 3/4 MIL AND TURN LEFT JUST PASS WACHOVIA BANK ONTO LEXINGTON AVENUE. GO 2.5 MILES AND TURN RIGHT ONTO STUCKS POINTE DRIVE. EAGLES POINTE ENTRANCE IS 1/4 MILE ON LEFT.

Caller Information:
Name: JOAN DALTON THE MUNGO COMPANY
Address: 441 WESTERN LANE
City: IRMO State: SC Zip: 29063
Phone: (803) 749-9000 Ext: 115 Type: Business
Fax: Caller Email: JDALTON@MUNGO.COM

Contact Information:
Contact: CHRIS BARRETT Email: JDALTON@MUNGO.COM
Call Back: 803513-6331 Fax:

Grids:
Lat/Long: 34.1274277781957, -81.3380000113103
Secondary: 34.1170391500557, -81.3239681489962
Lat/Long caller supplied: N

Members Involved: BSZB45 COC82 MID55 SCGZ05 TWCZ40
```

- Ticket #
- Origination Date
- Work Date
- Address Info
- Intersections
- Work Type
- Work Done By
- Comments
- Caller Info
- Contact Info
- X/Y
- Members



GIS Centric One Call Ticket Management

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- With a dedicated SC 811 email account, all tickets are emailed directly to MCEC
- Tickets arrive into a mail Exchange Server
- Using Dig-Smart Server, tickets are automatically moved into an Oracle database
- Using Dig-Smart Analyzer (running ArcGIS) each ticket is mapped
- The MCEC Enterprise Geodatabase is used for all data verification
- Additional geocoding services are used to refine the ticket address, if needed
- Heads up analysis is performed on each ticket
- Tickets are either assigned to field crews or cleared in the office
- No positive response required...yet, perhaps, we'll see...



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ArcGIS / ArcMap / Dig-Smart Analyzer Interface

The screenshot displays the Dig-Smart Analyzer interface with several key components:

- Map View:** A central map showing a residential area with a red circle highlighting a specific location. The map includes various utility lines and structures.
- Text View:** A panel on the right displaying the details of a selected ticket. The ticket information includes:
 - Ticket Number: 1110100440
 - Old Ticket Number:
 - Created By: BWA
 - Seq Number: 7
 - Created Date: 10/10/2011 09:16:34 AM
 - Work Date/Time: 10/10/2011 09:30:00 AM
 - Update: 10/26/2011 Good Through 10/31/2011
 - Extension Information: State SC, County LEWIS AND CLAY, Place COLUMBIA, Address Number 200, Street BERRYHILL RD, Intersect: Fairview DR, Subd:
 - Type of Work: SEWER REPAIR LINE
 - Customer: SME DOR
 - Being Done By: DR ROOTER, INC
 - Remarks/Instructions: PEACH TREE APARTMENTS
 - MAINT THE FRONT OF THE PROPERTY AT ALL TIMES WITH TREES
- Tree View:** A panel on the left showing a hierarchical list of ticket categories and statuses, including:
 - Active Tickets (24)
 - Tag List (LGI, DFG)
 - Non-Active Tickets (337)
 - Original Tickets (127)
 - Tagged Tickets (113)
 - Ignored Tickets (20)
 - Only Summary Reports (20)
- Table View:** A data table at the bottom showing a list of tickets with columns for Ticket Type, Ticket ID, Version, Price, Start Date, and Close Date. The table contains multiple rows of ticket data.

Text View

Map View

Tree View

Table View



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Using Geocoding To Re-Verify X/Y Coordinates or Validate Customer

The screenshot displays the Dig-Smart software interface. The main window is a GIS map showing a network of lines and nodes. A red circle highlights a specific location labeled '312 AMCK'S FERRY RD'. A red vertical line is labeled '312'S AMCK'S FERRY RD'. A right-hand panel shows ticket details for 'Ticket Number: 1100270586'. A bottom-right panel shows a geocoding search window with a search bar containing 'amck's' and a dropdown menu set to 'Consumer'. Below the search bar is a table of results.

Title	Layer	Field
1677 AMCK'S FERRY RD	Consumer	AZ0H
1677 AMCK'S FERRY RD	Consumer	AZ0H
1717 AMCK'S FERRY RD	Consumer	AZ0H
201 AMCK'S FERRY RD	Consumer	AZ0H
301 AMCK'S FERRY RD	Consumer	AZ0H
300 AMCK'S FERRY RD	Consumer	AZ0H
301 AMCK'S FERRY RD	Consumer	AZ0H
310 AMCK'S FERRY RD	Consumer	AZ0H
312 AMCK'S FERRY RD	Consumer	AZ0H
320 AMCK'S FERRY RD	Consumer	AZ0H
324 AMCK'S FERRY RD	Consumer	AZ0H
317 AMCK'S FERRY RD	Consumer	AZ0H

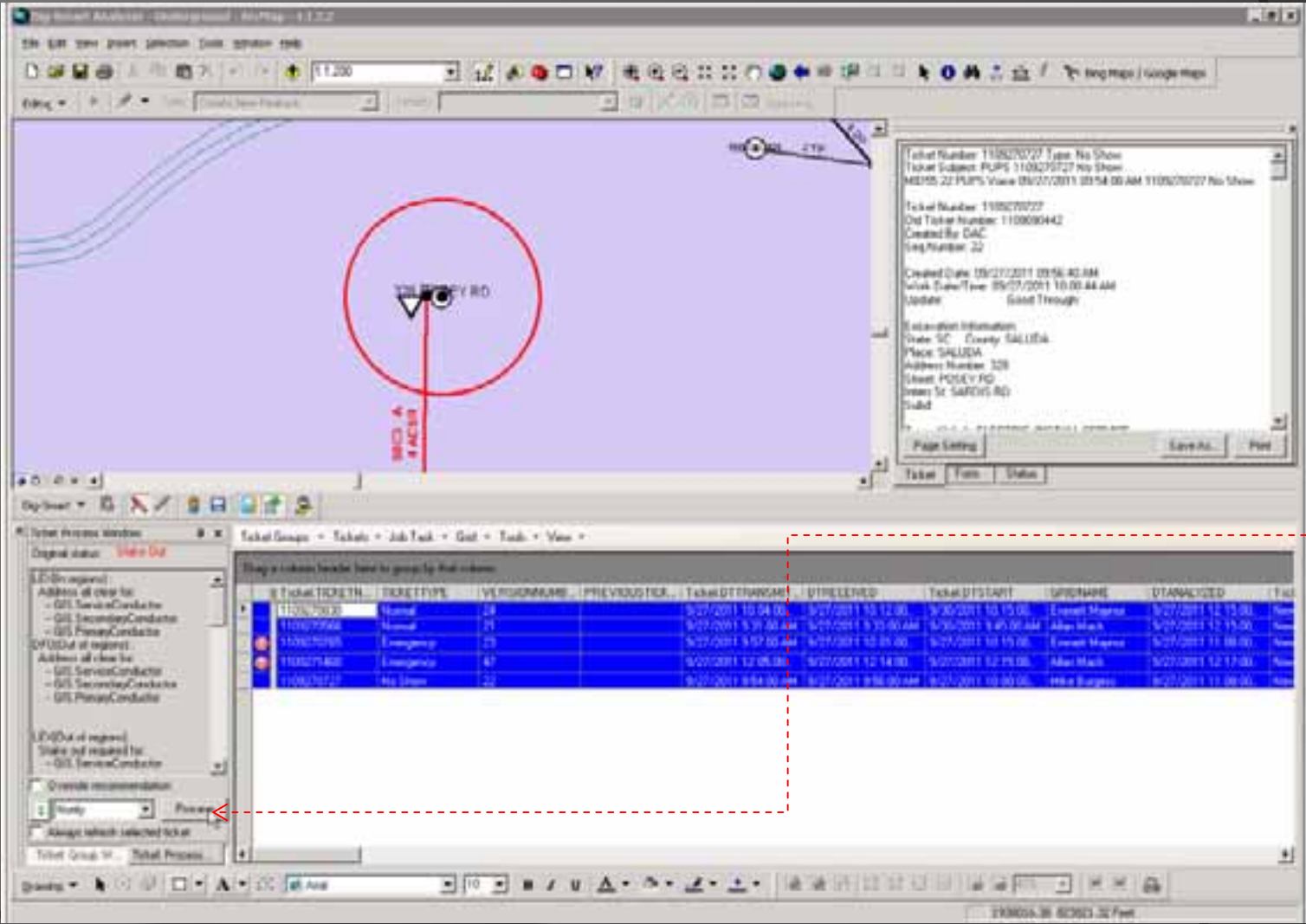
Geocoding Refinements From GIS and CIS Data



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Multi-Ticket Processing With Batch Process Features

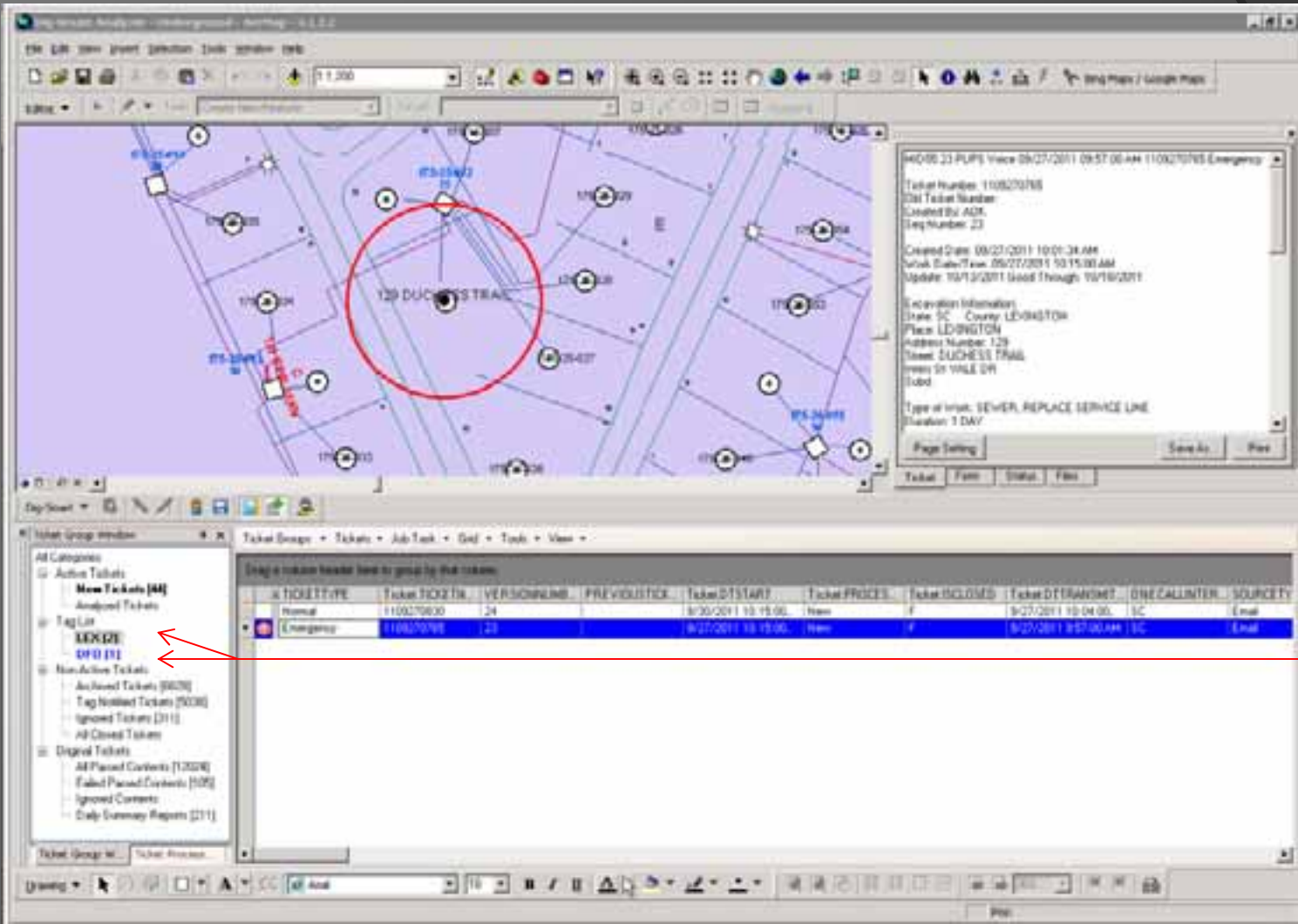


After dispatch review, batch processing can occur



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Tickets successfully assigned to locators (Tags) or given all-clear status



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The screenshot shows a GIS application window with a map on the left and a data table on the right. The map displays a network of utility lines and nodes, with a red circle highlighting a specific area labeled 'THE JACKSON TANK'. The data table below the map lists ticket information with columns for Ticket Type, Ticket ID, Live Resource, Previous Tick, Ticket Start, Ticket Process, Ticket MTD, Ticket MTD SWFT, and One Call Status. A red arrow points from the text on the right to a 'Ticket Alert' notification in the bottom right corner of the application window.

Ticket Type	Ticket ID	Live Resource	Previous Tick	Ticket Start	Ticket Process	Ticket MTD	Ticket MTD SWFT	One Call Status	Source
Normal	110622105	54		6/22/2011 2:00:00 PM	Closed		6/22/2011 2:40:00 PM	SC	Email
Normal	110711708	26		7/26/2011 2:30:00 PM	Closed		7/27/2011 2:13:00 PM	SC	Email
Normal	1108110132	132021135		8/16/2011 8:15:00 AM	Closed		8/17/2011 8:02:00 AM	SC	Email
Normal	1100201140	17		5/23/2011 11:00:00	Closed		5/23/2011 10:51:00	SC	Email
Normal	110600962	26		6/9/2011 10:45:00 AM	Closed		6/9/2011 10:39:00 AM	SC	Email
Cancel	1103251039	53		3/25/2011 12:00:00	Closed		3/25/2011 11:48:00	SC	Email
Normal	1100200190	27		3/25/2011 8:30:00 AM	Closed		3/25/2011 8:28:00 AM	SC	Email
Normal	1103000663	42		3/11/2011 9:30:00 AM	Closed		3/8/2011 9:22:00 AM	SC	Email
Normal	1104008811	17		4/7/2011 9:15:00 AM	Closed		4/8/2011 9:00:00 AM	SC	Email
Normal	1104008117	19		4/7/2011 9:15:00 AM	Closed		4/8/2011 9:12:00 AM	SC	Email
Normal	1106110122	4		6/20/2011 8:15:00 AM	Closed		6/15/2011 8:02:00 AM	SC	Email
Normal	1103000703	33		4/6/2011 8:30:00 AM	Closed		3/25/2011 8:22:00 AM	SC	Email
Normal	1104110095	23		4/21/2011 10:45:00	Closed		4/18/2011 10:35:00	SC	Email
Normal	1104211645	60		4/22/2011 4:00:00 PM	Closed		4/22/2011 2:54:00 PM	SC	Email
Normal	1109111103	60		5/24/2011 3:00:00 PM	Closed		5/13/2011 2:56:00 PM	SC	Email

New ticket alerts are audible and visual (SMS and mobile email)



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Current Mobile Workflow

1. Tickets assigned from Analyzer to Field
2. Auto-print function used to create paper record
3. Upon completion of field work, paper record is discarded
4. Dig-Smart database used for all damage & reporting investigations

Future Mobile Workflow

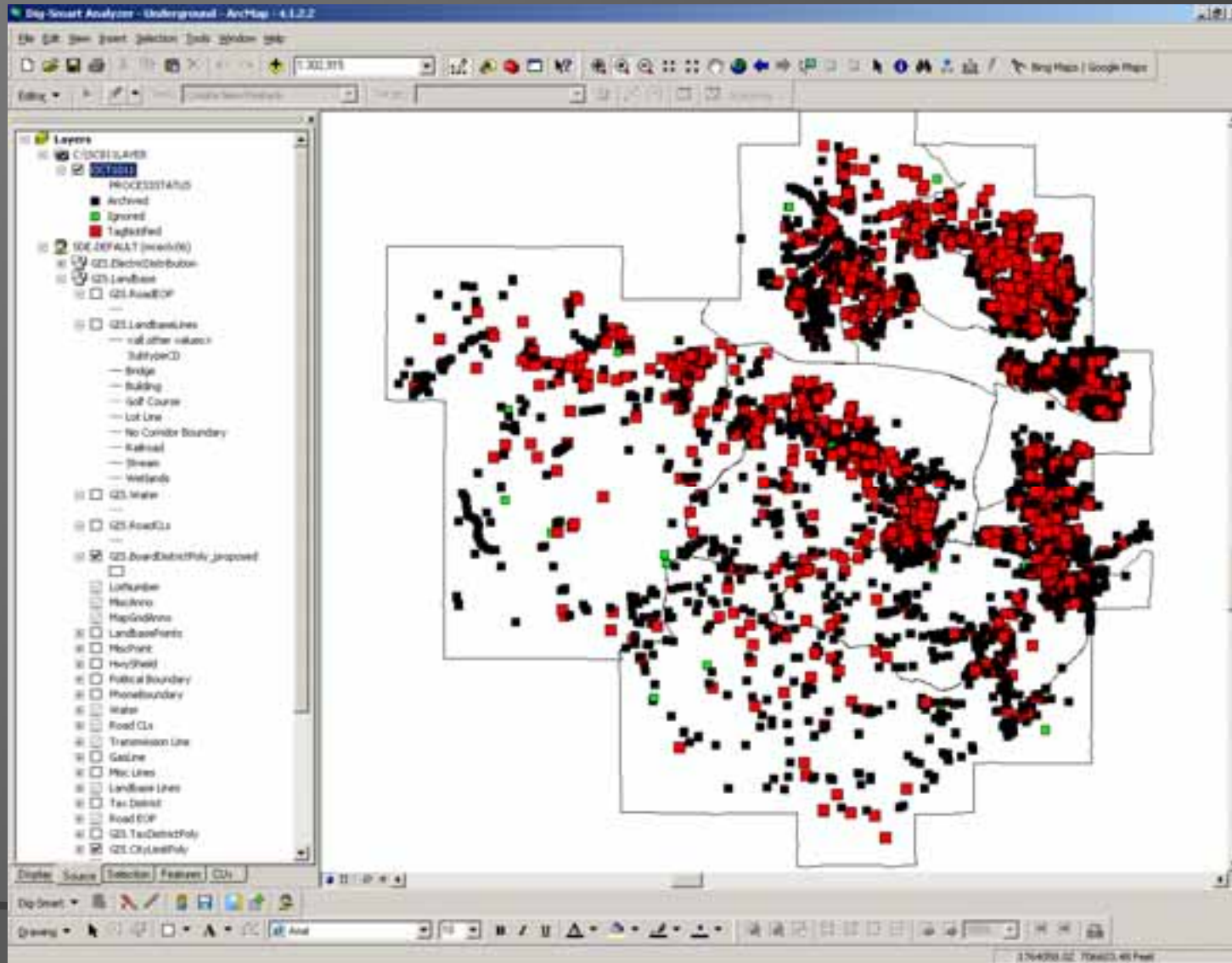
1. Dig-Smart Field used to synchronize tickets to mobile device
2. Localized database to store all field data
3. Daily synchronization with enterprise database
4. Phase out of current hard-copy protocol



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Push-Pin Map / Dashboard View of Tickets for Entire System (3/2011-10/2011)



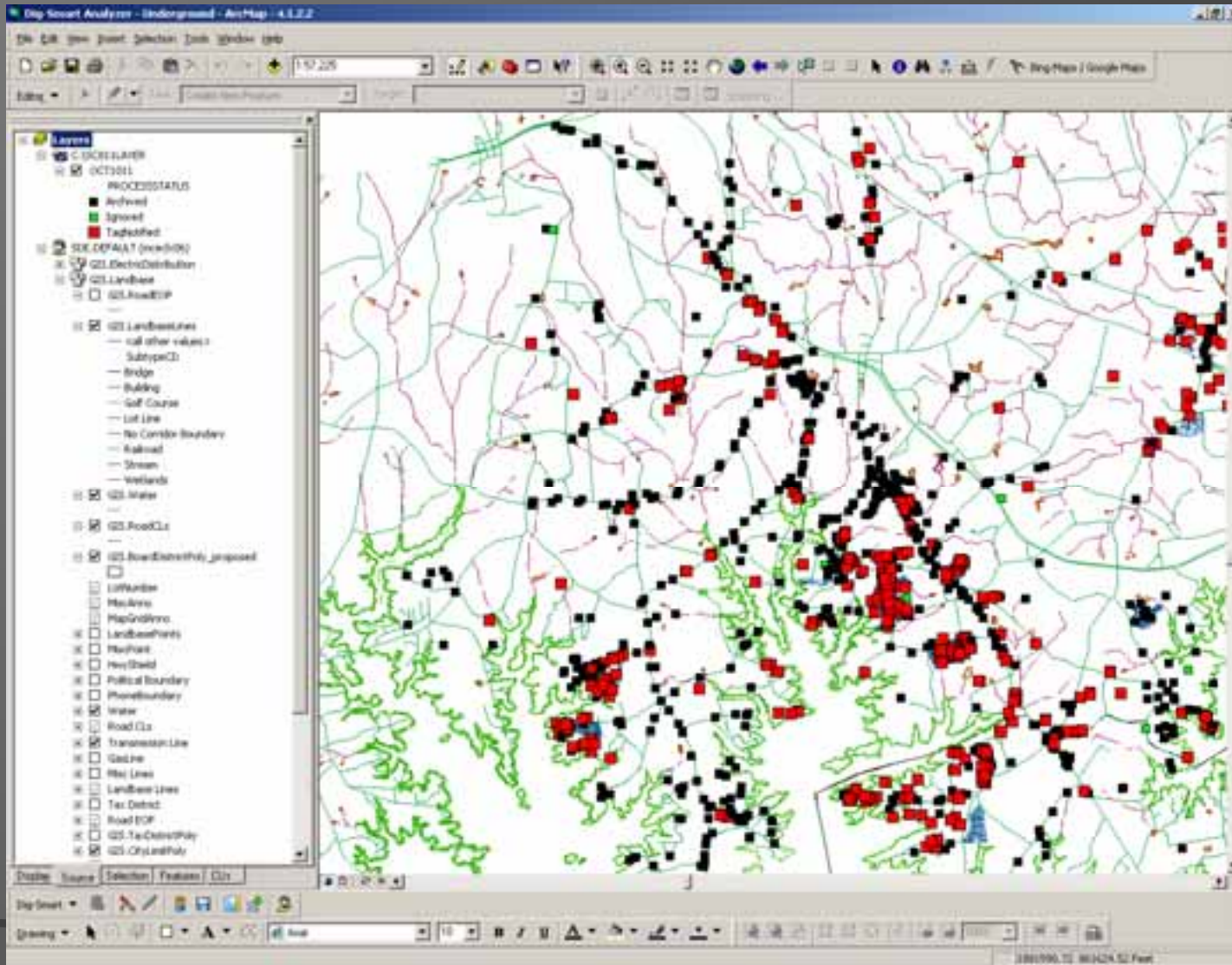
Red indicates work completed, black indicates ticket was all-clear and green dots indicate an intentionally ignored request



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Zoomed-In-View of Push-Pin Map Showing Ticket Distribution



All ArcGIS thematic and cartographic elements can be used for map reporting

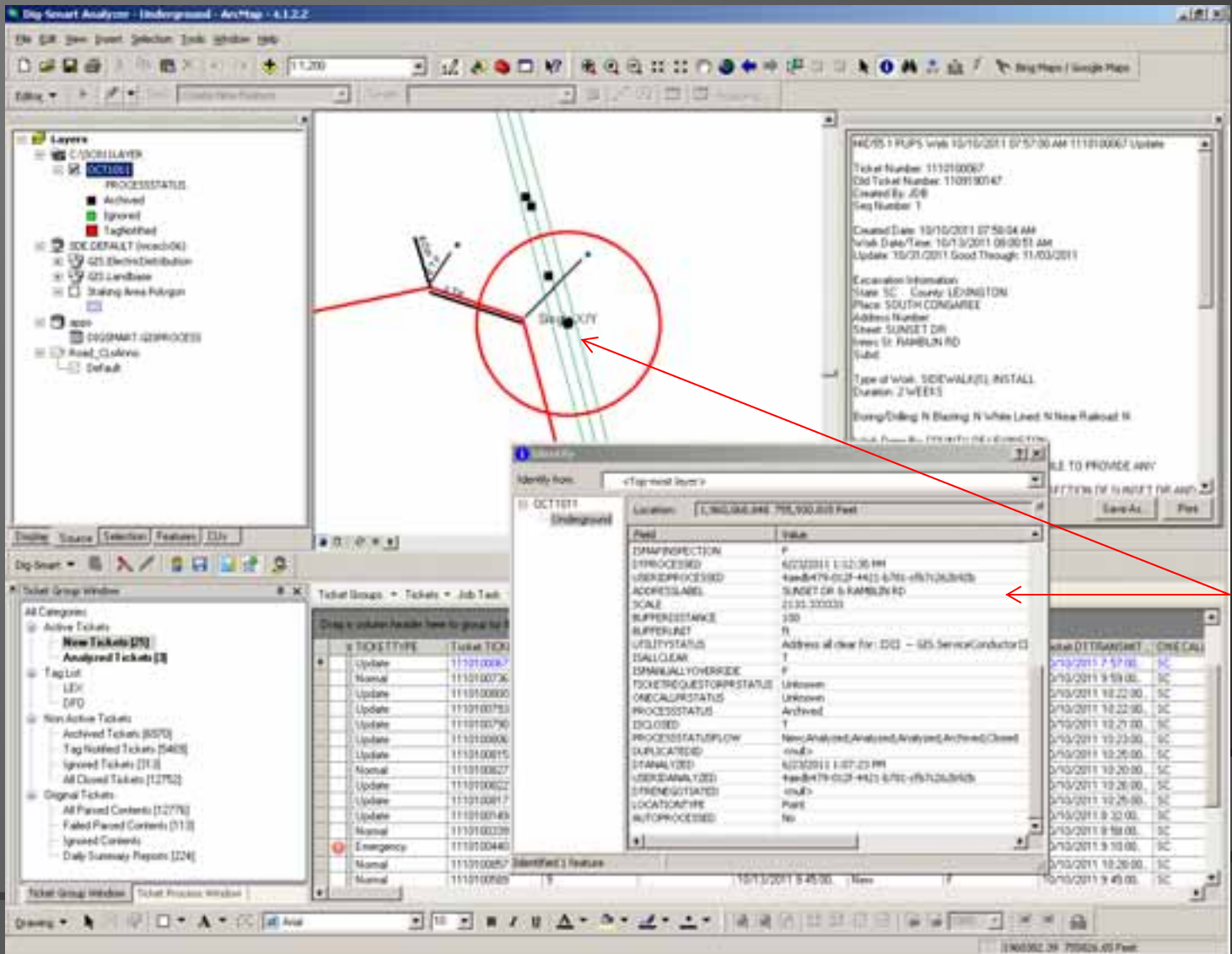
Thematic sorts can occur from any table in the schema and be joined to other schemas as necessary



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ArcMap Tool "Identify" Used To Research Previous Tickets



As long as table joins have occurred, clicking on a completed ticket from the past retrieves all historical information.

Useful for proximity searches and redundant ticket requests



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Dig-Smart Table Reports on Tickets by Tag Assignment

Report Viewer

Main Report

Ticket Number	Received At	Analyzed At	Notified At
1110070429	10/7/2011 9:45:34AM	10/7/2011 10:06:41AM	10/7/2011 10:06:54AM
1110070449	10/7/2011 9:49:48AM	10/7/2011 10:06:42AM	10/7/2011 10:07:16AM
1110070765	10/7/2011 10:57:16AM	10/7/2011 11:37:29AM	10/7/2011 11:37:46AM
1110070924	10/7/2011 11:05:40AM	10/7/2011 11:37:29AM	10/7/2011 11:37:41AM
1110070861	10/7/2011 11:10:36AM	10/7/2011 11:39:24AM	10/7/2011 11:39:33AM
1110070889	10/7/2011 11:12:38AM	10/7/2011 11:39:24AM	10/7/2011 11:39:41AM
1110070970	10/7/2011 11:23:34AM	10/7/2011 11:41:41AM	10/7/2011 11:41:51AM
1110070975	10/7/2011 11:34:10AM	10/7/2011 11:41:41AM	10/7/2011 11:42:24AM
1110070978	10/7/2011 11:34:29AM	10/7/2011 11:41:41AM	10/7/2011 11:42:15AM
1110070981	10/7/2011 11:35:24AM	10/7/2011 11:41:41AM	10/7/2011 11:42:00AM
1110070984	10/7/2011 11:35:10AM	10/7/2011 11:41:41AM	10/7/2011 11:42:05AM
1110071231	10/7/2011 1:07:11PM	10/7/2011 1:15:03PM	10/7/2011 1:15:12PM
1110071457	10/7/2011 2:40:08PM	10/7/2011 2:51:47PM	10/7/2011 2:52:22PM

Tag Name:	LEX	Total	46% in total
Notified	7	2,503	46%
1103010090	3/1/2011 8:10:15AM	3/1/2011 8:42:25AM	3/1/2011 8:44:12AM
1103010091	3/1/2011 8:10:14AM	3/1/2011 8:42:26AM	3/1/2011 8:44:25AM
1103010096	3/1/2011 8:10:18AM	3/1/2011 8:42:25AM	3/1/2011 8:44:01AM
1103010099	3/1/2011 8:10:21AM	3/1/2011 8:42:25AM	3/1/2011 8:43:52AM
1103010102	3/1/2011 8:10:32AM	3/1/2011 8:42:24AM	3/1/2011 8:43:36AM
1103010104	3/1/2011 8:10:49AM	3/1/2011 8:42:24AM	3/1/2011 8:43:24AM
1103010106	3/1/2011 8:11:06AM	3/1/2011 8:42:24AM	3/1/2011 8:43:07AM
1103010289	3/1/2011 8:40:49AM	3/1/2011 8:46:18AM	3/1/2011 8:46:27AM
1103010667	3/1/2011 9:40:54AM	3/1/2011 10:52:03AM	3/1/2011 10:53:12AM
1103010661	3/1/2011 9:45:12AM	3/1/2011 10:52:04AM	3/1/2011 10:53:34AM
1103010668	3/1/2011 9:46:06AM	3/1/2011 10:52:04AM	3/1/2011 10:53:23AM
1103010619	3/1/2011 9:47:05AM	3/1/2011 10:52:04AM	3/1/2011 10:53:44AM
1103010629	3/1/2011 9:48:21AM	3/1/2011 10:52:04AM	3/1/2011 10:53:05AM
1103010979	3/1/2011 10:36:28AM	3/1/2011 10:52:05AM	3/1/2011 10:54:09AM
1103011486	3/1/2011 12:29:27PM	3/1/2011 12:44:28PM	3/1/2011 12:45:21PM
1103012299	3/1/2011 3:31:38PM	3/2/2011 1:42:42PM	3/2/2011 1:45:58PM
1103012342	3/1/2011 3:42:24PM	3/2/2011 1:42:30PM	3/2/2011 1:44:46PM
1103012510	3/1/2011 4:27:44PM	3/2/2011 1:42:40PM	3/2/2011 1:45:05PM
1103020001	3/2/2011 5:18:36AM	3/2/2011 1:42:41PM	3/2/2011 1:45:27PM
1103020069	3/2/2011 7:46:36AM	3/2/2011 1:42:43PM	3/2/2011 1:46:34PM
1103020182	3/2/2011 8:23:02AM	3/2/2011 1:42:44PM	3/2/2011 1:46:48PM
1103020266	3/2/2011 8:41:51AM	3/2/2011 11:05:11AM	3/2/2011 11:05:28AM
1103020570	3/2/2011 9:23:07AM	3/2/2011 1:42:45PM	3/2/2011 1:47:21PM
1103020606	3/2/2011 9:26:47AM	3/2/2011 1:42:46PM	3/2/2011 1:47:49PM
1103020608	3/2/2011 9:26:57AM	3/2/2011 1:42:46PM	3/2/2011 1:47:40PM
1103020660	3/2/2011 9:58:06AM	3/2/2011 11:05:11AM	3/2/2011 11:05:36AM

Current Page No.: 14 Total Page No.: 144 Zoom Factor: 100%

In addition to map reports, table reports can be created based on date/time variables



GIS Centric One Call Ticket Management

Mid-Carolina Electric Cooperative (MCEC)

Dig-Smart Table Reports on Tickets by Ticket Type

Report Viewer

Print Report

Ticket Volume By Ticket Type Report

From: 9/26/2011 To: 9/26/2011

Ticket Number	Received At	Street Name	Company Name
Ticket type: Cancel			
1109300528	9/26/2011 9:40 15AM	HIGHWAY 378	total: 2 2% in total
1109300515	9/26/2011 8:39 29PM	268LOOP RD	GEORGIA BOWERS, EDWARDS TELECOMMUNICATIONS INC
Ticket type: Emergency			
1109300505	9/26/2011 9:31 56AM	806BAFFIN BAY RD	total: 1 2% in total
TONYA BAKER, CITY OF COLUMBIA			
Ticket type: Normal			
1109300138	9/26/2011 8:17 05AM	268MELAN PASS	total: 57 89% in total
1109300189	9/26/2011 8:35 04AM	2021OLD CHARLESTON RD	BRENDA BOWLES, AT&T UTILITY OPERATIONS
1109300278	9/26/2011 8:47 33AM	104SHOAL CT	ALLISON SHELTON, ALLISON SHELTON
1109300322	9/26/2011 8:53 41AM	208SWEETWOOD CR	HAL BOWERS, BOWERS LANDSCAPING, INC
1109300383	9/26/2011 9:10 05AM	HIGHWAY 378	TANYA BAKER, CITY OF COLUMBIA
1109300389	9/26/2011 9:11 15AM	240MARY DR	GEORGIA BOWERS, EDWARDS TELECOMMUNICATIONS INC
1109300480	9/26/2011 9:20 23AM	87 PETERS CHURCH RD	DANIEL CAYTON, MASTER CONSTRUCTION COMPANY, INC
1109300486	9/26/2011 9:20 13AM	HIGHWAY 378	GEORGIA BOWERS, EDWARDS TELECOMMUNICATIONS INC
1109300523	9/26/2011 9:38 33AM	HIGHWAY 378	GEORGIA BOWERS, EDWARDS TELECOMMUNICATIONS INC
1109300530	9/26/2011 9:40 16AM	318DAWSON PARK DR	GEORGIA BOWERS, EDWARDS TELECOMMUNICATIONS INC
1109300539	9/26/2011 9:40 23AM	328DAWSON PARK DR	WANDA GATES, FOREMOST PIPELINE
1109300537	9/26/2011 9:41 05AM	HIGHWAY 378	WANDA GATES, FOREMOST PIPELINE
1109300544	9/26/2011 9:41 36AM	304DAWSON PARK DR	GEORGIA BOWERS, EDWARDS TELECOMMUNICATIONS INC
1109300564	9/26/2011 9:46 05AM	120MARYDALE LN	WANDA GATES, FOREMOST PIPELINE
1109300582	9/26/2011 9:48 45AM	HIGHWAY 378	TAMMY THREATT, DUCKSBACK, INC
1109300674	9/26/2011 10:03 25AM	1143COUNTS FERRY RD	GEORGIA BOWERS, EDWARDS TELECOMMUNICATIONS INC
1109300756	9/26/2011 10:22 37AM	408FOXFIRE DR	MARLA SLIGH, MARLA SLIGH
1109300770	9/26/2011 10:26 06AM	104ASCOT COURT	CICELY WHITE, CITY OF COLUMBIA WATER DEPARTMENT
1109300788	9/26/2011 10:29 35AM	34LIMMEL RD	BYRON GREENE, WASTEWATER MAINTENANCE DIVISION
			CICELY WHITE, CITY OF COLUMBIA WATER DEPARTMENT

Current Page No.: 1 Total Page No.: 14 Zoom Factor: 100%

In addition to map reports, table reports can be created based on date/time variables



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Summary

- *Dig-Smart Implemented in 2007 for One Call Ticket Management*
- *GIS Centric Being Core Element/Requirement With SDE Integration*
- *Small Deployment, Approximately 22,000 Tickets Annually*
- *Percent Requiring Staking Varies From 33%-66% On Average, Varied Per Month*
- *Mobile Workforce Implementation in 2012 (i.e. GPS, AVL, etc)*
- *Dig-Smart Field Implementation 2012*
- *Objectives Achieved:*
 - Reduced Time Spent Completing Requests*
 - Historical Tickets Stored In-House, Oracle Database*
 - GIS Can Produce Maps Anytime*
 - Positive Response Compliance (Future SC811 Initiative)*



GIS Centric One Call Ticket Management

Mid-Carolina Electric Cooperative (MCEC)

THANK YOU

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