

SCDOT EPPS

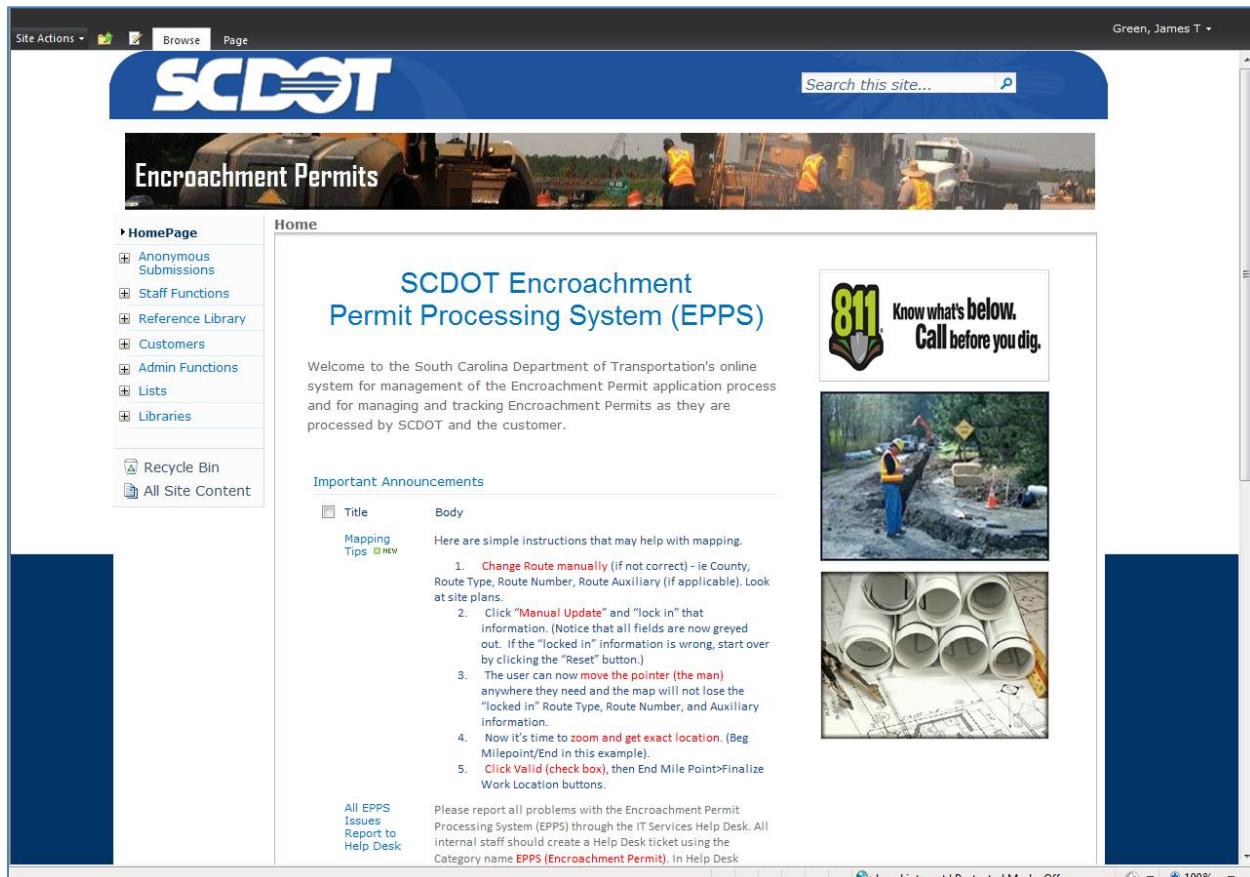
(Encroachment Permit Processing System)

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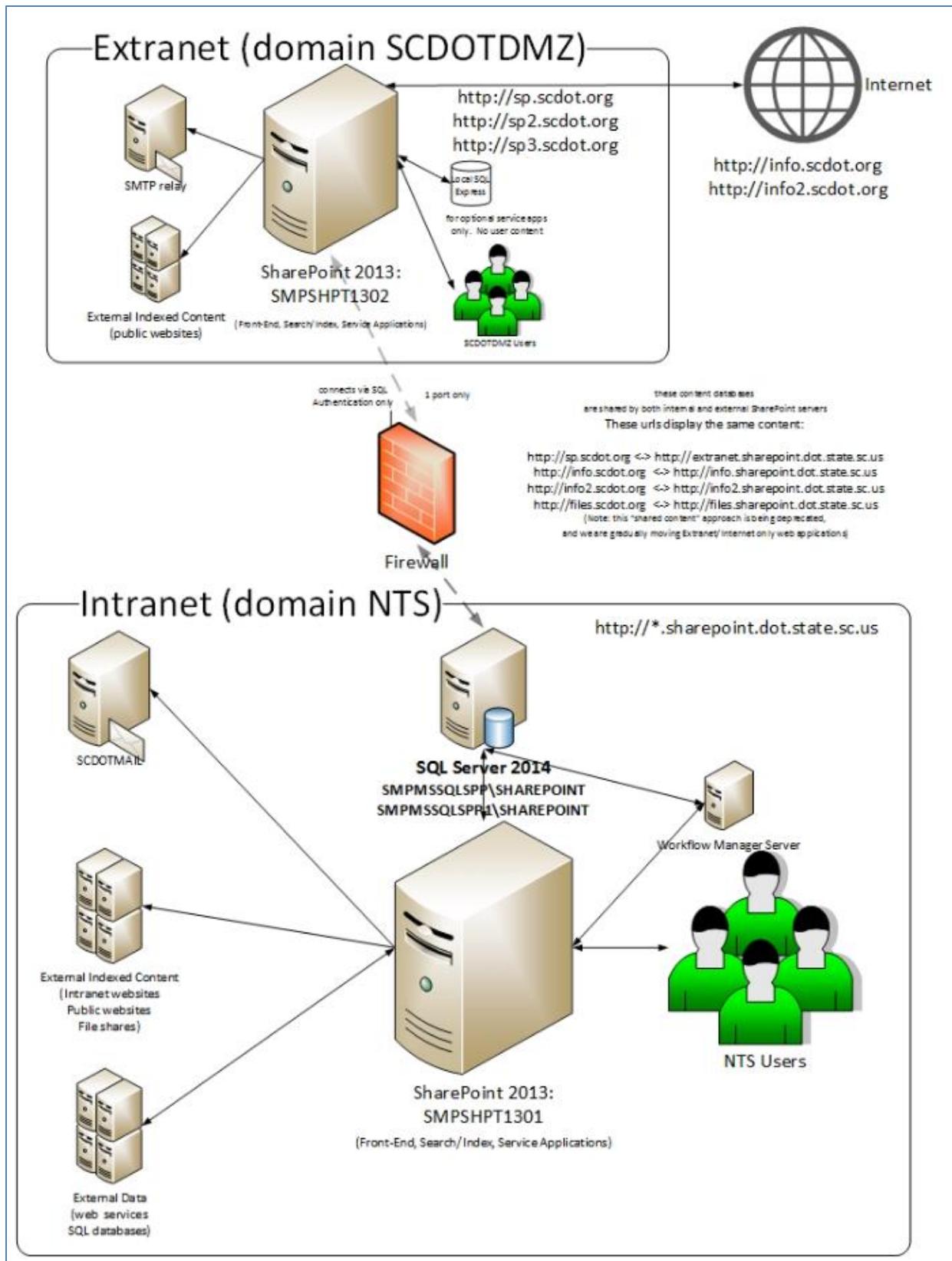
Welcome to the South Carolina Department of Transportation's online system for managing Encroachment Permits. EPPS is a Microsoft SharePoint-based extranet solution that provides secure access to records and documents by SCDOT staff and our customers.



Environment, Development Tools, and External Data Dependencies

This web application is Microsoft SharePoint-centric. The underlying technologies include SharePoint Server 2013, SharePoint Designer 2013, Visual Studio 2017 (C#.Net), InfoPath 2013, and SQL Server 2014. The application consists of multiple SharePoint site collections (mitigates MS constraint of one content database per site collection) which are developed and maintained on the corporate domain (NTS). The end user interface is extended to a SharePoint web front end server located on SCDOT's extranet domain (SCDOTDMZ). Anonymous access is provided through a separate site collection allowing one-time or infrequent users to access a limited set of forms and submit an encroachment application.

2016 update: With the exception of EPPS, all SCDOT extranet solutions are accessible from both the NTS and SCDOTDMZ domains. The NTS extension for EPPS was discontinued in order to mitigate an issue when rehydrating Nintex Workflow instances from timer job queues following a pause for duration or event.



SCDOT staff developers create and maintain complex forms, reports, event receivers, workflows, and batch processing jobs. Written in C#.Net, these custom solutions may contain vendor and/or open-source tools to provide or enhance the application's features. Vendor and open source developer tools include:

- **JavaScript.** Open source libraries are stored in a SharePoint library and used to enhance out-of-the-box features such as:
 - Extended Workflow Actions
 - Site Navigation
 - Email with Multiple attachments
- **jQuery.** SPServices is a jQuery library which abstracts SharePoint's Web Services. Used in non-InfoPath customized forms, the functions work entirely client side and require no server install.
- **Muhimbi.** This product is used in the user interface and Nintex workflows to convert of common file types to Adobe PDF;
- **Nintex.** This product is used to produce complex workflows including state machines.
- **Google Maps.** This product is used in a custom user form to allow SCDOT staff to precisely geocode encroachment work location from the street names and location descriptions provided by customers. The license POC is David Bland (web team);
- **ESRI ArcGIS for SharePoint.** This product is used to create maps displaying geocoded locations.

External Data Dependency

EPPS has one critical External Data Dependency: Roadway Data Services is responsible for the collection, analysis and reporting of information pertaining to SCDOT Road Inventory. This data is maintained in the Roadway Information Management System (RIMS) and made available to most users through the ITMS interface. EPPS uses a custom web service created by **Rajib Banerjee (PMG's Principal Consultant, rajib.banerjee@pmgpro.com, (256) 457-6777)** to provide methods to convert a geocoded location to the "County - Route Type – Route Number – Auxiliary - Mile Point" format which is printed on approved encroachment permit documentation.

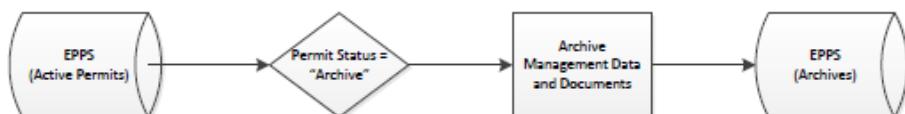
Outage of the two RMIS web services creates a WORK STOPPAGE EVENT as Customers will not be able to create new applications and Staff will not be able to geocode existing work locations.

Multiple Content Databases

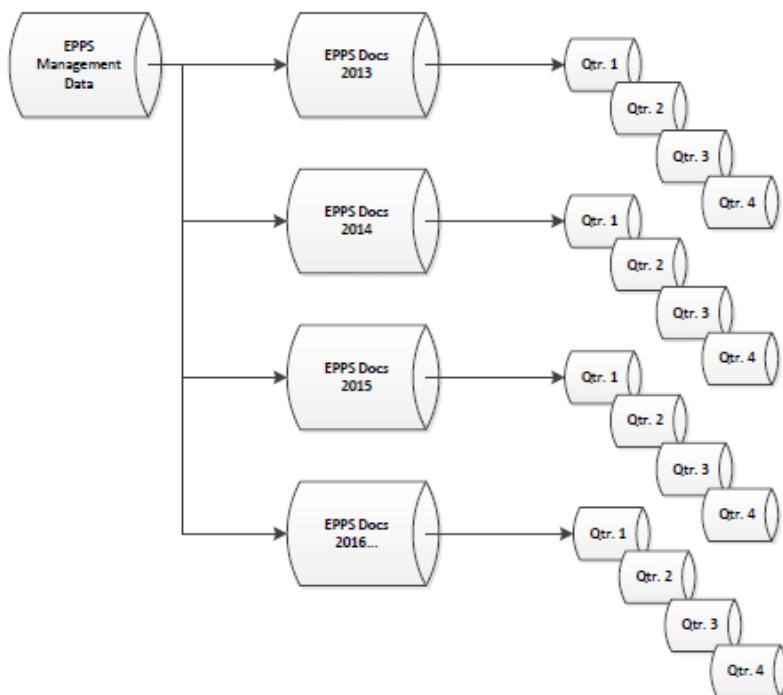
Cross site collection management of application data and documents is achieved using custom solutions. The intent is to manage certain EPPS lists such as the Permit Data, Routing Data, Special Provisions, Locations, and Status and Review Logs on the current content database. Related Documents will be migrated to a separate site collection with its own database (will require management of separate but identical security).

In 2016, we began migrating documents to "secondary" content databases with a final goal to remove all libraries from the original content database and create new "secondary" content database for application libraries on a yearly schedule. The state retention schedule does not permit destruction.

The original solution is in crisis.
 We are controlling issues caused by number of documents in any library but are now experiencing issues caused by site collection database size in excess of recommended 2000 GB.
 Current size is > 700 GB



Proposal: Create a New Site Collection each Calendar Year to manage 4 Libraries each with target of < 30,000 files
 Goal is keep database size each site collection to < 200 GB



Content Types

Implementing Content Types will allow automation to create new lists and libraries as defined capacity limitations are reached. The intent is to manage active master data records on one list (Permit Data).

Applications/Permits that are complete, expired, canceled, or denied are required for reporting purposes for one year. Afterward, they could be migrated to an archive list to accommodate retention schedules.

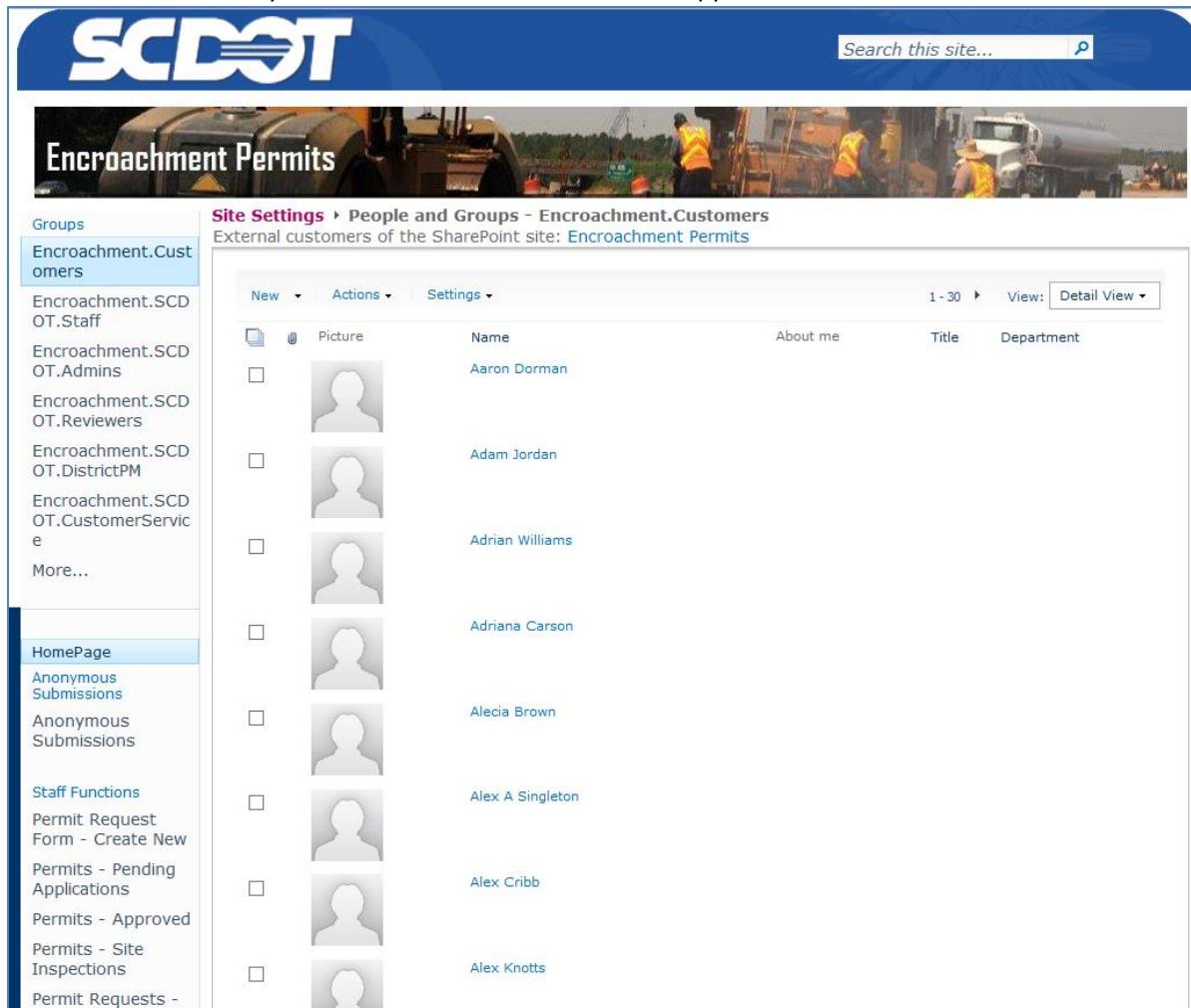
Reusable Workflows

Implementing Content Types also allows for the creation and use of reusable workflows. As automation creates new lists and libraries, these workflows will be correctly associated by content type.

Site Users and Security

A Site User must be a member of Active Directory before being added to a SharePoint group(s). Accountholder Customers are members of the SCDOTDMZ domain and the Encroachment. Customers SharePoint group. Accountholder customers have managed access to their own submissions and related documents. SCDOT encroachment staff can provide access to additional documents.

Single-use or low-volume customers can use an anonymous form hosted on our internet site to submit permit applications. Anonymous applications must be manually accepted as they do not automatically trigger workflow automation. Once accepted, they are managed normally within EPPS except that all contact with the anonymous customer is external to this application.



The screenshot shows a SharePoint page for the 'Encroachment Permits' site. The top navigation bar includes the SCDOT logo, a search bar, and a link to 'Search this site...'. The main content area has a banner image of construction workers at a site. Below the banner, the page title is 'Encroachment Permits'. The breadcrumb navigation shows 'Site Settings > People and Groups - Encroachment.Customers'. The page content is a list of users in the 'Encroachment.Customers' group. The list includes columns for Picture, Name, About me, Title, and Department. The names listed are Aaron Dorman, Adam Jordan, Adrian Williams, Adriana Carson, Alecia Brown, Alex A Singleton, Alex Cribb, and Alex Knotts. The left sidebar contains a 'Groups' section with a list of SharePoint groups: Encroachment.Cust omers, Encroachment.SCD OT.Staff, Encroachment.SCD OT.Admins, Encroachment.SCD OT.Reviewers, Encroachment.SCD OT.DistrictPM, Encroachment.SCD OT.CustomerServic e, and 'More...'. Below the groups is a 'HomePage' section with links to 'Anonymous Submissions', 'Staff Functions', 'Permit Request Form - Create New', 'Permits - Pending Applications', 'Permits - Approved', 'Permits - Site Inspections', and 'Permit Requests -'.

Picture	Name	About me	Title	Department
	Aaron Dorman			
	Adam Jordan			
	Adrian Williams			
	Adriana Carson			
	Alecia Brown			
	Alex A Singleton			
	Alex Cribb			
	Alex Knotts			

Groups are given default permissions which can be overridden by breaking security inheritance on any list, list item, document library, or document. **[Security Scope Note:** The “Limited Access” permission level is introduced whenever inheritance is broken. This complicates the security management of the permit libraries because as members are added or removed from security groups, SharePoint generates a new security scope that is functionally equivalent to one that may already exist. The boundary for security scopes is 50,000 per library.]

URL	Permission Level
http://sp2.scdot.org	Limited Access
http://sp2.scdot.org/EncPermits	Limited Access, Contribute - No Delete
http://sp2.scdot.org/EncPermits/Lists/Announcements	Read, Limited Access
http://sp2.scdot.org/EncPermits/Lists/Document Types	Read, Limited Access
http://sp2.scdot.org/EncPermits/Lists/EncPermit Special Provisions	Limited Access, Contribute - No Delete
http://sp2.scdot.org/EncPermits/Lists/Encroachment HQ Staff List	Read, Limited Access
http://sp2.scdot.org/EncPermits/Lists/Encroachment Staff County	Read, Limited Access
http://sp2.scdot.org/EncPermits/Lists/Encroachment Staff District	Read, Limited Access
http://sp2.scdot.org/EncPermits/Lists/Encroachment Type	Read, Limited Access
http://sp2.scdot.org/EncPermits/Lists/Location Information	Limited Access, View Only, Contribute - No Delete
http://sp2.scdot.org/EncPermits/Lists/Map Counties	Read, Limited Access
http://sp2.scdot.org/EncPermits/Lists/Permit Data	Limited Access, Contribute - No Delete, View Only
http://sp2.scdot.org/EncPermits/Lists/Route Auxiliary	Read, Limited Access
http://sp2.scdot.org/EncPermits/Lists/Route Types	Read, Limited Access
http://sp2.scdot.org/EncPermits/Lists/Special Provisions	Read, Limited Access
Status and Review Audit">http://sp2.scdot.org/EncPermits/Lists>Status and Review Audit	Contribute - No Delete
http://sp2.scdot.org/EncPermits/SitePages	Limited Access, View Only
http://sp2.scdot.org/EncPermitsv1	Limited Access, Contribute - No Delete
http://sp2.scdot.org/EncPermitsv1/Lists/Applications	Limited Access, View Only, Contribute - No Delete
http://sp2.scdot.org/EncPermitsv1/Lists/Encroachment Workflow Data	Limited Access, View Only, Contribute - No Delete
http://sp2.scdot.org/EncPermitsv1/SitePages	Read, Limited Access
http://sp2.scdot.org/EncPermitsv1/User Manuals	Limited Access, View Only
http://sp2.scdot.org/FormServerTemplates	Contribute - No Delete
http://sp2.scdot.org/Notification Pages	Limited Access
http://sp2.scdot.org/PublishedLinks	Limited Access
http://sp2.scdot.org/Quick Deploy Items	Limited Access
http://sp2.scdot.org/SiteCollectionImages	Limited Access
http://sp2.scdot.org/Variation Labels	Limited Access

SharePoint: Lists and Libraries

Though residing in a content database on SQL Server, lists and libraries are not separate tables but rather virtual constructs in the “AllLists” table. List items are stored in a “AllUserData” table while files are stored in the “AllDocs” table. Metadata for “Permit Documents” is defined by a site content type, but other lists use local data column definitions.

Document Libraries		
 Connection Library[Webservice]	Wbservice library.	1 2 months ago
 DOM Dashboard Report (zip files)		17 3 weeks ago
 Drop Off Library	After their properties are filled out, files uploaded to this library are automatically moved to the correct library or folder according to rules created by the owner of this site.	1 4 weeks ago
 EPPS Report		86 13 hours ago
 EPPSExcelReportIC		3 6 weeks ago
 Evacuation Reports		6 10 months ago
 Permit Applications	This library stages a PDF version of the original application until it is ready to be routed by Content Organizer to a destination library to will manage this and all other documentation required by SCUDOT staff to process an encroachment permit.	21 5 minutes ago
 Permit Documents 2013 APR		9135 8 days ago
 Permit Documents 2013 JUL		23066 7 hours ago
 Permit Documents 2013 OCT		21720 2 hours ago
 Permit Documents 2014 APR		27603 6 hours ago
 Permit Documents 2014 APR II		17145 5 days ago
 Permit Documents 2014 JAN		23842 3 days ago
 Permit Documents 2014 JUL		17188 37 minutes ago
 Permit Documents 2014 OCT		29464 56 minutes ago
 Permit Documents 2015 APR		13168 4 minutes ago
 Permit Documents 2015 JAN		30171 14 minutes ago
 Permit Request Forms Saved (XML)	This library contains forms which have been partially filled and not yet submitted. Items in this library can be used as templates for later submissions.	1564 4 weeks ago
 Permit Request Forms Submitted (XML)	This library contains forms which have submitted for processing by SCUDOT Staff. Items in this library cannot be reused.	1882 13 minutes ago
 Reference Materials	This library contains various materials for SCUDOT staff members.	10 3 weeks ago
 Reports	EPPS report development library.	6 3 weeks ago
 Shared Documents	Share a document with the team by adding it to this document library.	6 2 months ago
 Site Assets	Use this library to store files which are included on pages within this site, such as images on Wiki pages.	11 6 weeks ago
 Site Pages	Use this library to create and store pages on this site.	86 5 days ago
 SpecialProject		2 16 months ago
 Supporting Documents	This library contains secondary documents from Anonymous submittals.	27 22 minutes ago
 Technical Documentation	Technical Information Library.	11 5 days ago
 Web Part Pages	Web Part Library.	5 5 weeks ago

The above image was captured on 6/30/2015.

Lists		
 Announcements	This announcement list is for internal users only.	60 7 days ago
 Announcements for Customers	This announcement list is for the customer view only. Use for important announcements.	39 2 weeks ago
 Application Number	List that manages the value of the next permit number.	1 8 minutes ago
 Bug Reports and Change Requests		20 8 months ago
 Calendar	Use the Calendar list to keep informed of upcoming meetings, deadlines, and other important events.	0 8 months ago
 Contact Info - Permit Managers	Contact information for County Permit Managers.	4 3 weeks ago
 Contact Us - Submissions	This list manages questions and feedback generated on the public-facing site.	0 8 months ago
 Deleted Applications		0 3 months ago
 Document Types	List of Encroachment Document Types	18 8 days ago
 Document WF Triggers		1 3 weeks ago
 EncPermit Special Provisions	Special provisions assigned to the permits. Linked by permit number to master permit.	225331 26 hours ago
 Encroachment Staff - County	Staff List of potential workflow participants - County	46 4 days ago
 Encroachment Staff - Customer Organizations	List to be used for corporate accounts.	0 2 weeks ago
 Encroachment Staff - District	Staff List of potential workflow participants - District	7 3 weeks ago
 Encroachment Staff - HQ	Staff List of potential workflow participants - HQ	9 2 weeks ago
 Encroachment Types	Permit types with associated default Special Provisions.	23 4 weeks ago
 EncSpecialProvisionsII		0 2 months ago
 EncSpecialProvisionsIII		78271 24 minutes ago
 Evacuation Regions		3 2 weeks ago
 Evacuation Routes		157 2 weeks ago
 Links	Use the Links list for links to Web pages that your team members will find interesting or useful.	1 4 years ago
 Location Information	The permit locations associated with a permit application. Linked by application number to the master permit application.	30769 7 minutes ago
 Map Counties	All SC counties listed for mapping utility use.	46 10 months ago
 Permit Data	Master permit information library. Central record of the process.	22568 6 minutes ago
 Permit Status Info	Permit application status description reference list.	10 4 weeks ago
 Report Logs		44 4 weeks ago
 Role Names	Permit process role designations. Reference table for role types.	19 3 months ago
 Route Auxiliary	Route Auxiliary Type reference list.	66 5 weeks ago
 Route Types	Route type reference list.	12 5 weeks ago
 Routing Data	This is the Routing Data list	22541 6 minutes ago
 Special Provisions	Encroachment Permits Special Provisions reference list.	63 4 weeks ago
 Special Settings		12 3 days ago
 States	US state abbreviations for permit application form. Reference list.	51 4 weeks ago
 Status and Review Audit	Audit log to capture information for two events: change in status or role assignment.	235502 6 minutes ago
 Tasks	Task queue - DO NOT DELETE!!!	0 3 weeks ago

The above image was captured on 6/30/2015.

Many of these lists provide a central source for lookup values, configuration settings, or audit reporting. For example, the “Encroachment Staff – County” list maps SCOT county permit staff to three defined roles (PM = Permit Manager, RME = Resident Maintenance Engineer, and RCE = Resident Construction Engineer).

Encroachment Staff - County ▾ All Items ▾								
Staff List of potential workflow participants - County								
<input type="checkbox"/> District	County	Status	Phone Number	Email Address	PM	RME	RCE	
6	Charleston	Yes	(843) 740-1655	timmonsms@scdot.org	Timmons, Marcie S.; Murtaugh, Colleen P.; Smith, Joel J.; Blackburn, Edward D.; Murr, Brandon W.	Timmons, Marcie S.; Molinaroli, Raymond L.	Paulus, John R.; Green, Rickie L.; Guess, Turner B.; Broughton, Darlene L.; Landhan, Denise; Gaffney, Sarah; Shaw, Linda K.; Colvin, Kevin C.	
6	Colleton	Yes	(843) 538-8031	mclainela@scdot.org	McLaine, Lynda; Bishop, Adam L.; Byrd, Charles E.	Bishop, Adam L.; Byrd, Charles E.	Guess, Turner B.; Smith, Christopher B.; Gaffney, Sarah; Shaw, Linda K.; Burton, Daniel	
6	Dorchester	Yes	(843) 563-3451	wagerskn@scdot.org	Wagers, Kathy N.; Hanna, Wesley R.	Plach, David W.; Best, Tara M.	Guess, Turner B.; Gaffney, Sarah; Shaw, Linda K.	
6	Jasper	Yes	(843) 726-3431	reynoldsrsm@scdot.org	Reynolds, Ronnie M.	Russell, Malzone Brown; Oliver S.	Smith, Christopher B.; Wickenhofer, Samu; Cooke, Ralph W.	
6	Beaufort	Yes	(843) 524-7255	shulerae@scdot.org	Shuler, Antonio E.	Mulligan, Wendell M; Allen, Maurice D.	Smith, Christopher B.; Wickenhofer, Samu; Cooke, Ralph W.	
6	Berkeley	Yes	(843) 761-8481	GroomsRW@scdot.org	Austin, Robin E.; Lewis, Thomas R.; Davis, Elizabeth; Brown, Craig R.; Grooms, Robert W.	Lewis, Thomas R.; Brown, Craig R.; Grooms, Robert W.	Green, Rickie L.; Broughton, Darlene L.; Paulus, John R.; Landhan, Denise; Guess, Turner B.; Gaffney, Sarah; Shaw, Linda K.; Colvin, Kevin C.	

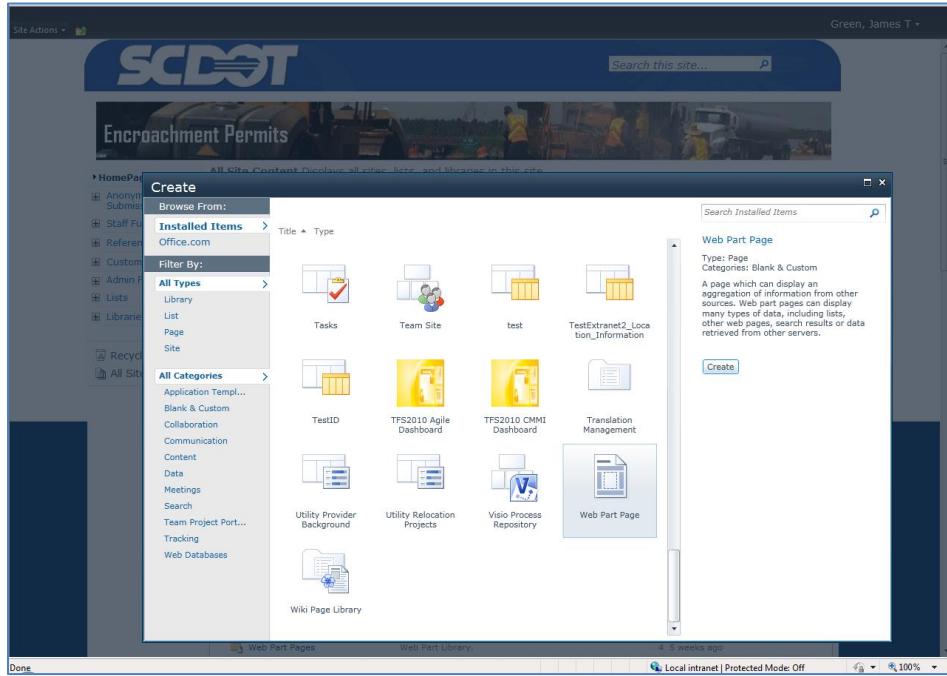
Encroachment Staff - County - Berkeley

Edit	
Save	Close
Commit	Clipboard
Actions	
County	<input type="text" value="Berkeley"/>
County Number	<input type="text" value="8"/>
District	<input type="text" value="6"/>
Active Status	<input type="text" value="Yes"/>
Contact Email Address	<input type="text" value="GroomsRW@scdot.org"/>
Contact Phone Number	<input type="text" value="(843) 761-8481"/>
PM	<input type="text" value="Austin, Robin E.; Lewis, Thomas R.; Davis, Elizabeth; Brown, Craig R.; Grooms, Robert W.;"/> County Permit Manager
RME	<input type="text" value="Lewis, Thomas R.; Brown, Craig R.; Grooms, Robert W.;"/> County Resident Maintenance Engineer
RCE	<input type="text" value="Green, Rickie L.; Broughton, Darlene L.; Paulus, John R.; Landhan, Denise; Guess, Turner B.; Gaffney, Sarah; Shaw, Linda K.; Colvin, Kevin C.;"/> County Resident Construction Engineer
Created	03/03/2012 03:27:37 by Suvarna, Shobhit
Modified	07/11/2012 09:39:57 by Green, James T

Similar lists map six District and eight HQ roles.

SharePoint Interface

Web part pages can be created directly in the SharePoint user interface. The user can select from available layout pages that inherit the site's default master page and css file(s). This ensures the site's pages all share the same "branding".



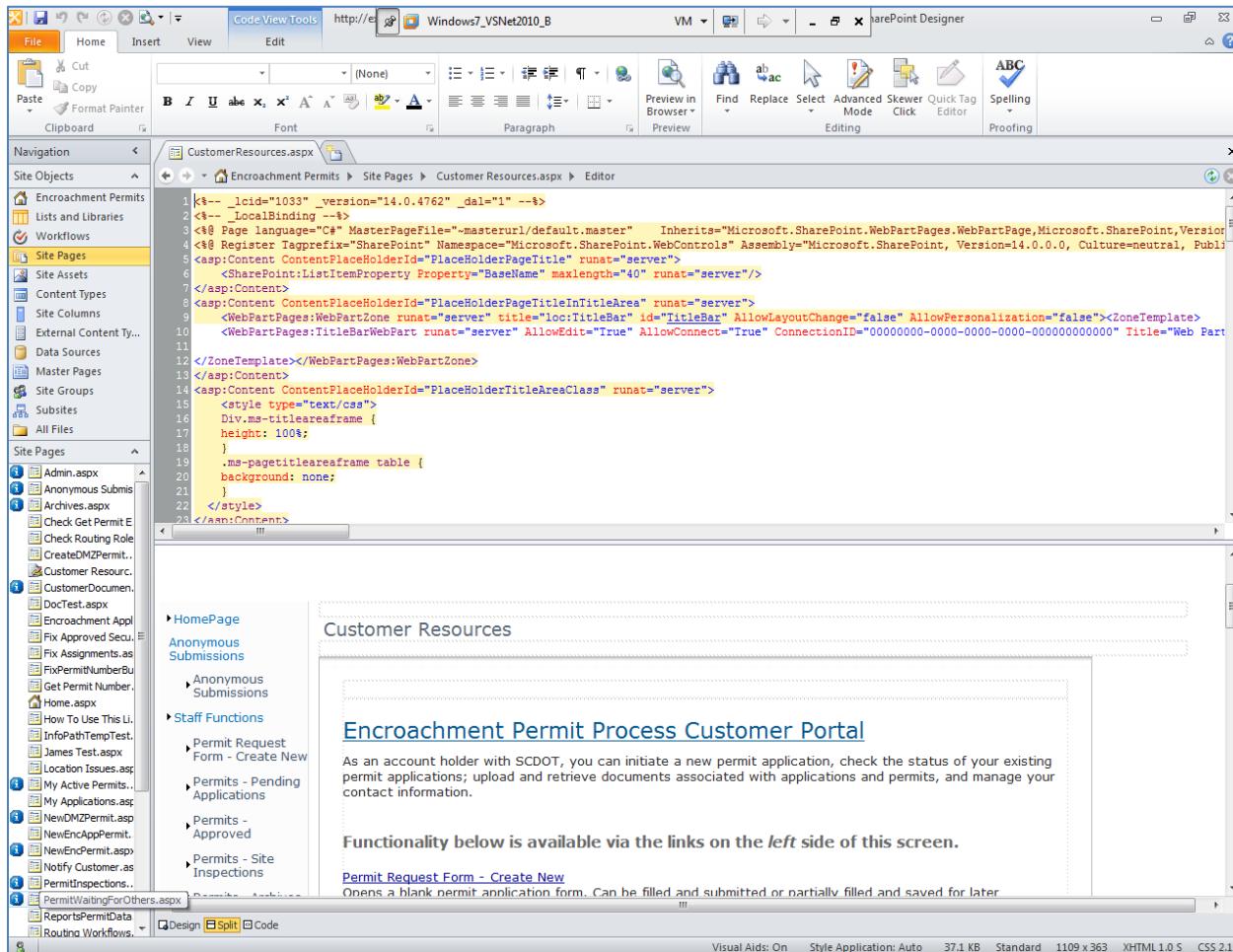
SharePoint: Site Pages

ASPX pages can be created directly in SharePoint, in SharePoint Designer, or in Visual Studio.

A screenshot of the SharePoint 'Site Pages' library. The library contains a list of files, all of which are 'Wiki Page' type files with an '.aspx' extension. The columns in the list view are 'Name', 'Content Type', 'Size', 'Type', 'Modified Date', 'Modified By', and 'Comments'. The files listed include Admin.aspx, AnonymousSubmissions.aspx, Arch.aspx, CheckRoutingRules.aspx, CreateM2Permit.aspx, CustomerResources.aspx, CustomerDocuments.aspx, DocTest.aspx, EncroachmentApplication.aspx, FixApprovedSecurity.aspx, InfoPathTempTest.aspx, JamesTest.aspx, Home.aspx, HowToUseThisLibrary.aspx, InfoPathTempTest.aspx, JamesTest.aspx, LocationIssues.aspx, MyActivePermits.aspx, MyAppPermit.aspx, NewGMPermit.aspx, NewEncAppPermit.aspx, NewEndPermit.aspx, NotifyCustomer.aspx, PermitInspections.aspx, PermitWaitingForOthers.aspx, ReportPermitData.aspx, ReportPermitStatus.aspx, RunRoutingWorkflow.aspx, SavedApplications.aspx, StaffFunctions.aspx, TestFilters.aspx, TestHideNewItem.aspx, TestWebPart.aspx, TestWebPartPage.aspx, UpdateAssignedTo.aspx, and WorkflowErrors.aspx. The 'Modified Date' column shows various dates from May 18, 2013, to June 24, 2013.

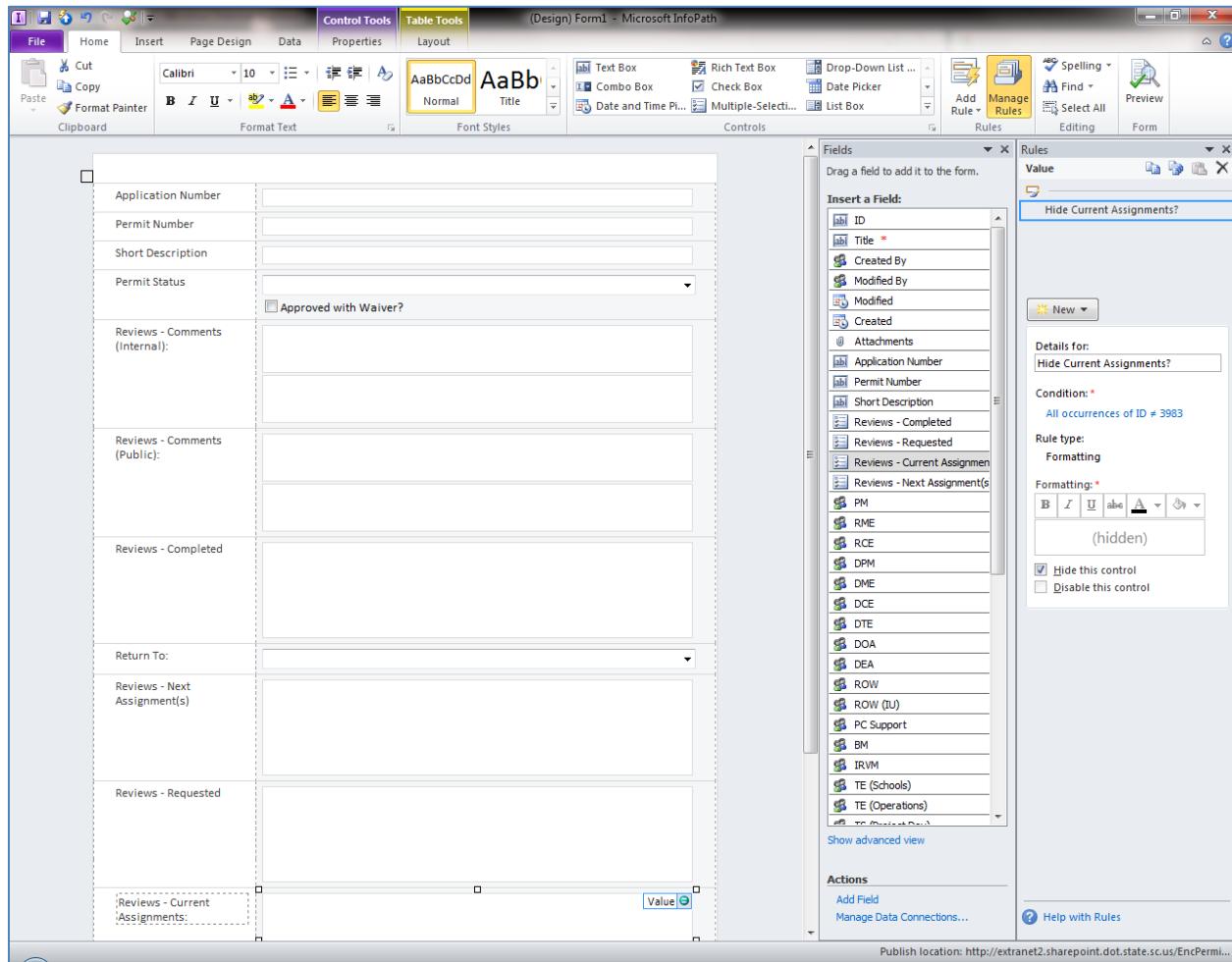
SharePoint Designer

Site pages can be created and/or customized in Designer. J-Query and JavaScript are easily incorporated into SharePoint solutions.



InfoPath

InfoPath can be used to create fully trusted (locally installed) and/or web-hosted forms. Many of the EPPS list forms have been customized using InfoPath.



Post-Transaction Processing

Workflows: SharePoint Designer 2010 / Nintex

Workflows can be used to create, modify, and/or delete list items and library documents. Nintex Workflow provides for the creation of state machines allowing less dependence on Visual Studio workflows. Workflows can be automatically triggered by create and/or change events. They can also be initiated manually or programmatically.

Site Settings * Site Workflow Inventory							
Workflow Name		Workflow Type	Modified By	Modified	Published Version	Last Saved Version	Last Run Time
	Permit Document[NWF]	Reusable workflow template	<input type="checkbox"/> James T. Green	4/12/2019 4:30:41 PM	26.0	26.0	4/24/2020 12:53:01 PM
Permit Data	Generate Default Special Provisions[NWF]	List workflow	<input type="checkbox"/> Shobhit Suvarna	5/18/2018 4:47:23 PM	33.0	33.0	4/24/2020 12:51:21 PM
Permit Data	Permit Workflow SP2[NWF]	List workflow	<input type="checkbox"/> Shobhit Suvarna	5/22/2019 2:15:53 PM	16.0	16.0	4/24/2020 12:51:18 PM
Location Information	Update Record[NWF]	List workflow	<input type="checkbox"/> Shobhit Suvarna	2/27/2020 5:23:21 PM	6.0	6.1	4/24/2020 12:50:57 PM
Permit Data	Initiate Automation[NWF]	List workflow	<input type="checkbox"/> Shobhit Suvarna	6/25/2019 11:16:39 AM	323.0	323.0	4/24/2020 12:50:57 PM
Routing Data	Routing Preprocessor NWF	List workflow	<input type="checkbox"/> Shobhit Suvarna	4/12/2019 2:38:53 PM	60.0	60.0	4/24/2020 12:46:25 PM
Permit Data	Initiate Automation Admin[NWF]	List workflow	<input type="checkbox"/> Shobhit Suvarna	1/23/2019 10:24:02 AM	38.0	38.0	4/1/2020 1:27:34 PM
Major Updates	OnchangeActiveNWF	List workflow	<input type="checkbox"/> Srinivas Talla	3/9/2020 11:59:18 AM	3.0	3.0	3/9/2020 2:58:16 PM
Location Information	Update Location Information Records [NWF]	List workflow	<input type="checkbox"/> James T. Green	2/27/2020 1:56:30 PM	4.0	4.0	3/2/2020 7:52:07 AM
Location Information	XYUpdate	List workflow	<input type="checkbox"/> Shobhit Suvarna	10/25/2019 5:45:43 PM	3.0	3.1	1/23/2020 10:51:26 AM
Location Information	Update Encroachment Type and Permit Status Admin[NWF]	List workflow	<input type="checkbox"/> Shobhit Suvarna	12/25/2019 2:57:19 PM	20.0	20.0	1/8/2020 3:08:05 PM
Permit Data	UpdateLocationInfoPSET[NWF]	List workflow	<input type="checkbox"/> Shobhit Suvarna	5/2/2019 2:27:48 PM	1.0	1.1	5/2/2019 5:34:49 PM
Permit Data	MoveSignedDoc[NWF]	List workflow	<input type="checkbox"/> Shobhit Suvarna	3/28/2019 1:21:33 PM	3.0	3.0	3/28/2019 1:11:34 PM
EPPS Report	Weekly Report Send Email[NWF]	List workflow	<input type="checkbox"/> Shobhit Suvarna	10/23/2017 9:28:26 AM	23.0	23.0	1/22/2018 2:26:53 PM
DOM Dashboard Report (zip files)	DOM Dashboard Report[NWF]	List workflow	<input type="checkbox"/> Shobhit Suvarna	5/4/2017 10:22:15 AM	21.0	21.0	10/10/2017 1:48:50 PM
	Start Permit Document Workflow SP2[NWF]	Reusable workflow template	<input type="checkbox"/> Shobhit Suvarna	3/23/2017 3:00:48 PM	2.0	2.0	3/24/2017 3:37:27 PM
	Permit Document Workflow Extranet2[NWF]	Reusable workflow template	NT\$ SUVARNAS	3/22/2017 5:25:30 PM	5.0	5.0	3/24/2017 3:37:26 PM
	Permit Document Workflow[NWF]	Reusable workflow template	<input type="checkbox"/> Shobhit Suvarna	3/22/2017 5:28:01 PM	140.0	140.0	3/24/2017 3:37:25 PM
Permit Documents 2017 JAN	Start P2Dextranet2	List workflow	NT\$ SUVARNAS	3/23/2017 5:44:55 PM	3.0	3.0	3/23/2017 6:28:03 PM
Permit Documents 2017 JAN	Start Permit Document	List workflow	<input type="checkbox"/> Shobhit Suvarna	3/23/2017 5:48:38 PM	3.0	3.0	3/23/2017 6:28:02 PM
EPPSExcelReportIC	Copy Item	List workflow	<input type="checkbox"/> Srinivas Talla	3/19/2017 8:26:07 PM	8.0	8.0	3/19/2017 8:26:39 PM
Permit Data	Permit Workflow[NWF]	List workflow	<input type="checkbox"/> Shobhit Suvarna	3/18/2017 9:13:31 PM	26.0	26.0	3/18/2017 9:11:00 PM

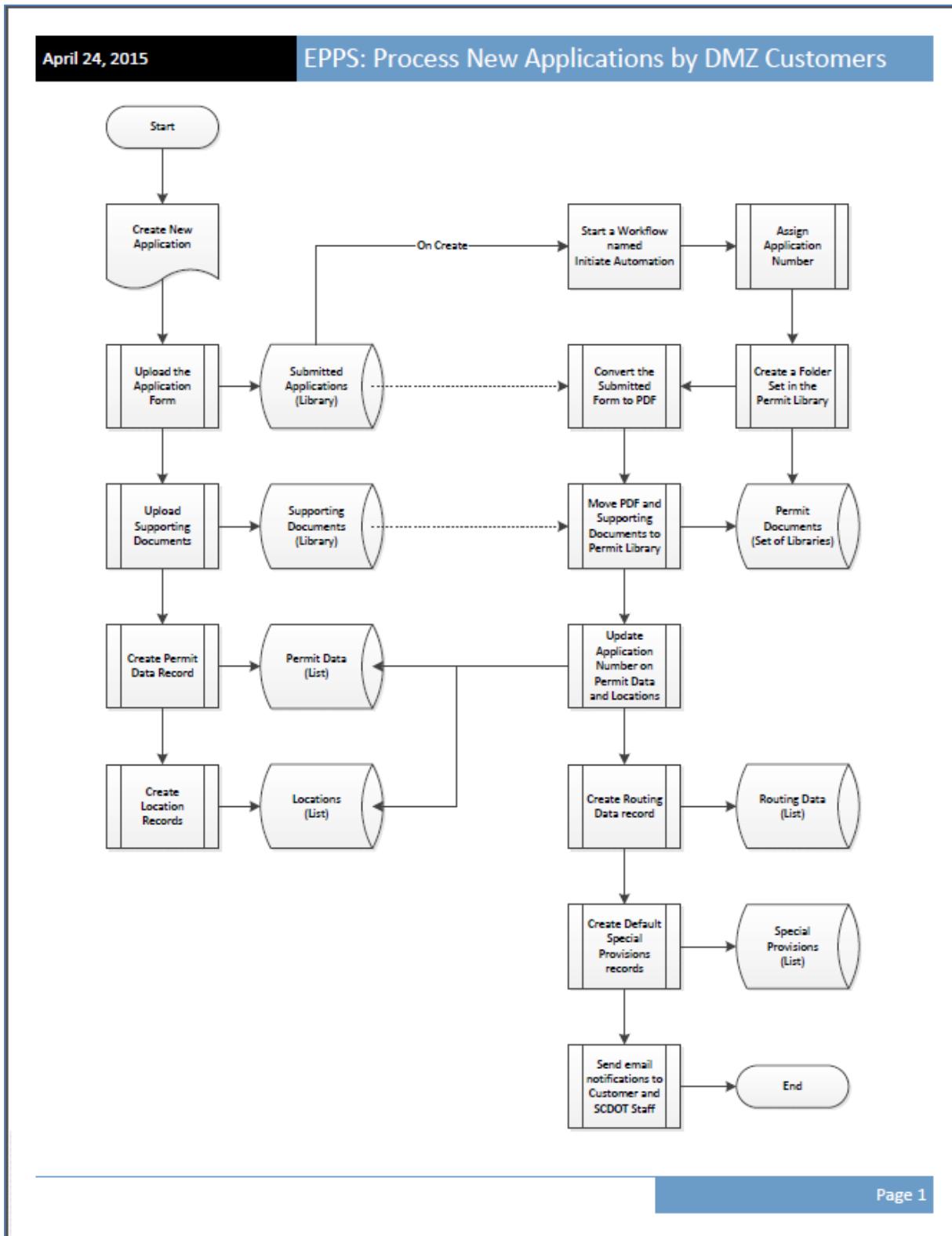
2018 Update: Few SP Designer Workflows remain in EPPS. The majority have been rewritten in Nintex.

Event Receivers

There are circumstances that are better suited for Event Receivers. EPPS uses Event Receivers (C#.Net, Visual Studio projects) to perform cross-domain, long-running calculations and/or other data-intensive operations that would otherwise create performance issues. One example is the solution that updates Permit Status information from the Routing Data Record to the Permit Data Record and the associated Location Records.

Adding a New Application

Flowchart



Screenshots

South Carolina Department of Transportation EPPS New Features for Application Form For Customer Accounts

This document will provide you guidance on the new features and how to fill out the Encroachment Permit Application Form for customers that login to the Encroachment Permit Processing System (EPPS), also known as accountholders.

Part I – Contact Information

To create a new application form, click the link "Permit Request Form –Create New" on left-side of screen. The first time you enter Contact Information, the form will look like the screen below and you simply enter all required fields and print the form. Notice the magnifying glass icon – a new feature!!

Application for Encroachment Permit

S.C. Department of Transportation
Form 637 (Rev 04/2014)

[Form Use Instructions](#)

Contact Information

Applicant:

Street:

City:

State: Please select State Zip Code:

Phone: Fax:

Email:

Contact:

Project Location

Primary County: Please select county [SCDOT Street Finder Map](#)

County	Road Name	<input type="button" value="Delete"/>	<input type="button" value="Select Road"/>
<input type="text"/>	<input type="text"/>	<input type="button" value="Delete"/>	<input type="button" value="Select Road"/>

1. Type of Encroachment: Please select Encroachment Type

South Carolina Department of Transportation EPPS New Features for Application Form For Customer Accounts

Part I – Contact Information (continued)

If this is NOT the first time you entered “Contact Information,” you should see a dialog box automatically open. A lookup will be provided that allows you to select from a list of information collected from your existing applications (see Figure 1). This will replace the save functionality in the previous form. Once you click on the desired row to select existing text and then click “Load Form” the Contact Information will populate on the application (see Figure 1). Once loaded, you can overtype any values, if necessary. Clicking the red “X” closes the popup without a selection and you must manually enter all information. Clicking the magnifying glass icon will reactivate the lookup



function.

The screenshot shows a Windows application window titled "Application for Encroachment Permit". In the center, there is a section labeled "Contact Information" with fields for "Applicant", "Street", and "City". Below this is a "Load Form" dialog box. The dialog has a header "Select Contact and click the "Load Form" button" and a table with columns "Contact", "Address1", "Address2", and "City". It contains two rows of data:

Contact	Address1	Address2	City
1	1000 21st, Suite 1000		Charleston
2	Park		Charleston

At the bottom of the dialog, there is a page navigation bar showing "Page 1 of 1", "Records per page: 10", and "Showing 1 to 2 of 2 items".

Figure 1

**South Carolina Department of Transportation
EPPS New Features for Application Form
For Customer Accounts**

Application for Encroachment Permit
S.C. Department of Transportation
Form 657 (Rev 03/2014)

Contact Information

Applicant:	TMC Southeast Enterprises LLC		
Street:	7906 Vaughn Road		
City:	Montgomery		
State:	AL	Zip Code:	36110
Phone:	(111) 222-3333	Fax:	(444) 555-6666
Email:	david@hallengengineering.net		
Contact:	David Hall		

Figure 2

Part I – Contact Information (continued)

Once you select existing text and click the load form button, your form should look similar to Figure 2.

Note: the "Phone" and "Fax" fields only allow numbers to be entered, no dashes or parenthesis.

Part II – Project Location

After entering a "Primary County," click the "Select Road" button to open the popup screen called "SCDOT Street Finder" (Figure 3). Select a "County" and type a street name, then press the Enter key (or click "Search" button) so you will see all the road names. "SCDOT Street Finder" does not provide a filter; therefore, local roads could be displayed in the list as (Local), along with SCDOT state maintained roads (Figure 3).

South Carolina Department of Transportation EPPS New Features for Application Form For Customer Accounts

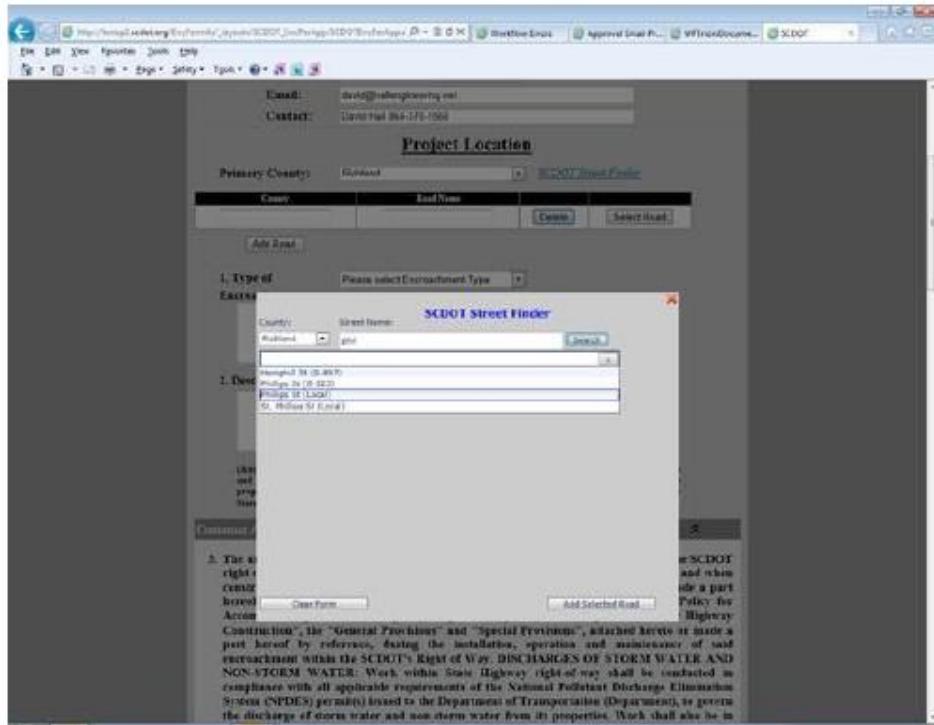


Figure 3

Part II – Project Location (continued)

Since local roads are displayed in the list as (Local) and are not maintained by SCDOT, be sure to select a road that is maintained by SCDOT. If a local road is selected, the local message will display as (Figure 4):

"Found local road (Phillips St.) Our records indicate the road you have selected is not maintained by SCDOT..."

**South Carolina Department of Transportation
EPPS New Features for Application Form
For Customer Accounts**

<u>Project Location</u>			
Primary County:	Richland		
County	Road Name		
		<input type="button" value="Delete"/>	<input type="button" value="Select Road"/>
<input type="button" value="Add Road"/>			
1. Type of Encroachment:	<input type="button" value="Please select Encroachment Type"/>		
County:	Street Name:	<input type="button" value="Search"/>	
Richland	Phillips St	<input type="button" value="Search"/>	
<p>SCDOT Street Finder</p> <p>Found local road (Phillips St). Our records indicate the road you have selected is not maintained by SCDOT. If you would like additional information pertaining to this road, please contact our local Resident Engineer's office at 803-736-0128</p>			
2. Description of Encroachment:	<p>(Attaching and propounding statement)</p> <p>Customer:</p> <p>3. The user of the right of way for construction hereon, and when made a part of the SCDOT Highway</p>		
	<p><input type="button" value="Clear Form"/></p> <p><input type="button" value="Add Selected Road"/></p>		

Figure 4

Part II – Project Location (continued)

If users select a road maintained by SCDOT, then the message will display as (Figure 5):

"Phillips St (S-323). Our records indicate the road you have selected is maintained by SCDOT...."

**South Carolina Department of Transportation
EPPS New Features for Application Form
For Customer Accounts**

Project Location

Primary County: Richland [SCDOT Street Finder](#)

County	Road Name	Delete	Select Road
Richland	Phillips St	Delete	Select Road

Add Road

1. Type of Encroachment: Please select Encroachment Type

2. Description: (Area and property boundaries, if applicable)

3. The user's right of way is being constructed hereon: A construction account is being established

[Clear Form](#) [Add Selected Road](#) [Add Road](#)

SCDOT Street Finder

County: Street Name: [Search](#)

Phillips St (S-323). Our records indicate the road you have selected is maintained by SCDOT. If you would like additional information pertaining to this road, please contact our local Resident Engineer's office at 803-784-0128.

Figure 5

Part II – Project Location (continued)

Once users choose the correct Street Name and click the "Add Selected Road" button (Figure 5), it displays in the application form (Figure 6).

Project Location

Primary County: Richland [SCDOT Street Finder](#)

County	Road Name	Delete	Select Road
Richland	Phillips St	Delete	Select Road

Add Road

Figure 6

Users can click the "Add Road" button to add additional row(s) to the "Project Location" area or click "Delete" to remove a road from the list.

**South Carolina Department of Transportation
EPPS New Features for Application Form
For Customer Accounts**

Project Location

Primary County:	Richland	SCDOT Street Finder	
County	Road Name	Delete	Select Road
Richland	Phillips St	Delete	Select Road
Richland	Johnson Marina Rd	Delete	Select Road
Richland	Dutch Fork Rd	Delete	Select Road
Richland	Twin Gates Rd	Delete	Select Road
Richland	Marina Rd	Delete	Select Road
Richland	A J Amick Rd	Delete	Select Road
Richland	Dreher Shoals Rd	Delete	Select Road

[Add Road...](#)

Figure 7

Part II – Project Location (cont'd)

The text boxes for "Type of Encroachment" and "Description of Location" auto-expand as new lines are needed (scroll bar is used after twenty lines).

1. Type of Encroachment: OTHER

This area will auto-expand to display all text; also, the printed version is formatted to display the first five lines in this area with the remaining text displayed on addendum page(s). The same principle is applied to the "Description of Location" text box below as well as the "Project Location" (Road Names). The formatting logic also allows users to create lists like this:

1. One
2. Two
3. Three
4. Four
5. Five

This is a big improvement.

2. Description of Location:

This area will also auto-expand to display all text as it is typed.

The State of the SCDOT report was delivered to the State Senate Transportation Committee on March 8th, 2014. The report provides updates on:

- The Mission of the South Carolina Department of Transportation (SCDOT)
- The State of South Carolina's Transportation Network
- A Look Ahead
- SCDOT Management Update
- The State of SCDOT

Mission (Section 57-1-30, SC Code of Laws)
The department shall have as its functions and purposes the systematic planning, construction, maintenance and operation of the state highway system and the development of a statewide intermodal and freight system that is consistent with the needs and desires of the public. SCDOT's Vision is to provide safe, reliable transportation systems.

(Attach sketch indicating roadway features such as: pavements width, shoulder width, sidewalk and curb and gutter location, significant drainage structure, north arrow, right of way width, and location of the proposed encroachment with respect to the roadway centerline and the nearest intersecting road on the State system.)

Figure 8

South Carolina Department of Transportation EPPS New Features for Application Form For Customer Accounts

Part II – Project Location (cont'd)

- Three areas of the form have special logic to limit the number of lines displayed so that the print function provides a consistent result. Addendum page(s) are used to display any overflow from these areas:
 - Project Locations
 - Description of Encroachment
 - Description of Location
- Please note that this does not apply to the application file that is generated for the initial upload (no signatures).
- Once you enter the Applicant's Name, Date, and Title, and all other required fields, you will click the "Print this form for signature and upload" button. If required fields are not entered, you will get a message stating the field requirements are not met. You see red boxes around the fields if this is the case.

Part III – Printing Application

When you click the "Print this form for signature and upload" button (Figure 9), instructions for "Printing Requirements" are displayed in the left column (Figure 10).

The screenshot shows a software application window titled "For Office Use Only". The main content area contains a bold heading "For Office Use Only" and a paragraph of text: "In accordance with your request and subject to all the provisions, terms, conditions, and restrictions stated in the application and the general and special provisions attached hereto, the SCOTD hereby approves your application for an encroachment permit. This permit shall become null and void unless the work contemplated herein shall have been completed prior to:". Below this text are several input fields and checkboxes. On the left, there is a checkbox for "See Attached Special Provision and/or Permit Requirements". To the right, there are two input fields: "NPDES Permit Nbr:" and "(Date received by res. Maint. Engr.)". To the right of these is a third input field: "(SCDOT Approval)" with a "(Date)" placeholder. Below these are two more input fields: "(Date)" and "(Date)" with checkboxes for "Resident Maintenance Engineer", "District Engineering Administrator", "Deputy Secretary for Engineering", and "District Maint./Constr. Engineer". At the bottom of the main content area is a large, prominent button labeled "Print this form for signature and upload." Below the main content area is a header "General Provisions" and a sub-header "Application for Encroachment Permit".

Figure 9

South Carolina Department of Transportation EPPS New Features for Application Form For Customer Accounts

Printing Requirements

Printing of this form requires certain Internet Explorer settings. When it is possible these settings will be established for you behalf. Make sure that the printer being used, Internet Explorer Page Setup settings match the table below to properly print this form.

Page Setup

Page Size	Letter
Printer	Automatically Select
Header	None
Footer	None
Orientation	Portrait
Left Margin	0.75
Right Margin	0.75
Top Margin	0.75
Bottom Margin	0.75

* Dynamic values are as defined in your browser!

Application for Encroachment Permit

S.C. Department of Transportation
Form 47 (Rev 10-2010)

Contact Information

Applicant: TMCSouthandEnterprisesLLC
Street: PMB 216, 7556 Vaughn Road

City: Montgomery
State: AL Zip Code: 36116
Phone: (334) 662-6646 Fax: (334) 281-7221
Email: David@haleengineering.net
Contact: David Hall (334) 378-1550

Project Location

Primary County: Richland

County	Prints At
Richland	Richland
Franklin	Franklin

Figure 10

Once the "Print" button is clicked (Figure 10), you should get the Printer dialog box and click the "Print" button again to print the application.

Note: Figure 10 applies to Internet Explorer users only. The values shown for Page Setup may need to be adjusted based on your printer and to get the application to print correctly.

If you need to go back to the original application form, you will need to click the Refresh  button (or press F5). There is no back or cancel button.

If you enter and print the form, a message box will appear that says you submitted the form and you need to click OK. Congratulations!!

You may sign and scan the application and go to "Active Applications" link to upload the signed document and any other documents by clicking "View Documents."

Note: The "Submit" and "Save and Close" buttons no longer appear.

Note: Permit Requests – Saved Forms:

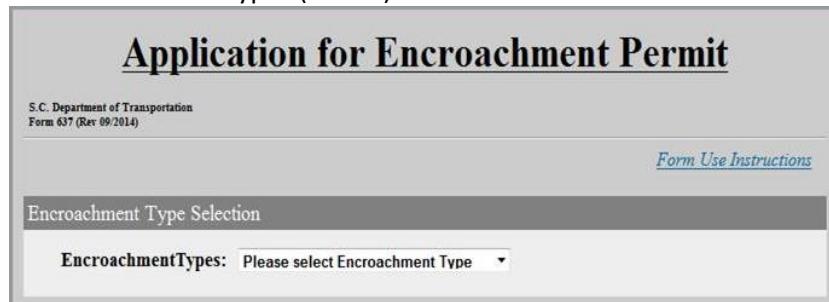
The "Permit Requests – Saved Forms" link has been removed. These "saved forms" could only be used to store information for auto-loading into a new application. The new form does not provide a save function, but has been replaced with a Lookup function.



Application Form: Enhancements

This overview identifies new form features and their supporting configurations:

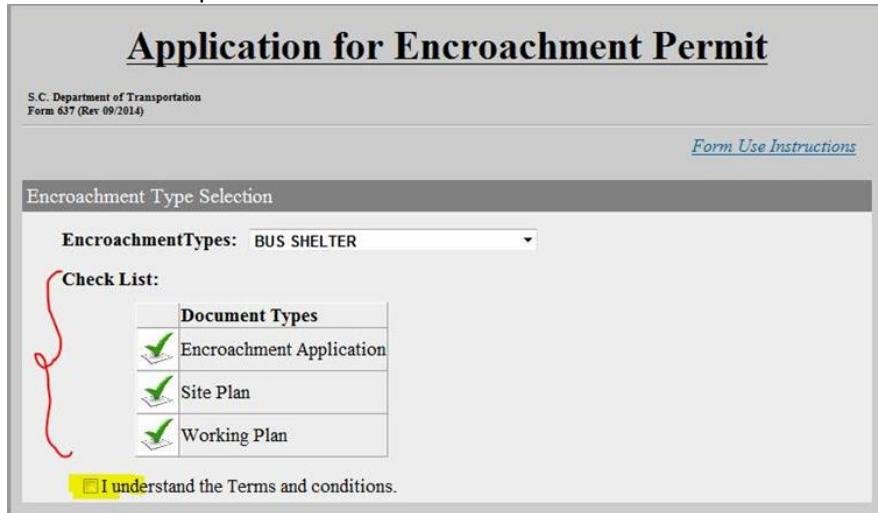
- A new Section precedes the Application Form Body. Selection of an Encroachment Type will display custom “checklist messaging” (TBD) and establishes the supporting documentation requirements. In addition, this section on the anonymous form is filtered to disallow the selection of DPE encroachment types (item 6).



The screenshot shows the top portion of the 'Application for Encroachment Permit' form. It includes the header 'Application for Encroachment Permit', the agency information 'S.C. Department of Transportation Form 637 (Rev 09/2014)', and a 'Form Use Instructions' link. Below the header is a dark grey bar labeled 'Encroachment Type Selection'. Underneath is a dropdown menu labeled 'EncroachmentTypes: Please select Encroachment Type'.

- The Checklist. This dynamic section displays a list supporting documentation requirements for the selected encroachment type.

A resource list manages the questions, answer options (Yes/No/NA), and associated document types for checklist items on DPE permit applications. This list will be used to populate the dynamic checklist and file upload sections.



The screenshot shows the 'Check List' section for the 'BUS SHELTER' encroachment type. A red curly brace on the left side of the 'Check List' table groups the table and the 'I understand the Terms and conditions.' checkbox. The table has a header 'Document Types' and three rows, each with a checked checkbox and a document type: 'Encroachment Application', 'Site Plan', and 'Working Plan'. Below the table is a yellow button with the text 'I understand the Terms and conditions.' followed by a checkbox.

The “I understand the Checklist” checkbox must be selected before the Continue button is shown. Clicking the button allows the user to begin filling the application form.

Application for Encroachment Permit

S.C. Department of Transportation
Form 637 (Rev 09/2014)

[Form Use Instructions](#)

Encroachment Type Selection

EncroachmentTypes:

Check List:

Document Types
<input checked="" type="checkbox"/> Encroachment Application
<input checked="" type="checkbox"/> Site Plan
<input checked="" type="checkbox"/> Working Plan

I understand the Terms and conditions.

Application for Encroachment Permit

S.C. Department of Transportation
Form 637 (Rev 09/2014)

[Form Use Instructions](#)

Encroachment Type Selection

EncroachmentTypes: ✓

Check List:

Document Types
<input checked="" type="checkbox"/> Encroachment Application
<input checked="" type="checkbox"/> Site Plan
<input checked="" type="checkbox"/> Working Plan

✓ I understand the Terms and conditions.

Contact Information 

Applicant:	<input type="text"/>		
Street:	<input type="text"/>		
City:	<input type="text"/>		
State:	<input type="button" value="Please select State"/>	Zip Code:	<input type="text"/>
Phone:	<input type="text"/>		

Encroachment Type cannot be changed in the Application Form body section. To change it, the user must start over (click the “create new application” link).

Application for Encroachment Permit

S.C. Department of Transportation
Form 637 (Rev 09/2014)

[Form Use Instructions](#)

Printing Requirements

Print

Printing of this form requires certain Internet Explorer settings. Where it is possible these settings will be established on your behalf when you click the print button. However, Paper Size, Paper Source, and Page Orientation can NOT be established for you.

You must ensure that your Internet Explorer Page Setup settings match the table below to properly print this form.

Paper Size	Letter
Paper Source	Automatically Select
Header	blank
Footer	Page # of total pages
Orientation	Portrait
Left Margin	0.75
Right Margin	0.75
Top Margin	0.75
Bottom Margin	0.75

* Denotes values that are established on your behalf.

Contact Information

Applicant: Test
Street: 955 Park Street
City: Columbia
State: SC **Zip Code:** 29201
Phone: (000)000-0000 **Fax:** (000)000-0000
Email: s@scdot.org
Contact: Test

Project Location

Primary County: Hampton

County	Road Name
Abbeville	Acorn Hill Dr

1. Type of Encroachment: BUS SHELTER
dfsdf

2. Description of Location:
dfa

(Attach sketch indicating roadway features such as: pavement width, shoulder width, sidewalk and curb and gutter location, significant drainage structure, north arrow, right of way width, and location of the proposed

- Modeled on the current anonymous form feature, all forms will now provide the final “Upload Documents” Section. Based on the requirements identified in the checklist section, users must select and upload the required supporting documentation.

On the staff and accountholder versions, the “Encroachment Application (Signed)” is an option (use checkbox). Users can also upload non-required files (no limit). The “Submit” button will not display until files have been selected for all required documentation.

Application for Encroachment Permit

S.C. Department of Transportation
Form 637 (Rev 09/2014)

[Form Use Instructions](#)

Upload Documents

First, attach your scanned completed Encroachment form:

Encroachment Application (Signed)

Will submit the Signed Application Form later. ✓

Pictures		Delete Row
Site Plan	<input type="button" value="Browse..."/>	<input type="button" value="Delete"/>
Working Plan	<input type="button" value="Browse..."/>	<input type="button" value="Delete"/>
Correspondence	<input type="button" value="Browse..."/>	<input type="button" value="Delete"/>

Add Additional Documentation

Submit Encroachment Permit Application

DPE Checklist

The DPEs have proposed the following checklist to implement for DPE submissions only. The checkboxes will be replaced with dropdowns to allow “Yes/No/NA” answers to conditional questions. This checklist will determine the documentation requirements in place of the “default documents” solution for county/utility submissions.

ENCROACHMENT PERMIT PROCESSING SYSTEM (EPPS) CHECKLIST

- Do you as the **Applicant** have written consent/authorization to act on behalf of the owner or developer? Obtain Agent Authorization letter from owner.
- Signed Permit Application** from applicant uploaded as a pdf into EPPS.
- Complete set of Site/Construction Plans** signed and sealed by a Professional Engineer that includes:
 - Plans to scale
 - **Adequate roadway information** (name, number, speed limit, right of way, etc.)
 - **Driveway Spacing** - Show measured **distances from proposed driveway to closest driveways and intersections** on same and opposite side of the road, distances shall be measured edge to edge from proposed driveway to next closest driveway or intersection. (Figure 3-7, ARMS)
 - **Dimensions of all proposed driveway features** (radii, width, throat length etc.)(Chapter 3, ARMS)
 - **Adequate auxiliary lane storage** and tapering as required (Table 5-8 & Figures A-8 to A-10, ARMS)
 - **Adequate SCDOT/MUTCD Pavement Marking and Signage Plan**
 - **Actual Intersection Sight Distance Triangle** (Figure 7-24, ARMS) shown on the plans at each requested Driveway left and right. Any obstruction blocking a sight line will be the applicant’s responsibility to remove. The applicant will be required to obtain easements for the removal of obstructions on adjacent properties insuring that no obstruction will ever be in that line of sight. These easements shall be recorded in your final plat. Obstructions may include but not limited to roadside vegetation, signs, Utilities, or landscaping on adjacent right of way or private property. **Sight Line Profiles** may be required after the initial review by the DPE if obstructions warrant.
 - **Pavement Design** - Adequate asphalt section detail in accordance with SCDOT Guidelines for Asphalt Mixture Selection (ask DPE if you are unfamiliar)
 - **Driveway profile** (Figure 3-4, ARMS)
 - **Stormwater and Erosion Control Plans** with existing and proposed drainage features and structures
 - **Current applicable SCDOT Standard Drawings**

- **Traffic Control Plan**
- Proposed utility encroachments (**FILE AS SEPARATE PERMITS**)
- As requested by DPE:
 - Separate pavement marking plans
 - Signing Plans
 - Signal Plans
 - Boundary Survey
 - Landscaping/Irrigation plans (Chapter 9, *ARMS*)

- Drainage Calculations and Drainage Statement/Summary Table (PE Signed and Sealed)** providing evidence of **no increase to the SCDOT Right of Way** (Chapter 10, *ARMS*)
 - Pre and Post development release rates
 - 2, 10, & 25-year storm for Secondary Routes
 - 2, 10, 25, & 50 for US, SC, & Interstate routes
- Traffic Impact Study**
 - Include TIS concurrence letter
- Access Waiver (PE Signed and Sealed)** – Provide completed forms for all waiver requests in accordance with (Chapter 3, *ARMS*)
- Local Government planning acceptance letter
- DHEC acceptance letter
- Performance bond** (Section 2C, *ARMS*)

The Permit Data (Main Record)

The “command center” of the process automation is the **Permit Data** list item. From there, staff can quickly access all information related to a Permit. Depending on their role, staff members may be able to submit a new permit application on behalf of a customer, check the status of an existing permit application; upload and/or browse related documents, add or update location data, add or update special provisions, assign review tasks, perform review tasks, and update the permit status.

Permit Data - TWEANPartnershipdbaTimeWarnerCable8-13-2013T3_54PM533...

Main Record																																											
<p>View</p> <p>   </p> <p>Edit Item Alert Me Delete Item Close</p> <p>Manage Close</p>																																											
<table border="1"><tr><td>County: Lexington</td><td>Encroachment Type: CABLE TV</td><td>Application Number: 200002195</td><td>Permit Number: 160084</td></tr><tr><td colspan="2">Applicant: TWEANPartnershipdbaTimeWarnerCable</td><td colspan="2">Contact: Kristen Price</td></tr><tr><td colspan="2">Address 1: 3347 Platt Springs Rd.</td><td colspan="2">Phone: (803) 251-5388</td></tr><tr><td colspan="2">Address 2:</td><td colspan="2">Fax: (803) 744-5706</td></tr><tr><td>City: West Columbia</td><td>State: SC</td><td>ZIP Code: 29170</td><td>Email: Kristen.Price@twcable.com</td></tr><tr><td colspan="4">Short Description Location of work site begins on Arlington St. at SCE&G pole 318877 heading North on Lexington St., continuing North on N. 12th St. ending at Sunset Blvd on SCE&G pole 570191.</td></tr><tr><td colspan="2">Road Names: ;LEXINGTON ST. ;SUNSET BLVD</td><td colspan="2">Permit Status Permit Issued to Customer <input type="checkbox"/> Approved with Waiver?</td></tr><tr><td colspan="2">View Documents</td><td>View Locations</td><td>View Routing</td></tr><tr><td>Decision Date: 9/10/2013</td><td>Extension Date: </td><td>Revision Date: </td><td>Expiration Date: 9/10/2014</td></tr><tr><td colspan="4">Created 8/13/2013 3:54:59 PM by Kristen Price Modified 9/10/2013 5:12:04 PM by System Account</td></tr></table>				County: Lexington	Encroachment Type: CABLE TV	Application Number: 200002195	Permit Number: 160084	Applicant: TWEANPartnershipdbaTimeWarnerCable		Contact: Kristen Price		Address 1: 3347 Platt Springs Rd.		Phone: (803) 251-5388		Address 2:		Fax: (803) 744-5706		City: West Columbia	State: SC	ZIP Code: 29170	Email: Kristen.Price@twcable.com	Short Description Location of work site begins on Arlington St. at SCE&G pole 318877 heading North on Lexington St., continuing North on N. 12th St. ending at Sunset Blvd on SCE&G pole 570191.				Road Names: ;LEXINGTON ST. ;SUNSET BLVD		Permit Status Permit Issued to Customer <input type="checkbox"/> Approved with Waiver?		View Documents		View Locations	View Routing	Decision Date: 9/10/2013	Extension Date: 	Revision Date: 	Expiration Date: 9/10/2014	Created 8/13/2013 3:54:59 PM by Kristen Price Modified 9/10/2013 5:12:04 PM by System Account			
County: Lexington	Encroachment Type: CABLE TV	Application Number: 200002195	Permit Number: 160084																																								
Applicant: TWEANPartnershipdbaTimeWarnerCable		Contact: Kristen Price																																									
Address 1: 3347 Platt Springs Rd.		Phone: (803) 251-5388																																									
Address 2:		Fax: (803) 744-5706																																									
City: West Columbia	State: SC	ZIP Code: 29170	Email: Kristen.Price@twcable.com																																								
Short Description Location of work site begins on Arlington St. at SCE&G pole 318877 heading North on Lexington St., continuing North on N. 12th St. ending at Sunset Blvd on SCE&G pole 570191.																																											
Road Names: ;LEXINGTON ST. ;SUNSET BLVD		Permit Status Permit Issued to Customer <input type="checkbox"/> Approved with Waiver?																																									
View Documents		View Locations	View Routing																																								
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Created 8/13/2013 3:54:59 PM by Kristen Price Modified 9/10/2013 5:12:04 PM by System Account																																											

Staff Views

Filtered views display currently assigned work items to the appropriate staff members:

- Pending Applications. These work items include newly submitted applications, those pending additional information (from the customer), as well as those under review staff review.
- Assigned to other SCDOT Staff.
- Approved. These work items include applications that have been assigned permit numbers and are ready for final preparations before they are issued to customer.
- Permits Issued to Customers.
- Site Inspections (scheduled).
- Expired Permits.
- Archives.

The screenshot shows a web application interface for SCDOT. The top navigation bar includes the SCDOT logo and a search bar. The main content area is titled "Encroachment Permits" and displays a table of permit data. The sidebar on the left contains links for various staff functions and reference libraries. The main content table has the following data:

Permit Data	
Master permit information library. Central record of the process.	
InitDocName	South Carolina Electric and Gas Com 22-2013T5_01 PM991
County	Charleston
Encroachment Type	ELECTRIC
Applicant	South Carolina Electric and Gas Com
Contact	Joel Knight
Customer Account	Joel Knight
Short Description	I-526 at Clements Ferry Rd. (Traffic for interstate detour will be setup 1.2 on both sides of the Clements Ferry interchange)
Permit Status	Application Pending Reviews
Application Number	200000145
Assigned To	Timmons, Marcie S. Murgaugh, Colleen P. Smith, Joel J. Blackburn, Edward D. Mun, Brandon W.
Created	5/22/2013 5:01 PM
Road Names	;I-526 ;CLEMENT FERRY ROAD

Metadata Search

SCDOT staff members can also search for Permits.

Encroachment Permits

Staff Functions

- HomePage
- Anonymous Submissions
- Anonymous Submissions
- Staff Functions**
 - Permit Request Form - Create New
 - Permits - Pending Applications
 - Permits - Approved
 - Permits - Site Inspections
 - Permit Requests - My Saved Forms
 - Permit Requests - Assigned to other SCDOT Staff
- Reference Library
- Business Rules
- Instructions for Permit Application Form (Anonymous)
- Instructions for Permit Application Form (Account Holders)
- Customers
- Permit Request Form - Create New
- Permit Requests - Saved Forms
- Permit Requests - Submitted Forms
- Permit Tracking - Active Applications
- Admin Functions
- Bug Reports and Change Requests
- View All Site Content
- Site Permissions

About Permits

The command center of this process automation is the [Permit Data](#) list item. From there, you can quickly access all other information related to a particular Permit:

- Routing Information (Staff Review Tasks)
- Locations (Google)
- Special Provisions
- Documents
- Pictures
- Customer Contact Information

There are many roles for SCDOT staff. Depending on what your role is, you may be able to submit a new permit application (on behalf of a customer), check the status of an existing permit application; upload and/or browse related documents, update location data, update special provision data, assign review tasks, perform review tasks, and update the permit status.

Browse Permits

The following list contains active permits that were created by or are currently assigned to you.

Permit Data

There are no items to show in this view of the "Permit Data" list. To add a new item, click "New".

Search for Permits

SCDOT staff members can also search for Permits. Enter data into at least one of the criteria fields and press the Search button.

Search Criteria

Search Criteria	
Application Number	(Contains)
Permit Number	(Contains)
Permit Status	
County	(Contains)
Encroachment Type	(Contains)
Customer Account	(Contains)
Applicant	(Contains)
Contact	(Contains)
Assigned To	(Contains)
Expiration Date	
Extention Date	
Revision Date	
Decision Date	
Created	
Road Names	(Contains)

Search

Routing Data (Staff Reviews)

This record provides for the assignment and tracking of staff reviews.

Encroachment Permits



HomePage

Anonymous Submissions

Anonymous Submissions

Staff Functions

Permit Request Form - Create New

Permits - Pending Applications

Permits - Approved

Permits - Site Inspections

Permit Requests - My Saved Forms

Permit Requests - Assigned to other SCDOT Staff

Reference Library

Business Rules

Instructions for Permit Application Form (Anonymous)

Instructions for Permit Application Form (Account Holders)

Customers

Permit Request Form - Create New

Permit Requests - Saved Forms

Permit Requests - Submitted Forms

Permit Tracking -

Routing Data ▶ All Items ▾
This is the Routing Data list

Routing Data for Application Number - 200002195

Title	Routing Data for Application Number - 200002195
Permit Data Record	View Permit Data
Application Number	200002195
Permit Number	160084
Short Description	Location of work site begins on Arlington St. at SCE&G pole 318877 heading North on Lexington St., continuing North on N. 12th St. ending at Sunset Blvd on SCE&G pole 570191.
Reviews - Current Assignments	County Permit Manager
Reviews - Next Assignment(s)	
Return To	County Permit Manager
Reviews - Requested	County Permit Manager, County Maintenance
Reviews - Completed	
Permit Status	Permit Issued to Customer
County	Lexington
Modified	9/10/2013 5:12 PM
Comments (Internal)	Comment: Jack, Permit has been reviewed. HC By: moorehc Date: 2013-09-10T16:54:15 Comment: HC, revisions have been made and this is ready for review. By: schollc Date: 2013-09-04T09:19:02
Comments (Public)	

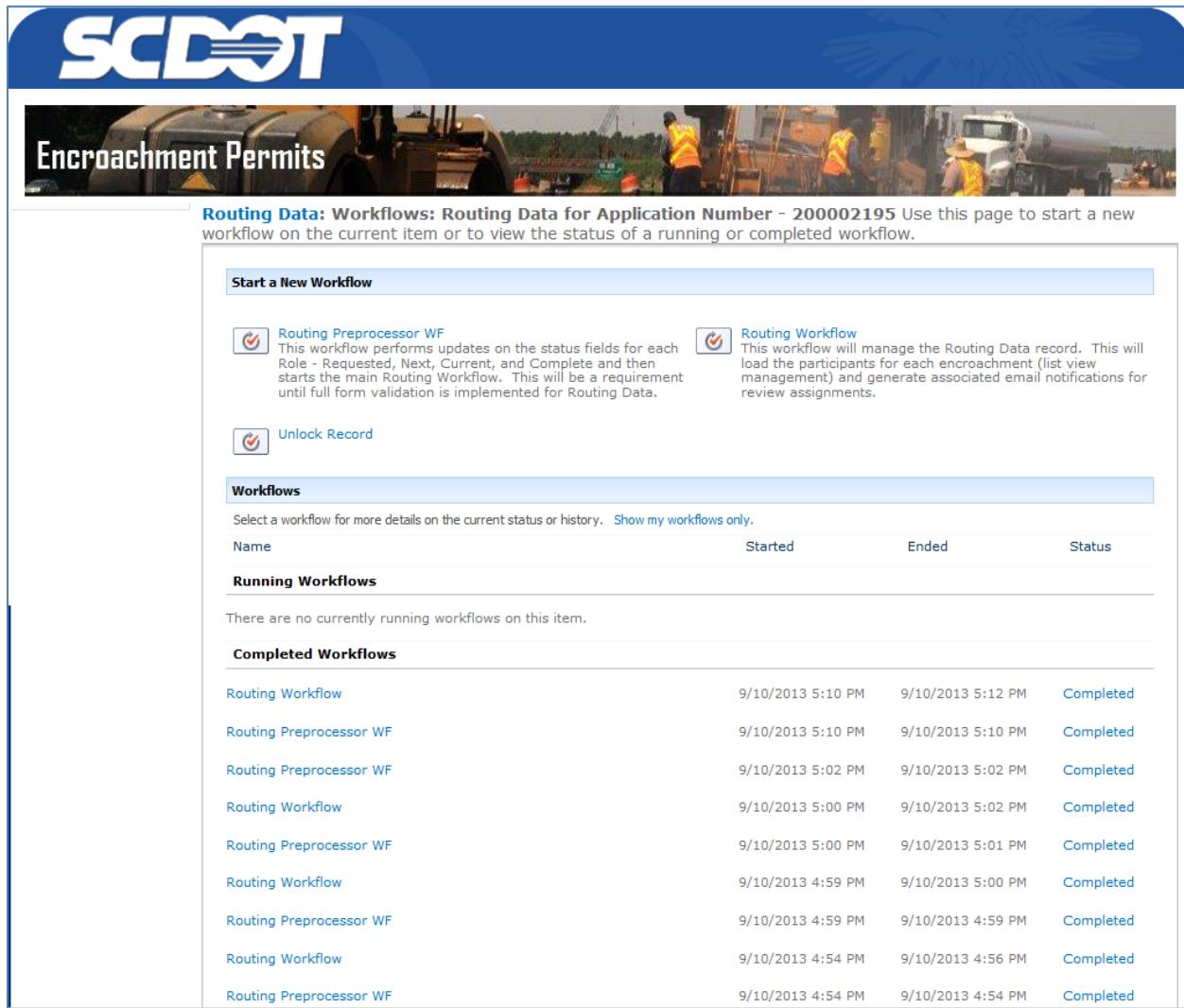
Version History

All lists and libraries have Version History. The history of this Routing Data item shows the user interface updates that have occurred for the entire life cycle of this item.

Version History			
17.0	9/10/2013 5:00 PM	Craft, Jack	
		Reviews - Current Assignments	Yes
		Record UnAvailable	Yes
16.0	9/10/2013 5:00 PM	Craft, Jack	
		Reviews - Completed	County Permit Manager, County Maintenance
		Permit Status	Application Approved
		Comments (Internal)	Comment:Previous Value: Application Pending Review. By:rehcDate:2013-09-10T16:54:15Comment:HC, revisions have been made and this is ready for review. By:scholliDate:2013-09-04T09:19:02
15.0	9/10/2013 5:00 PM	System Account	
		Reviews - Current Assignments	County Permit Manager
		Record UnAvailable	No
14.0	9/10/2013 4:59 PM	Moore, Harriett	
		Reviews - Next Assignment(s)	
		Record UnAvailable	Yes
13.0	9/10/2013 4:59 PM	Moore, Harriett	
		Reviews - Next Assignment(s)	County Maintenance
		Comments (Internal)	Comment:Jack, Permit has been reviewed. HCBy:moorehcDate:2013-09-10T16:54:15Comment:HC, revisions have been made and this is ready for review. By:scholliDate:2013-09-04T09:19:02
		Comments(I)	
12.0	9/10/2013 4:56 PM	System Account	
		Reviews - Current Assignments	County Maintenance
		Reviews - Next Assignment(s)	
		Record UnAvailable	No
11.0	9/10/2013 4:54 PM	Moore, Harriett	
		Reviews - Requested	County Permit Manager, County Maintenance
		Reviews - Current Assignments	
		Record UnAvailable	Yes
10.0	9/10/2013 4:54 PM	Moore, Harriett	
		Reviews - Completed	County Permit Manager
		Reviews - Next Assignment(s)	County Maintenance
		Comments (Internal)	Comment:Jack, Permit has been reviewed. HCBy:moorehcDate:2013-09-10T16:54:15Comment:HC, revisions have been made and this is ready for review. By:scholliDate:2013-09-04T09:19:02
		Comments(I)	Jack, Permit has been reviewed. HC
9.0	9/4/2013 9:20 AM	System Account	
		Reviews - Current Assignments	County Permit Manager

Workflow History

Some lists and libraries have Workflow History. The history of this Routing Data item shows the workflow updates that have occurred for the entire life cycle of this item.



The screenshot shows the SCDOT Encroachment Permits page. At the top, there is a banner with the SCDOT logo and the text "Encroachment Permits". Below the banner, a header bar contains the text "Routing Data: Workflows: Routing Data for Application Number - 200002195 Use this page to start a new workflow on the current item or to view the status of a running or completed workflow." Below the header, there are two workflow options: "Routing Preprocessor WF" and "Routing Workflow". The "Unlock Record" button is also visible. A "Workflows" section shows a table of completed workflows, all of which are listed as "Completed".

Name	Started	Ended	Status
Routing Workflow	9/10/2013 5:10 PM	9/10/2013 5:12 PM	Completed
Routing Preprocessor WF	9/10/2013 5:10 PM	9/10/2013 5:10 PM	Completed
Routing Preprocessor WF	9/10/2013 5:02 PM	9/10/2013 5:02 PM	Completed
Routing Workflow	9/10/2013 5:00 PM	9/10/2013 5:02 PM	Completed
Routing Preprocessor WF	9/10/2013 5:00 PM	9/10/2013 5:01 PM	Completed
Routing Workflow	9/10/2013 4:59 PM	9/10/2013 5:00 PM	Completed
Routing Preprocessor WF	9/10/2013 4:59 PM	9/10/2013 4:59 PM	Completed
Routing Workflow	9/10/2013 4:54 PM	9/10/2013 4:56 PM	Completed
Routing Preprocessor WF	9/10/2013 4:54 PM	9/10/2013 4:54 PM	Completed

The details for a specific occurrence can be viewed by clicking the name or status link.

<p>Lists</p> <p>EncPermit Special Provisions</p> <p>Status and Review Audit</p> <p>Role Names</p> <p>States</p> <p>Tasks</p> <p>Permit Status Info</p> <p>Encroachment Staff - Customer Organizations</p> <p>Map Counties</p>	<p>Workflow Status: Routing Workflow</p> <p>Workflow Information</p> <p>Initiator: System Account Item: Routing Data for Application Number - 200002195 Started: 9/10/2013 5:10 PM Status: Completed Last run: 9/10/2013 5:12 PM</p> <p>Tasks</p> <p>The following tasks have been assigned to the participants in this workflow. Click a task to edit it. You can also view these tasks in the list Tasks.</p> <table border="1"> <thead> <tr> <th><input type="checkbox"/> Assigned To</th> <th>Title</th> <th>Due Date</th> <th>Status</th> <th>Related Content</th> <th>Outcome</th> </tr> </thead> <tbody> <tr> <td colspan="6">There are no items to show in this view of the "Tasks" list. To add a new item, click "New".</td> </tr> </tbody> </table> <p>Workflow History</p> <p>View workflow reports</p> <p>The following events have occurred in this workflow.</p> <table border="1"> <thead> <tr> <th><input type="checkbox"/> Date Occurred</th> <th>Event Type</th> <th>User ID</th> <th>Description</th> <th>Outcome</th> </tr> </thead> <tbody> <tr> <td>9/10/2013 5:12 PM</td> <td>Comment</td> <td>System Account</td> <td>Workflow Control is</td> <td></td> </tr> <tr> <td>9/10/2013 5:12 PM</td> <td>Comment</td> <td>System Account</td> <td>Record Unavailable is True</td> <td></td> </tr> <tr> <td>9/10/2013 5:12 PM</td> <td>Comment</td> <td>System Account</td> <td>Initiator is SHAREPOINT\system and Long Time is 5:10:32 PM</td> <td></td> </tr> <tr> <td>9/10/2013 5:12 PM</td> <td>Comment</td> <td>System Account</td> <td>Begin normal processing.</td> <td></td> </tr> <tr> <td>9/10/2013 5:12 PM</td> <td>Comment</td> <td>System Account</td> <td>County is Lexington</td> <td></td> </tr> <tr> <td>9/10/2013 5:12 PM</td> <td>Comment</td> <td>System Account</td> <td>District is 1</td> <td></td> </tr> <tr> <td>9/10/2013 5:12 PM</td> <td>Comment</td> <td>System Account</td> <td>Completed is</td> <td></td> </tr> <tr> <td>9/10/2013 5:12 PM</td> <td>Comment</td> <td>System Account</td> <td>Current is ;#County Permit Manager;#</td> <td></td> </tr> <tr> <td>9/10/2013 5:12 PM</td> <td>Comment</td> <td>System Account</td> <td>Next is</td> <td></td> </tr> <tr> <td>9/10/2013 5:12 PM</td> <td>Comment</td> <td>System Account</td> <td>Requested is ;#County Permit Manager;#County Maintenance;#</td> <td></td> </tr> <tr> <td>9/10/2013 5:12 PM</td> <td>Comment</td> <td>System Account</td> <td>Return To is County Permit Manager</td> <td></td> </tr> <tr> <td>9/10/2013 5:12 PM</td> <td>Comment</td> <td>System Account</td> <td>Finished step, "Update Staff - County"</td> <td></td> </tr> <tr> <td>9/10/2013 5:12 PM</td> <td>Comment</td> <td>System Account</td> <td>Finished step, "Update Staff - District"</td> <td></td> </tr> <tr> <td>9/10/2013 5:12 PM</td> <td>Comment</td> <td>System Account</td> <td>Finished step, "Update Staff - HQ"</td> <td></td> </tr> <tr> <td>9/10/2013 5:12 PM</td> <td>Comment</td> <td>System Account</td> <td>No email. 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Map Counties Libraries Permit Applications Permit Documents Drop Off Library Supporting Documents Reports Reference Materials Recycle Bin All Site Content	<p>Account</p> <p>9/10/2013 5:12 PM Comment System Account Finished RR step</p> <p>9/10/2013 5:12 PM Comment System Account Finished ROW step</p> <p>9/10/2013 5:12 PM Comment System Account Finished HD step</p> <p>9/10/2013 5:12 PM Comment System Account Finished RD step</p> <p>9/10/2013 5:12 PM Comment System Account Finished TO step</p> <p>9/10/2013 5:12 PM Comment System Account Finished IU step</p> <p>9/10/2013 5:12 PM Comment System Account Reset "Reviews - Completed"</p> <p>9/10/2013 5:12 PM Comment System Account "Reviews - Current" is empty. This should not happen. Using safety net assignment to County Permit Manager.</p> <p>9/10/2013 5:12 PM Comment System Account Added Status and Review Audit record for change in Current Assignment</p>				
	9/10/2013 5:12 PM Comment System Account Staff assignments are PM=Blakely, Clarence H;Holroyd, Ross;Jenkins, Hezekiah;Levan, Kristina W.;Livingston, Rodney J.;Moore, Harriett;Scholl, Cheryl, RME=Craft, Jack;Holden, Andrew S;Stroke, John J, RCE=;;, DPM=;;, DEA=;;, DME=;;, DOA=;;, DCE=;;, DTE=;;,				
	9/10/2013 5:12 PM Comment System Account "Permit Status" is Permit Issued to Customer				
	9/10/2013 5:12 PM Comment System Account "Sent Approval Email?" is True.				
	9/10/2013 5:12 PM Comment System Account This option (2) means that customer email has been sent previously.				
	9/10/2013 5:12 PM Comment System Account Finished Completed and Update Step				
	9/10/2013 5:12 PM Comment System Account Synced "Assigned To" to the Permit Data record				
	9/10/2013 5:12 PM Comment System Account Synced "Status" to Permit Data Record: Permit Issued to Customer				
	9/10/2013 5:12 PM Comment System Account Finished Assign To and Comment Step				
	9/10/2013 5:12 PM Comment System Account Setting workflow variables to trigger an update for document security and to send approval email				
<p>Gave SCDOTDMZ\pricekr read access to /EncPermits/Permit Documents2/Application Number - 200002195/Approved Documents</p> <p>Sent Email to Accountholder: Kristen.Price@twcable.com</p> <p>Finished "Give Customer Access to Approved Documents" Step</p> <p>Set email subject line to SCDOT Encroachment Permit Application # 200002195. A review task has been assigned to you. RE: Lexington - CABLE TV - Location of work site begins on Arlington St. at SCE&G pole 318877 heading North on Lexington St., continuing</p> <p>Sending email to :;Blakely, Clarence H;Holroyd, Ross;Jenkins, Hezekiah;Levan, Kristina W.;Livingston, Rodney J.;Moore, Harriett;Scholl, Cheryl;;;;;</p>					
1 - 50 ►					

Inspections Permit Requests - My Saved Forms Permit Requests - Assigned to other SCDOT Staff Reference Library	<p>Workflow History</p> <p>View workflow reports</p> <p>The following events have occurred in this workflow.</p> <table border="1"> <thead> <tr> <th>Date Occurred</th><th>Event Type</th><th>User ID</th><th>Description</th><th>Outcome</th></tr> </thead> <tbody> <tr> <td>9/10/2013 5:12 PM</td><td>Comment</td><td>System Account</td><td>Finished Send Email Step</td><td></td></tr> </tbody> </table>					Date Occurred	Event Type	User ID	Description	Outcome	9/10/2013 5:12 PM	Comment	System Account	Finished Send Email Step	
Date Occurred	Event Type	User ID	Description	Outcome											
9/10/2013 5:12 PM	Comment	System Account	Finished Send Email Step												
◀ 51 - 51 ►															

Note 6/1/2015: Most "Log to History List" workflow actions have been turned off. In addition, all list workflows have been modified to use new history lists. Reusable workflows (permit documents) were republished to every library to use unique history lists.

The Routing Workflow

Control Fields

Staff can use the “Requested”, “Next”, “Return To”, and “Completed” fields on the Routing Data record to meet any workflow need. The “Current” field is read-only as it is managed by the workflow logic.

- The “Requested” field is required by the workflow engine to make assignment decisions. It can also be used by itself to set up parallel reviews or in combination with the “Next” and “Return To” fields field to set up more complex routing that includes combinations of sequential, parallel, and looping reviews.
- Generally, it is not necessary to “unmark” anything. Unless you are an experienced user, this will likely create unintended results. The exception is when a completed review needs to be redone.
- To create a review loop, a user should change the “Return To” field to themselves. Not fully understanding how to use this field is the culprit behind most “boomerang assignment” complaints.
- The only time you should see an application in your “pending view” is when you are the “Current” assignment and that means that the clock is ticking on you to do something. If you see an application in that view that you don’t expect, then you should verify that you marked your role as “Completed”. If that is not the problem, then you should notify the IT HelpDesk.

Remember: Marking another role as “Next” or “Requested” or “Return To” is not enough. You have to mark your role as “Completed” in order to tell the workflow that it is time to change the “Current” assignment.

Using these simple rules, I can demonstrate how to achieve the CPM-to-RME-to-DTE-back to-RME-back to-CPM routing. When a new application is created, it is always assigned to the County Permit Manager group. All staff assigned to this group will receive an email alert and see the application in their view of pending applications. The routing data will look like this:

Reviews - Current Assignments	County Permit Manager
Reviews - Next Assignment(s)	
Return To	County Permit Manager
Reviews - Requested	County Permit Manager
Reviews - Completed	

Continuing our scenario, the CPM has determined that the next intended assignment should be County Maintenance. All the CPM has to do is mark two checkboxes (highlighted) on the routing data:

Reviews - Completed	<input checked="" type="checkbox"/> County Permit Manager <input type="checkbox"/> County Maintenance <input type="checkbox"/> County Construction <input type="checkbox"/> District Permit Manager <input type="checkbox"/> District Maintenance
Return To:	County Permit Manager
Reviews - Next Assignment(s)	<input type="checkbox"/> County Permit Manager <input checked="" type="checkbox"/> County Maintenance <input type="checkbox"/> County Construction <input type="checkbox"/> District Permit Manager <input type="checkbox"/> District Maintenance
Reviews - Requested	<input checked="" type="checkbox"/> County Permit Manager <input type="checkbox"/> County Maintenance <input type="checkbox"/> County Construction <input type="checkbox"/> District Permit Manager <input type="checkbox"/> District Maintenance

The workflow will do its magic and assign the application to County Maintenance. Members of that group will get an email and be able to see the application listed in their view of pending applications. This is what the routing data will look like after the workflow runs:

Reviews - Current Assignments	County Maintenance
Reviews - Next Assignment(s)	
Return To	County Permit Manager
Reviews - Requested	County Permit Manager, County Maintenance
Reviews - Completed	County Permit Manager

Continuing our scenario, the RME determined that the next intended assignment should be District Traffic. But the RME also wants the application routed back to them when District Traffic has completed their review. To do that, the RME needs to mark two checkboxes (highlighted) and also change the "Return To" value on the routing data:

Reviews - Completed	<input checked="" type="checkbox"/> County Permit Manager <input checked="" type="checkbox"/> County Maintenance <input type="checkbox"/> County Construction <input type="checkbox"/> District Permit Manager <input type="checkbox"/> District Maintenance
Return To:	County Maintenance
Reviews - Next Assignment(s)	<input type="checkbox"/> County Construction <input type="checkbox"/> District Permit Manager <input type="checkbox"/> District Maintenance <input checked="" type="checkbox"/> District Traffic <input type="checkbox"/> District Construction
Reviews - Requested	<input checked="" type="checkbox"/> County Permit Manager <input checked="" type="checkbox"/> County Maintenance <input type="checkbox"/> County Construction <input type="checkbox"/> District Permit Manager <input type="checkbox"/> District Maintenance

The workflow will now assign the application to District Traffic. Members of that group will get an email and be able to see the application listed in their view of pending applications. This is what the routing data will look like after the workflow runs:

Reviews - Current Assignments	District Traffic
Reviews - Next Assignment(s)	
Return To	County Maintenance
Reviews - Requested	County Permit Manager, County Maintenance, District Traffic
Reviews - Completed	County Permit Manager, County Maintenance

In this case, District Traffic can have a very simple workflow experience. (We are keeping this scenario simple, but if there was a need, then District Traffic could route the application to HQ Traffic before returning it to the RME...). In our scenario, the only think District Traffic has to do is mark one checkbox (highlighted):

Reviews - Completed	<input checked="" type="checkbox"/> County Maintenance <input type="checkbox"/> County Construction <input type="checkbox"/> District Permit Manager <input type="checkbox"/> District Maintenance <input checked="" type="checkbox"/> District Traffic
Return To:	County Maintenance
Reviews - Next Assignment(s)	<input type="checkbox"/> County Permit Manager <input type="checkbox"/> County Maintenance <input type="checkbox"/> County Construction <input type="checkbox"/> District Permit Manager <input type="checkbox"/> District Maintenance
Reviews - Requested	<input checked="" type="checkbox"/> County Permit Manager <input checked="" type="checkbox"/> County Maintenance <input type="checkbox"/> County Construction <input type="checkbox"/> District Permit Manager <input type="checkbox"/> District Maintenance

The workflow will now assign the application back to County Maintenance. Members of that group will get an email and (once again) be able to see the application listed in their view of pending applications. This is what the routing data will look like after the workflow runs:

Reviews - Current Assignments	County Maintenance
Reviews - Next Assignment(s)	
Return To	County Maintenance
Reviews - Requested	County Permit Manager, County Maintenance, District Traffic
Reviews - Completed	County Permit Manager, District Traffic

The last intended routing is to return the (now hopefully approved) application to the County Permit Manager. To do that, the RME will mark one checkbox (highlighted) and also change the "Return To" (Rule # 3) on the routing data:

Completed	<input checked="" type="checkbox"/> County Permit Manager <input checked="" type="checkbox"/> County Maintenance <input type="checkbox"/> County Construction <input type="checkbox"/> District Permit Manager <input type="checkbox"/> District Maintenance
Return To:	County Permit Manager
Next Assignment(s)	<input type="checkbox"/> County Permit Manager <input type="checkbox"/> County Maintenance <input type="checkbox"/> County Construction <input type="checkbox"/> District Permit Manager <input type="checkbox"/> District Maintenance
Requested	<input checked="" type="checkbox"/> County Permit Manager <input checked="" type="checkbox"/> County Maintenance <input type="checkbox"/> County Construction <input type="checkbox"/> District Permit Manager <input type="checkbox"/> District Maintenance

The workflow will assign the application to County Permit Manager. Members of that group will get an email and be able to see the application listed in their view of APPROVED applications. This is what the routing data will look like after the workflow runs:

Reviews - Current Assignments	County Permit Manager
Reviews - Next Assignment(s)	
Return To	County Permit Manager
Reviews - Requested	County Permit Manager, County Maintenance, District Traffic
Reviews - Completed	District Traffic, County Maintenance
Permit Status	Application Approved

Email Notifications (Routing Workflow Action Item)

Send Staff Email

```

If Variable: Send Email? equals Yes
  Set Variable: Email Subject Line to SCDOT Encroachment Permit Application...
  then Log Set_email subject line to [%Variable:... to the workflow history list
  then Log Sending_email to [%Variable: Email_BM... to the workflow history list

  If 1 equals 1
    Email Variable: Email_BM; Variable: Email_DCE; Variable: Email_DFA;...
  Else
    Log Email function is turned off. to the workflow history list

  then Log Finished Send Email Step to the workflow history list

```

Send an Email Properties

BCC	
Parameters for "[these users]"	
To	Variable: Email_BM; Variable: Email_DCE; Variable: E...
CC	
Subject	Variable: Email Subject Line
Body	<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 3.2//EN"><HTML><HEAD><META NAME="Generator" CONTENT="MS Exchange Server version 08.01.0240.003"><TITLE></TITLE></HEAD><BODY><table style="border-collapse:collapse" width="100% cellspacing="0" cellpadding="0" dir="ltr"><tr style="border-top:1px solid #E8EAEC; border-bottom:1px solid #E8EAEC; padding:0pt 0px 0px"><td style="font-family:Verdana;font-size:10pt"> This is an automated alert from the SCDOT Encroachment Permit Processing System (EPPS). Please do not reply directly to this email. Application Number: [%Current Item:Application Number%] Applicant: [%Permit Data:Applicant%] County: [%Current Item:County%] Encroachment Type: [%Permit Data:Encroachment Type%] Short Description: [%Permit Data:Short Description%] You can access the permit control record and associated documents on the website: SCDOT Encroachment Permit System. This task was assigned to you by [%Current Item:Modified By%]. This task is currently assigned for review by: [%Current Item:Reviews - Current Assignments%] Thank you for using the SCDOT Encroachment Permit System. </td></tr></table> </BODY></HTML>

String Builder

```

Name:
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 3.2//EN"><HTML><HEAD><META NAME="Generator" CONTENT="MS Exchange Server version 08.01.0240.003"><TITLE></TITLE></HEAD><BODY><table style="border-collapse:collapse" width="100% cellspacing="0" cellpadding="0" dir="ltr"><tr style="border-top:1px solid #E8EAEC; border-bottom:1px solid #E8EAEC; padding:0pt 0px 0px"><td style="font-family:Verdana;font-size:10pt"><a style="text-decoration:none" href="[%Workflow_Context:Current_Site_URL%]">&nbsp;</a><br>&nbsp;<br>This is an automated alert from the SCDOT Encroachment Permit Processing System (EPPS). Please do not reply directly to this email. <br>Application Number: [%Current Item:Application Number%]<br>Applicant: [%Permit Data:Applicant%]<br>County: [%Current Item:County%]<br>Encroachment Type: [%Permit Data:Encroachment Type%]<br>Short Description: [%Permit Data:Short Description%]<br>You can access the permit control record and associated documents on the website: <a style="color:#003399;text-decoration:none" href="http://extranet2.sharepoint.dot.state.sc.us/EncPermits/Lists/Permit%20Data/DispForm.aspx?ID=%Permit Data:ID%">SCDOT Encroachment Permit System</a>.<br>This task was assigned to you by [%Current Item:Modified By%]. <br>This task is currently assigned for review by: [%Current Item:Reviews - Current Assignments%]<br>Thank you for using the SCDOT Encroachment Permit System.<br><br></td></tr></table><BR></BODY></HTML>
```

Email Preview

From: Encroachment Permits <SMPSPHT1003@scdot.org>
 To: Rowe, Josh; Knight, Jeremy S
 Cc:
 Subject: SCDOT Encroachment Permit Application # 200003111. A review task has been assigned to you. RE: Newberry - DRIVEWAY RESIDENTIAL - Front of house to right of current drive (as facing the house)

Sent: Thu 9/19/2013 9:06 AM

SCDOT
 South Carolina Department of Transportation

This is an automated alert from the SCDOT Encroachment Permit Processing System (EPPS). Please do not reply directly to this email.

Application Number: 200003111
 Applicant: DavidRAndrews

County: Newberry
 Encroachment Type: DRIVEWAY RESIDENTIAL
 Short Description: Front of house to right of current drive (as facing the house)

You can access the permit control record and associated documents on the website: "SCDOT Encroachment Permit System".

This task was assigned to you by Rowe, Josh.

This task is currently assigned for review by: ;#County Permit Manager;#
 Thank you for using the SCDOT Encroachment Permit System.

Workflow Auditing: Actual Example

From: Green, James T

Sent: Thursday, June 19, 2014 6:20 PM

To: Baskin, Ems

Cc: Wewer, Diane L.; Comalander, Holly H

Subject: RE: EPPS Email notifications

The intended EPPS routing logic:

1. Routing emails are only triggered when a new role is added to the **Reviews – Current Assignments** control field. NOTE: **Reviews – Current Assignments** is a hidden control field and staff cannot directly add/remove a role.
2. Routing can be complex. The solution can produce steps with sequential and/or parallel assignments.
3. The DOM designed the routing logic with the idea that assignments begin and end with the County Permit Manager which is the customer's primary point-of-contact. However, the system was later enhanced to provide the **Return To** field as an override. The default value for this field is "County Permit Manager", but it can be changed to create repeat loops in the workflow when one reviewer requires feedback from another before finishing their review.
4. The system will add and/or remove roles from any/all of the control fields as necessary. For example, the system will remove the role listed in **Return To** from the **Reviews - Completed** when all other roles have completed their assignments.
5. The routing logic compares the roles listed in the five control fields to determine what (if anything) to do:
 - **Reviews – Completed**. These are the roles that have completed their assignment.
 - **Reviews – Current Assignments**. These are the roles currently assigned to a review task. Roles are removed from this control field when added to **Reviews – Completed**.
 - **Reviews – Next Assignment(s)**. When **Reviews – Current Assignments** becomes empty, these roles are assigned.
 - **Reviews – Requested**. When **Reviews – Current Assignments** and **Reviews – Next Assignment(s)** are both empty, these roles are assigned.
 - **Return To**. When **Reviews – Current Assignments**, **Reviews – Next Assignment(s)**, and **Reviews – Requested** are all empty, then this role is added to **Reviews – Current Assignments** and removed from **Reviews – Completed**. By default, this is the County Permit Manager (CPM), but can be changed by any intermediate reviewer that desires feedback from a second reviewer before routing to a third. When this function is used by an intermediate reviewer, they must restore County Permit Manager to the role in **Return To** when they complete their (final) review or else the application will not route back to the CPM.

As concerns Application 200010131, Diane Wewer has never marked her role (County Permit Manager) in the Reviews – Completed; therefore, the routing logic found nothing to do. If/when she marks her role complete, the system will assign it to District Traffic because it is listed in Reviews – Next Assignment(s).

Version History

No.	Modified	Modified By
7.0	6/13/2014 11:48 AM	System Account
	Record UnAvailable No	
6.0	6/13/2014 11:47 AM	Wewer, Diane L.
	Reviews - Requested County Permit Manager, District Traffic	
	Record UnAvailable Yes	
5.0	6/13/2014 11:47 AM	Wewer, Diane L.
	Reviews - Next Assignment(s) District Traffic	
	Permit Status Application Pending Reviews	
	Return To District Traffic	
	Comments (Internal) Comment: needs to be reviewed per TIS By:NTS\wewerd\Date:6/13/2014	
4.0	5/30/2014 7:45 AM	System Account
	Record UnAvailable No	
3.0	5/30/2014 7:43 AM	Wewer, Diane L.
	Record UnAvailable Yes	
2.0	5/30/2014 7:43 AM	Wewer, Diane L.
	Permit Status Application Pending Additional Information	
1.0	5/21/2014 2:30 PM	Green, James T.
	Title Routing Data for Application Number - 200010131	
	Application Number 200010131	
	Short Description 1200 Toolbeck Road	
	Reviews - Requested County Permit Manager	
	Reviews - Current Assignments County Permit Manager	
	Permit Status Application Submitted	
	County Aiken	
	Permit Data Record View Permit Data	
	Workflow Trigger No	
	Record UnAvailable No	
	Approved with Waiver? No	
	Return To County Permit Manager	
	Sent Approval Email? No	

This will become current and get email and see in view.

When marked complete

As concerns Application 200008018, the explanation gets more complicated. The first problem is that John Backstrom has two roles, County Permit Manager and County Maintenance. This can create some unintended results if John doesn't fully understand how the routing logic works. Hopefully, my explanation of this routing history (screenshots below) will help him and everyone else:

- Version 1: EPPS initialization of new application using impersonation = James Green. The result was:
 - **Current = County Permit Manager** (An email was sent to Diane Wewer, John Backstrom, and William Steele)
 - **Return To = County Permit Manager**
 - **Requested = County Permit Manager**
 - **Next =**
 - **Complete =**
 - **When ready to route to the next reviewer, I would expect a member of the County Permit Manager group to mark their role as Completed and to mark other role(s) in Next and/or Requested.**

- Version 5: John Backstrom performed a manual update.
 - Return To = County Permit Manager
 - Requested = County Permit Manager
 - **Next = County Permit Manager**
 - **Complete = County Permit Manager, County Maintenance**
 - *Okay. John is a member of the County Permit Manager group, but this is a non-conforming scenario because he marked County Maintenance as Completed without marking it Requested or Next. The issue is that the workflows will likely produce an unexpected result.*
- Versions 6, 7: The EPPS Workflows adjusted the control fields based on John's updates.
 - Current = County Permit Manager (No change = no email.)
 - Return To = County Permit Manager
 - **Requested = County Permit Manager, County Maintenance**
 - **Next = Empty.**
 - **Complete = Empty.**
 - *As I suspected, there was an unintended result. The first workflow added County Maintenance to Requested because the role was listed in the current value [database] of Completed. But then later in the code, County Maintenance was removed from Completed because the role was not listed in the current value [database] of Current, Requested, Next, or Return To. Also note that County Permit Manager was removed from Completed by virtue of the Return To logic. In any case, the current assignment will remain the same until someone marks County Permit Manager as Completed.*
- Version 16: Diane Wewer performed a manual update.
 - **Return To = District Traffic**
 - Requested = County Permit Manager, County Maintenance
 - **Next = District Traffic**
 - **Complete = District Traffic, County Permit Manager**
 - *This is another non-conforming scenario where District Traffic is marked Completed on the very same update that first identifies it as Requested and Next. In this case, the role is removed from Next. She also marked County Permit Manager as Completed, so since County Maintenance is listed in Requested, the workflows will make that the current assignment. County Maintenance will get an email (surely a surprise) and will hopefully mark it as Completed (again). The system should then assign it to District Traffic by virtue of the Return To logic.*
- Versions 17, 18: Two EPPS Workflows adjusted the control fields based on Diane's updates.
 - **Current = County Maintenance**
 - Return To = District Traffic
 - **Requested = County Permit Manager, County Maintenance, District Traffic**

- **Next = Empty.**
 - Complete = County Permit Manager, District Traffic
 - *As expected, this update triggered a change in current assignment. I verified that an email was sent to John Backstrom and Bobby Usry.*
- Version 23: Ems Baskin performed a manual update.
 - **Return To = County Permit Manager**
 - Requested = County Permit Manager, County Maintenance, District Traffic
 - Next = Empty.
 - Complete = County Permit Manager, District Traffic
 - *Okay; at this point I'm a little disappointed that not even one appropriate routing update has been recorded. In any case, the current assignment will remain the same until someone marks County Maintenance as Completed.*
- Versions 24, 25: The workflows found nothing to change.
- Version 28: Diane Wewer performed a manual change.
 - **Return To = District Traffic**
 - Requested = County Permit Manager, County Maintenance, District Traffic
 - **Next = District Traffic.**
 - Complete = County Permit Manager, District Traffic
 - *As already mentioned, the current assignment will not change until someone marks the current assignment, County Maintenance, as Completed.*
- Version 29, 30: The workflows found nothing to change.

Version History		
Delete All Versions		
No.	Modified	Modified By
33.0	6/16/2014 4:54 PM	System Account
	Record UnAvailable No	
32.0	6/16/2014 4:53 PM	Baskin, Ems
	Record UnAvailable Yes	
31.0	6/16/2014 4:53 PM	Baskin, Ems
	Return To County Permit Manager	
	Comments (Internal) Comment:	3 of 5 DTE original comments are now done but 2 are missing and waiver not revised. See 6-16-14 email. By:NTS\baskinepDate:6/16/2014
	Comment:	
	need drawings submitted.	
	By:NTS\wewerdDate:5/13/2014	
	Comment:	
	Drives need	
30.0	6/13/2014 7:08 AM	System Account
	Record UnAvailable No	
29.0	6/13/2014 7:07 AM	Wewer, Diane L.
	Reviews - Next Assignment(s)	
	Record UnAvailable Yes	
28.0	6/13/2014 7:07 AM	Wewer, Diane L.
	Reviews - Next Assignment(s) District Traffic	
	Permit Status Application Pending Reviews	
	Return To District Traffic	
	Comments (Internal) Comment:	need drawings submitted.
	By:NTS\wewerdDate:6/13/2014	
	Comment:	Drives need work to meet standards. See DTE email of 5-21-14.
	By:NTS\baskinepDate:5/21/2014	

27.0	6/9/2014 3:04 PM	System Account
	Record UnAvailable No	
26.0	6/9/2014 2:16 PM	Wewer, Diane L.
	Record UnAvailable Yes	
25.0	6/9/2014 2:15 PM	Wewer, Diane L.
	Permit Status Application Pending Additional Information	
	Comments (Internal) Comment:	Drives need work to meet standards. See DTE email of 5-21-14. By:NTS\baskinepDate:5/21/2014
24.0	5/21/2014 5:12 PM	System Account
	Record UnAvailable No	
23.0	5/21/2014 5:10 PM	Baskin, Ems
	Record UnAvailable Yes	
22.0	5/21/2014 5:10 PM	Baskin, Ems
	Return To County Permit Manager	
	Comments (Internal) Comment:	Drives need work to meet standards. See DTE email of 5-21-14. By:NTS\baskinepDate:5/21/2014
21.0	5/19/2014 7:55 AM	System Account
	Record UnAvailable No	
20.0	5/19/2014 7:55 AM	Wewer, Diane L.
	Record UnAvailable Yes	
19.0	5/19/2014 7:54 AM	Wewer, Diane L.
	Permit Status Application Pending Reviews	
18.0	5/16/2014 3:44 PM	System Account
	Reviews - Current Assignments County Maintenance	
	Record UnAvailable No	
17.0	5/16/2014 3:42 PM	Wewer, Diane L.
	Reviews - Completed County Permit Manager, District Traffic	
	Reviews - Requested County Permit Manager, County Maintenance, District Traffic	
	Reviews - Current Assignments	
	Reviews - Next Assignment(s)	
	Record UnAvailable Yes	

16.0	5/16/2014 3:42 PM	Wewer, Diane L.
	Reviews - Completed	District Traffic, County Permit Manager
	Reviews - Next Assignment(s)	District Traffic
	Return To	District Traffic
15.0	5/16/2014 3:38 PM	System Account
	Record UnAvailable	No
	Permit Status Group	1
14.0	5/16/2014 3:37 PM	Wewer, Diane L.
	Record UnAvailable	Yes
13.0	5/16/2014 3:37 PM	Wewer, Diane L.
	Permit Status	Application Pending Additional Information
12.0	5/15/2014 4:10 PM	System Account
	Record UnAvailable	No
11.0	5/15/2014 4:07 PM	James T. Green
	Record UnAvailable	Yes
10.0	5/15/2014 4:06 PM	James T. Green
	Workflow Control	
	Record UnAvailable	No
9.0	5/15/2014 3:21 PM	James T. Green
	Record UnAvailable	Yes
8.0	5/15/2014 3:21 PM	James T. Green
	Permit Number	169163
	Workflow Control	Permit Workflow
7.0	5/15/2014 2:10 PM	System Account
	Reviews - Completed	
	Reviews - Current Assignments	County Permit Manager
	Record UnAvailable	No
	Permit Status Group	3

6.0	5/15/2014 2:08 PM	Backstrom, John W.
	Reviews - Requested	County Permit Manager, County Maintenance
	Reviews - Current Assignments	
	Reviews - Next Assignment(s)	
	Record UnAvailable	Yes
5.0	5/15/2014 2:07 PM	Backstrom, John W.
	Reviews - Completed	County Permit Manager, County Maintenance
	Reviews - Next Assignment(s)	County Permit Manager
	Permit Status	Application Approved
4.0	4/10/2014 11:41 AM	System Account
	Record UnAvailable	No
3.0	4/10/2014 11:39 AM	Wewer, Diane L.
	Record UnAvailable	Yes
2.0	4/10/2014 11:33 AM	Wewer, Diane L.
	Permit Status	Application Pending Additional Information
1.0	3/19/2014 10:07 AM	Green, James T.
	Title	Routing Data for Application Number - 200008018
	Application Number	200008018
	Short Description	170' North of the intersection of Piney Heights Road (S2-67) and Pine Log Road (S2-65)
	Reviews - Requested	County Permit Manager
	Reviews - Current Assignments	County Permit Manager
	Permit Status	Application Submitted
	County	Aiken
	Permit Data Record	View Permit Data
	Workflow Trigger	No
	Record UnAvailable	No
	Approved with Waiver?	No
	Return To	County Permit Manager
	Sent Approval Email?	No
	Permit Status Group	1

Documents

A unique document folder is created for every Application. Document libraries are managed in “secondary” content databases to mitigate performance and database size issues.

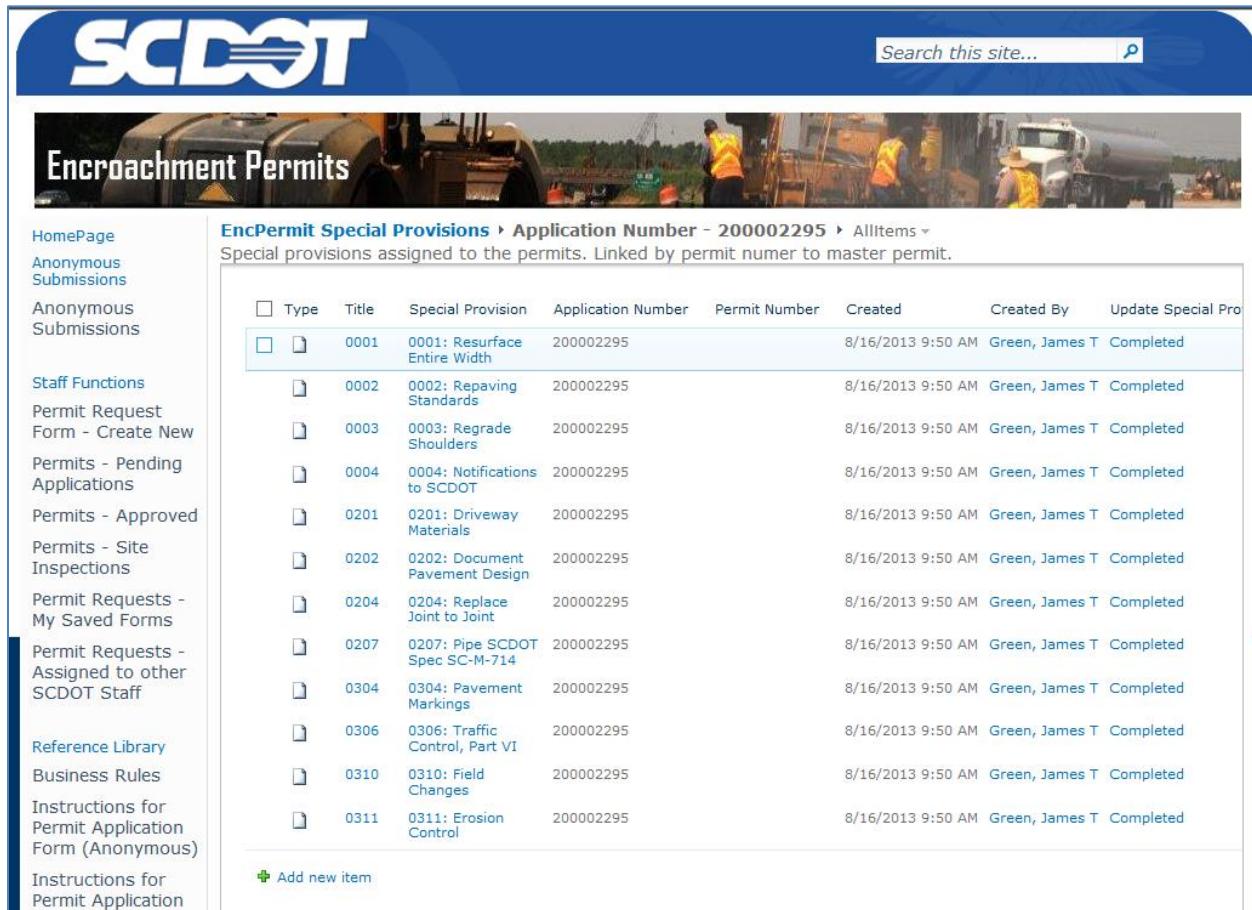
Permit Documents > **Application Number - 200002195**
Permit documents and the master permit folder are stored here.

<input type="checkbox"/> Type	Name	Application Number	Permit Number	Doc Type	Modified	Customer
	Approved Documents				8/13/2013 3:55 PM	
	TWC.8008.sketches1of2	200002195		Additional Documentation	8/15/2013 7:33 AM	Kristen Price
	TWC-8008 SuppInfo	200002195		Additional Documentation	8/13/2013 4:00 PM	Kristen Price

[Add document](#)

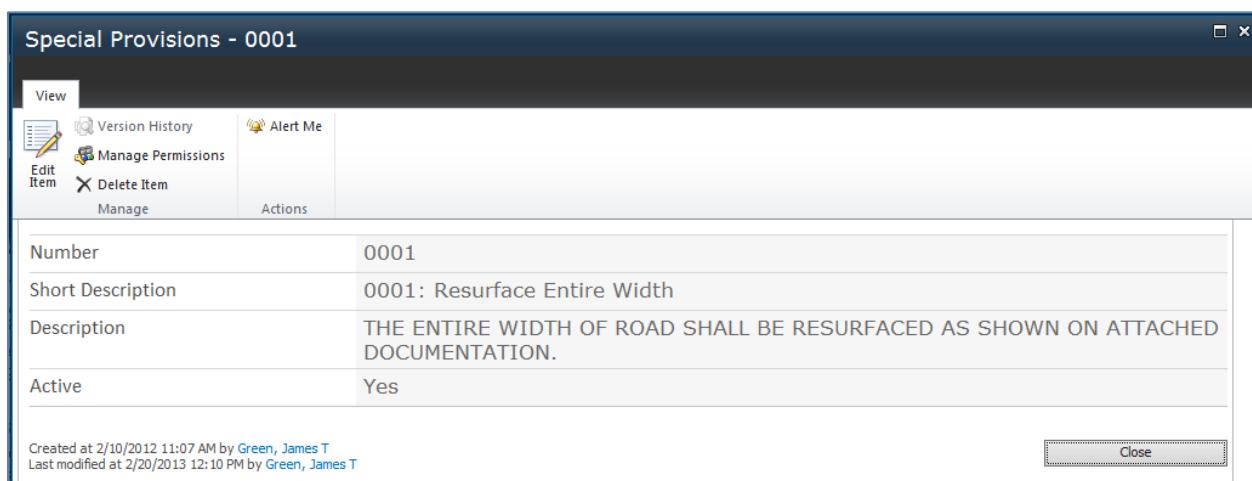
Special Provisions

Special Provisions can be tailored for a project. Other times, the defaults (by encroachment type) will be sufficient.



The screenshot shows a web-based application for managing encroachment permits. The header features the SCDOT logo and a search bar. Below the header, a banner image shows construction workers at a site. The main content area is titled "EncPermit Special Provisions > Application Number - 200002295 > AllItems". A sub-header indicates "Special provisions assigned to the permits. Linked by permit number to master permit." A table lists 15 special provisions, each with a checkbox, type, title, special provision, application number, permit number, creation date, creator, and status. The table includes a "Completed" status for all items. At the bottom of the table is a link to "Add new item".

Type	Title	Special Provision	Application Number	Permit Number	Created	Created By	Update Special Pro
<input type="checkbox"/>	0001	0001: Resurface Entire Width	200002295		8/16/2013 9:50 AM	Green, James T	Completed
<input type="checkbox"/>	0002	0002: Repaving Standards	200002295		8/16/2013 9:50 AM	Green, James T	Completed
<input type="checkbox"/>	0003	0003: Regrade Shoulders	200002295		8/16/2013 9:50 AM	Green, James T	Completed
<input type="checkbox"/>	0004	0004: Notifications to SCDOT	200002295		8/16/2013 9:50 AM	Green, James T	Completed
<input type="checkbox"/>	0201	0201: Driveway Materials	200002295		8/16/2013 9:50 AM	Green, James T	Completed
<input type="checkbox"/>	0202	0202: Document Pavement Design	200002295		8/16/2013 9:50 AM	Green, James T	Completed
<input type="checkbox"/>	0204	0204: Replace Joint to Joint	200002295		8/16/2013 9:50 AM	Green, James T	Completed
<input type="checkbox"/>	0207	0207: Pipe SCDOT Spec SC-M-714	200002295		8/16/2013 9:50 AM	Green, James T	Completed
<input type="checkbox"/>	0304	0304: Pavement Markings	200002295		8/16/2013 9:50 AM	Green, James T	Completed
<input type="checkbox"/>	0306	0306: Traffic Control, Part VI	200002295		8/16/2013 9:50 AM	Green, James T	Completed
<input type="checkbox"/>	0310	0310: Field Changes	200002295		8/16/2013 9:50 AM	Green, James T	Completed
<input type="checkbox"/>	0311	0311: Erosion Control	200002295		8/16/2013 9:50 AM	Green, James T	Completed



The screenshot shows a modal dialog for editing a specific special provision. The title is "Special Provisions - 0001". The top navigation bar includes "View", "Edit Item", "Delete Item", and "Manage". The main content area displays a table with the following data:

Number	0001
Short Description	0001: Resurface Entire Width
Description	THE ENTIRE WIDTH OF ROAD SHALL BE RESURFACED AS SHOWN ON ATTACHED DOCUMENTATION.
Active	Yes

At the bottom of the dialog, a message states "Created at 2/10/2012 11:07 AM by Green, James T" and "Last modified at 2/20/2013 12:10 PM by Green, James T". A "Close" button is located in the bottom right corner.

Encroachment Work Locations

The initial work location information is captured on the Application form as simply County and Road Name(s). If it is determined that an application can proceed for review, SCDOT staff will map (at least one) of the work locations. This is a required step before a Permit Number can be assigned to the request (aka, the Application).



The screenshot shows a web application for managing encroachment permits. The header features a banner image of construction workers at a site. The left sidebar contains a navigation menu with links to HomePage, Anonymous Submissions, Staff Functions, Reference Library, Customers, and Admin Functions. The main content area is titled 'Location Information' and displays a table of permit locations. The table includes columns for ID, County, Road Name, ViewMap (with a 'Click For Map' link), Application Number, and Title. Two rows of data are shown:

ID	County	Road Name	ViewMap	Application Number	Title
4721	Orangeburg, SC	Heron St.	Click For Map	200000708	This is optional View
3541	Orangeburg, SC	COLUMBIA ROAD NE	Click For Map	200000708	TWEANPartnershipbaTimeWarnerCable6-18-2013T10_51AM650

At the bottom of the table, there is a link to 'Add new item'.

Google Maps API + RIMS Web Service: Mapping Locations

The EPPS geocoding solution uses the Google Maps API to transform the simple “County” + “Road Name” information provided by the Customer into Latitude/Longitude. EPPS then calls the RIMS Web Service to transform the Lat/Long into “County” + “Route Type” + “Route Number” + “Auxiliary” + “Mile Point” which is the format preferred on EPPS Permit documentation:

- Google Maps understands “Road Name” + “County” + “State” which is required to put a location marker on the mapping interface.
- The RIMS Web Service understands “Longitude” + “Latitude” and converts that to “County” + “Route Type” + “Route Number” + “Auxiliary” + “Mile Point”.
- Google Maps API provides the “Get Directions” function to draw the connecting line between the Beginning and Ending Points. As you will see later in this discussion, that can lead to some unexpected (but manageable) display results.

The initial location data is passed to the Google Maps API which results in a marker on the map and the population of latitude and longitude for that point. The user can move the marker to improve precision before checking the “Valid” box. The lat/long data is then passed as parameters to the RIMS web service which returns the County, Route Number, Route Auxiliary, and Mile Point(s).

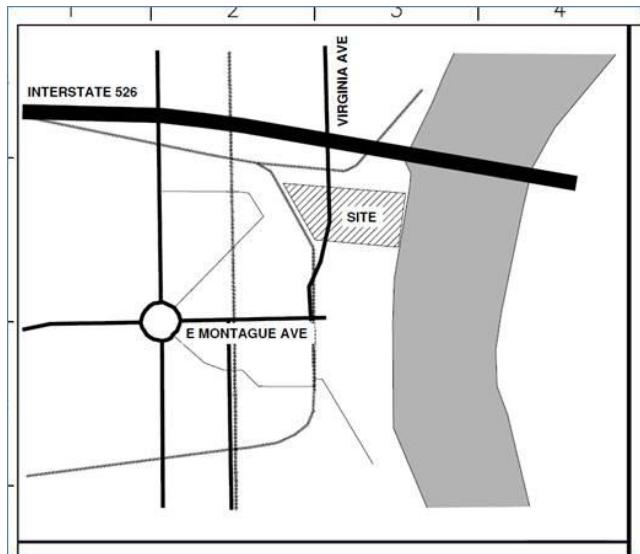
Mapping Challenges

Working with the EPPS mapping solution is not without challenges. There are some situations which require some guidance and experience:

- The precision of the transformation provided by the ITMS Web Service is usually pretty good, but it can vary. This means that you might want to map MP 0.6, but the mapping module might only give you MP 0.599. The explanation for this is that the precision of Latitude/Longitude has a variance as does the ITMS conversion. In other words, absolute precision, absolutely every time, is not something the EPPS mapping module can achieve.
- When only “Longitude” + “Latitude” is provided, the ITMS Web Service will return the Route Information for the highest priority road (Interstate, US Highway, State Highway, etc.) in the near vicinity. This can lead to undesired results for locations where multiple state-maintained roads intersect, converge, or closely parallel.
- When “County” + “Route Type” + Route Number” + “Auxiliary” is provided in addition to “Longitude” + “Latitude”, the ITMS Web Service will validate that the road is in the near vicinity and return the Route Information for just that road. **This is the core logic for the “Manual Update” feature on the user interface.**

Mapping challenges SCDOT staff have encountered.

Charleston County needed to map a section of Virginia Avenue that was a little south of Interstate 526. The problem is that while the route information starts off correct (S-58), if you move it closer to the desired location, it changes to I-526. The pointer is located on Virginia Avenue, but north of I-526. We note that the Route Type (S-), the Route Number (58), and the Auxiliary (None) are correct for Virginia Avenue. The corrective action in this case is: immediately click "Manual Update". **NOTE: If the route information had not been correct, staff can MANUALLY CHANGE it using the three (modifiable) route information fields.**



Plot Work Location(s)

BMP Marker	EMP Marker		
County	CHARLESTON	County	
Route Type	S-	Route Type	
Route Number	58	Route Number	
Route Auxiliary	None	Route Auxiliary	
MilePoint	1.587	MilePoint	
Valid	<input type="checkbox"/>	Valid	<input type="checkbox"/>

Location: 5610-5698 Virginia Avenue, North Charleston, SC 29406, USA

Manual Update **Reset** **Open Street Finder**

Map data ©2013 Google. Terms of Use. Report a map error.

Anytime the Route Type, Route Number, and Auxiliary information is correct is the perfect time to click "Manual Update" and "lock in" that information. Otherwise, every time you move the pointer, the ITMS web service is going to update the route information. Notice that after clicking "Manual Update", all route fields are greyed out. If the "locked in" information is wrong, you can start over by clicking the "Reset" button.

Plot Work Location(s)

BMP Marker	EMP Marker
County	CHARLESTON
Route Type	<input type="text"/>
Route Number	<input type="text"/> 58
Route Auxillary	<input type="text"/> None
MilePoint	<input type="text"/> 1.587
Valid	<input type="checkbox"/>
Location:	<input type="text"/> 5610-5698 Virginia Avenue, North Charleston, SC 29406, USA
<input type="button" value="Reset"/> <input type="button" value="Map"/> <input type="button" value="Satellite"/>	

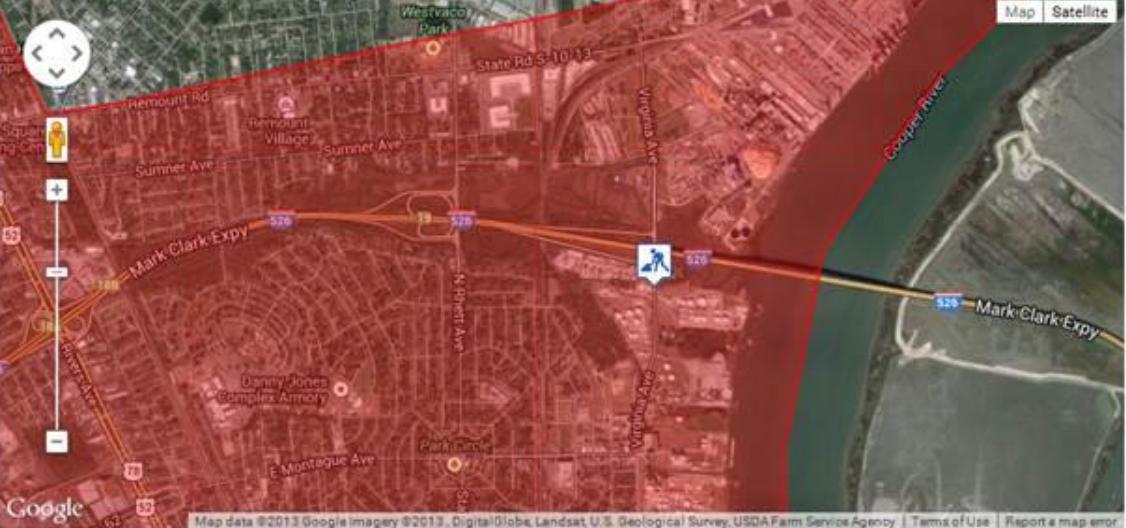
The staffer could then move the pointer where ever she needed because now the map will not allow the "locked in" Route Type, Route Number, and Auxiliary information to change. When the staffer moved the pointer slightly south of I-526 to get closer to the desired work location and the route information did not change (other than the mile point – which is a good thing).

Plot Work Location(s)

BMP Marker	EMP Marker
County	County
Route Type	Route Type
Route Number	Route Number
Route Auxillary	Route Auxillary
MilePoint	MilePoint
Valid	Valid

Location: 4987-4999 Virginia Avenue, North Charleston, SC 29405, USA Open Street Finder

[Reset](#)



Then it was time to zoom and work on the Mile Points. PLEASE NOTE: It is usually impossible to obtain nice round numbers. In this case, the staffer wanted to record MP 0.6, but no matter how carefully she tried, the ITMS web service would only return MP 0.599. This is due to the precision of the ITMS web service. The latitude/longitude information provided by the Google Map is transformed by the ITMS web service into the nearest Mile Point (in thousandths). While doing this for the beginning or ending of a road is easy, mile points elsewhere are nearly impossible to get nice round numbers...

Plot Work Location(s)

BMP Marker	EMP Marker
County	CHARLESTON
Route Type	S-
Route Number	58
Route Auxillary	None
MilePoint	0.887
Valid	<input checked="" type="checkbox"/>
Location:	4987 Virginia Avenue, North Charleston, SC 29405, USA

[Reset](#) [Finalize Work Location\(s\)](#)

Open Street Finder

Plot Work Location(s)

BMP Marker	EMP Marker
County	Charleston, SC
Route Type	S-
Route Number	58
Route Auxillary	None
MilePoint	0.887
Valid	<input type="checkbox"/>
Location:	4974-4998 Virginia Avenue, North Charleston, SC 29405, USA

[Reset](#)

Open Street Finder

Done.

Orangeburg County came across two very interesting challenges in a recent project. The staffer needed to map sections of two intersecting roads: Hooligan Way (S-2036) and 5 Chop Road (US-301). First, he tried to map Hooligan Way. But when the map opened, the pointer was nowhere close to desired location. In fact, it looked like it had been simply dropped in the middle of the county.

Convert current web page to an Adobe PDF file

Plot Work Location(s)

BMP Marker	EMP Marker
County	County
Route Type	Route Type
Route Number	Route Number
Route Auxillary	Route Auxillary
MilePoint	MilePoint
Valid	Valid

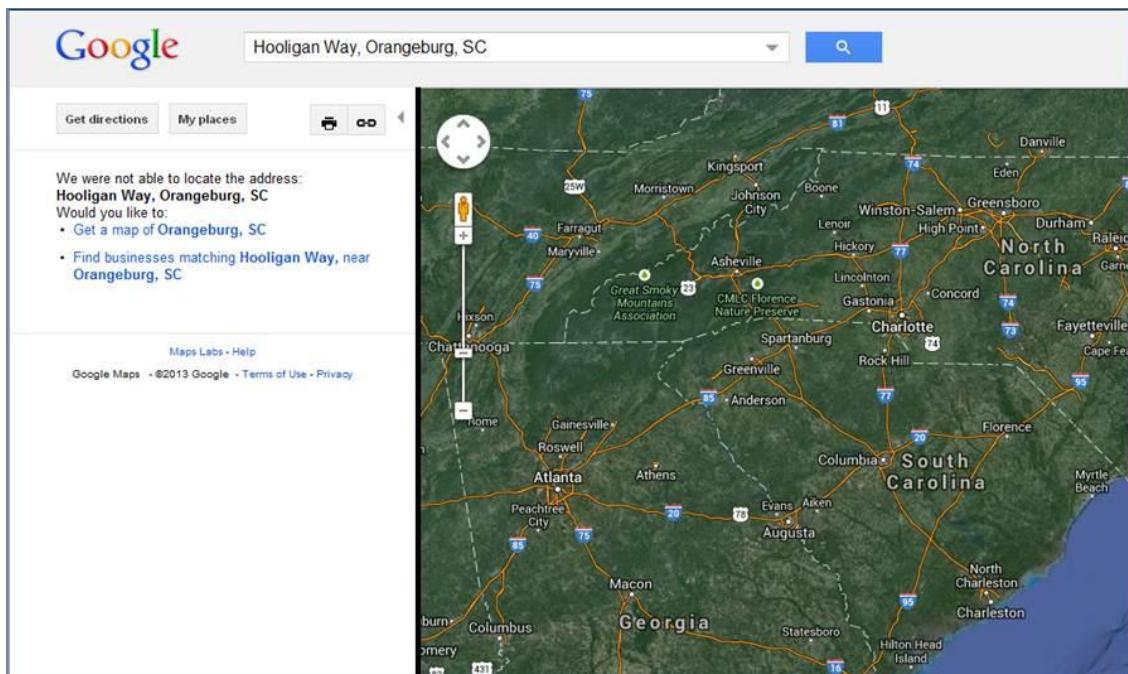
Location: 536-558 Whitman Street Southeast, Orangeburg, SC 29115, USA

Open Street Finder

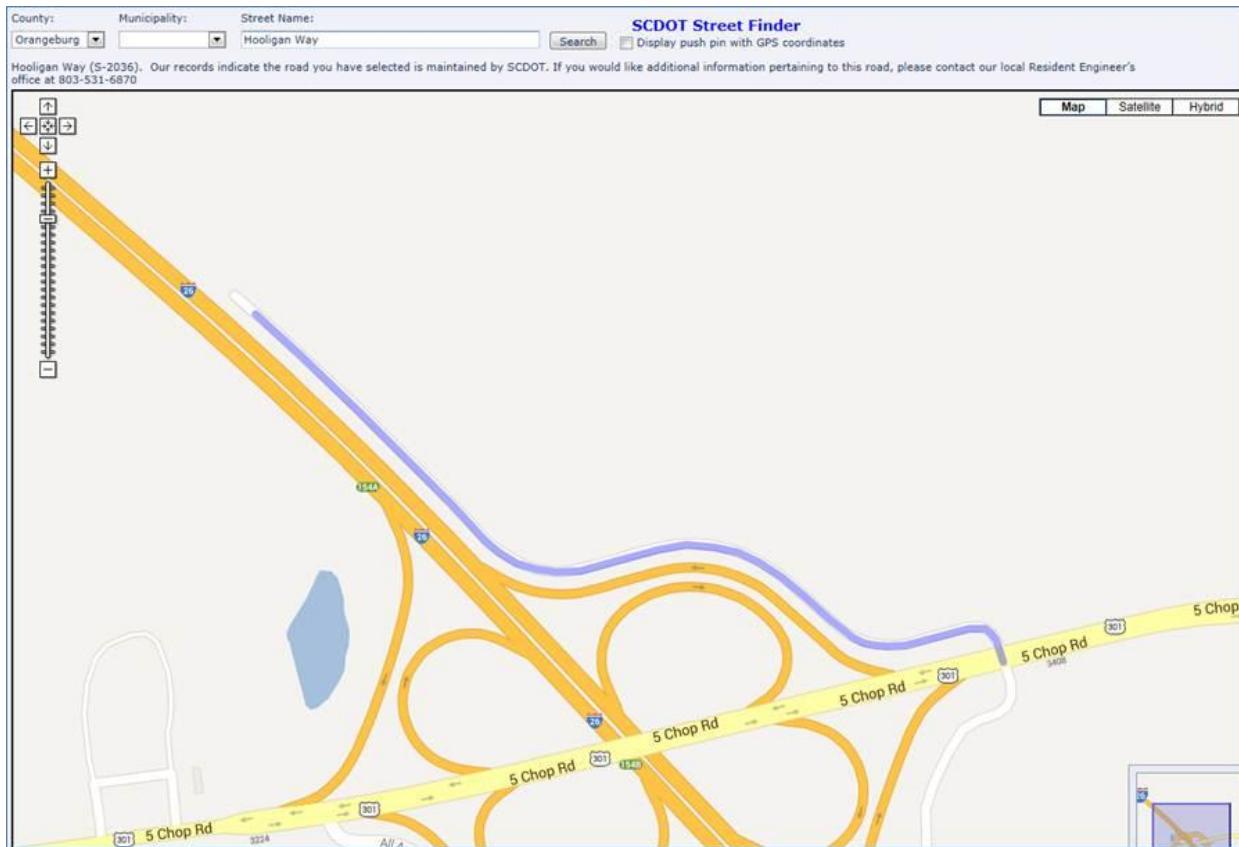
Manual Update **Reset**

Map data ©2013 Google. Terms of Use Report a map error

Okay, so what was really going on? The answer is that Google's database doesn't contain Hooligan Way. In this case, someone needs to send a request to Google that it be added. However, this doesn't stop us from actually mapping the location.



I used RIMS' Street Finder interface to search for Hooligan Way and found it.



The result is that I now know where to move the location marker to on the Google Maps interface. But I also realize that there is more to this challenge - while looking at the map, I recognize that I have to map a secondary road that is in the very near vicinity of two higher priority roads (an Interstate and a US Highway). From my experience, I know that no matter how far I zoom in or where I place the pointer, the precision of the "Longitude" + "Latitude" is going to be insufficient for the RIMS Web Service to return S-2036. Sure enough, it either returns I-26 or US 301.

Important Note: The "Route Type", "Route Number", and "Route Auxiliary" fields are modifiable and there is a button titled, "Manual Update".]

Plot Work Location(s)

BMP Marker	EMP Marker
County <input type="text" value="ORANGEBURG"/>	County <input type="text"/>
Route Type <input type="text" value="US"/>	Route Type <input type="text"/>
Route Number <input type="text" value="301"/>	Route Number <input type="text"/>
Route Auxiliary <input type="text" value="None"/>	Route Auxiliary <input type="text"/>
MilePoint <input type="text" value="23.476"/>	MilePoint <input type="text"/>
Valid <input type="checkbox"/>	Valid <input type="checkbox"/>

Location:

[Open Street Finder](#)

Manual Update [Map](#) [Satellite](#)

Map data ©2013 Google | Terms of Use | Report a map error

At this point in the exercise, our map pointer is in the right place, but the route information is wrong. This is when we need to use the “Manual Update” feature. First, we modify the “Route Type”, “Route Number”, and “Auxiliary” fields. Then click the “Manual Update” button. The result is that the manually entered Route Information is valid and now it is “locked in”!

Plot Work Location(s)

BMP Marker	EMP Marker
County <input type="text" value="ORANGEBURG"/>	County <input type="text"/>
Route Type <input type="text" value="S-"/>	Route Type <input type="text"/>
Route Number <input type="text" value="2036"/>	Route Number <input type="text"/>
Route Auxiliary <input type="text" value="None"/>	Route Auxiliary <input type="text"/>
MilePoint <input type="text" value="0.030"/>	MilePoint <input type="text"/>
Valid <input type="checkbox"/>	Valid <input type="checkbox"/>

Location:

[Open Street Finder](#)

[Map](#) [Satellite](#)

Map data ©2013 Google | Terms of Use | Report a map error

With the route information now “locked in”, we can move the location marker to increase the precision of the “Mile Point” without changing the Route Information. And when we map the Ending Mile Point, it inherits the same Route Information.

Plot Work Location(s)

BMP Marker	EMP Marker
County	County
Route Type	Route Type
Route Number	Route Number
Route Auxiliary	Route Auxiliary
MilePoint	MilePoint
Valid	Valid

Location: 3505 Five Chop Road, Orangeburg, SC 29115, USA

[Open Street Finder](#)

[Reset](#) [Finalize Work Location\(s\)](#) [Map](#) [Satellite](#)

One down...

Plot Work Location(s)

BMP Marker	EMP Marker
County	County
Route Type	Route Type
Route Number	Route Number
Route Auxiliary	Route Auxiliary
MilePoint	MilePoint
Valid	Valid

Location: Interstate 26, Orangeburg, SC 29115, USA

[Open Street Finder](#)

[Reset](#) [Map](#) [Satellite](#)

Next, the staff member needed to map “5 Chop Road”. This time he was able to quickly add the two milepoints and finalize the work location. But before he moves on to something else, he always checks that the location has been mapped properly. Was he ever surprised: Google Maps had drawn an amazing five-mile loop to traverse 100 feet of 5 Chop Road (US Hwy 301). So, what was really going on?

Plot Work Location(s)

BMP Marker	EMP Marker
County	County
Route Type	Route Type
Route Number	Route Number
Route Auxillary	Route Auxillary
MilePoint	MilePoint
Valid	Valid

Location: 3417 Five Chop Road, Orangeburg, SC 29115, USA

Open Street Finder

Reset

Map | Satellite

Map data ©2013 Google | Terms of Use | Report a map error

The important bit of information is that Google Maps understands that US Highway 301 is a divided highway. Since the staff member placed both pointers in the West bound lane, it created a scenic tour to cover what was supposed to be about a hundred feet. We can see that clearly if we zoom in.

Plot Work Location(s)

BMP Marker	EMP Marker
County	County
Route Type	Route Type
Route Number	Route Number
Route Auxillary	Route Auxillary
MilePoint	MilePoint
Valid	Valid

Location: 3417 Five Chop Road, Orangeburg, SC 29115, USA

[Open Street Finder](#)

[Reset](#) [Map](#) [Satellite](#)

Map data ©2013 Google. [Terms of Use](#) | [Report a map error](#)

The choice was to either move both pointers to the East bound lane or reverse the Beginning and Ending Points. Either way, Google then drew the line we expected to see.

Plot Work Location(s)

BMP Marker	EMP Marker
County	County
Route Type	Route Type
Route Number	Route Number
Route Auxillary	Route Auxillary
MilePoint	MilePoint
Valid	Valid

Location: 3485-3505 Five Chop Road, Orangeburg, SC 29115, USA

[Open Street Finder](#)

[Reset](#) [Map](#) [Satellite](#)

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Road missing in RIMS

It doesn't happen often, but sometimes a road is missing in RIMS. Road swaps with counties and municipalities do occur, and someone will need to add, remove, or update milepoints for roads in the database. Here are instructions for accomplishing both of those tasks.

Someone in each county maintenance office should have access to manage the HMMS "Road Name Table" illustrated below. Updates may take a few minutes before they are reflected in the web service data, but not more than 10-15 minutes. Below is a screen shot of the HMMS Road Name maintenance screen. To get to this screen you click on the Tables menu then the Work Status sub-menu then the Work Request sub-menu then finally the Road Name sub-menu.

Tables menu

Work Status sub-menu

Work Request sub-menu

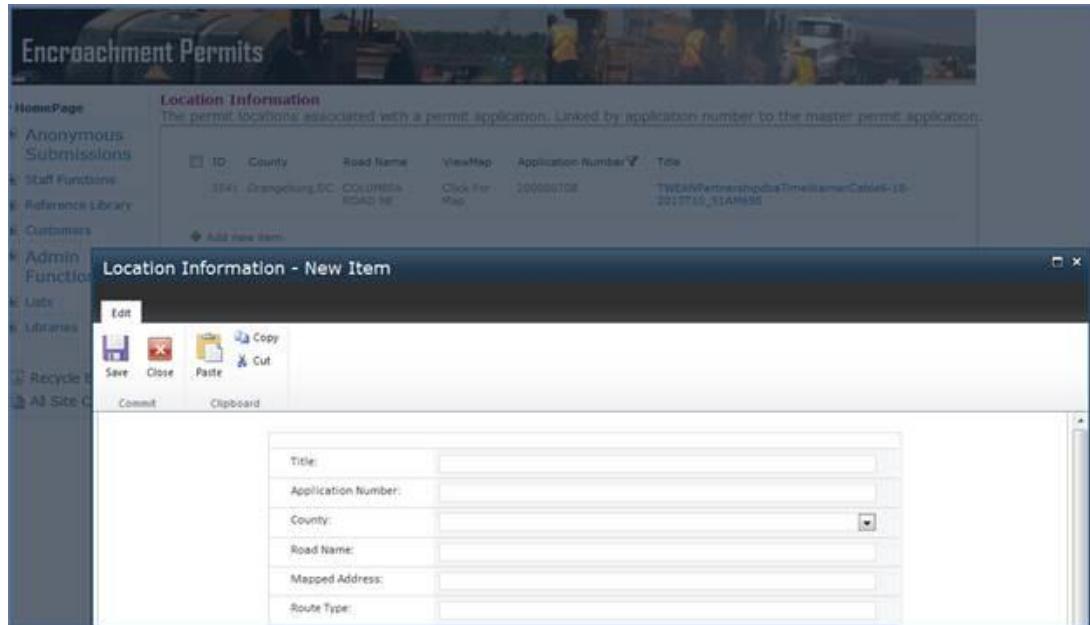
Road Name sub-menu to display the Road Name screen.

The screenshot shows the HMMS - Work Request Tables software interface. The title bar reads "HMMS - Work Request Tables". The menu bar includes "Field Operations", "Work Status", "Reports", "Special Programs", "Planning", "Tables", "Admin", "Print Screen", "Mailform", "Help", "Window", and "Exit". The status bar shows the date and time: "03-JUL-2013 11:14:13". The main window is titled "Road Name Table". It has a "District" dropdown set to "SWD" and a "Work County" dropdown set to "RICHLAND". There are buttons for "Save", "Delete", and "Run Report". A table below lists roads with columns for "Road Name", "Type", "Route", and "Aux.". The table contains the following data:

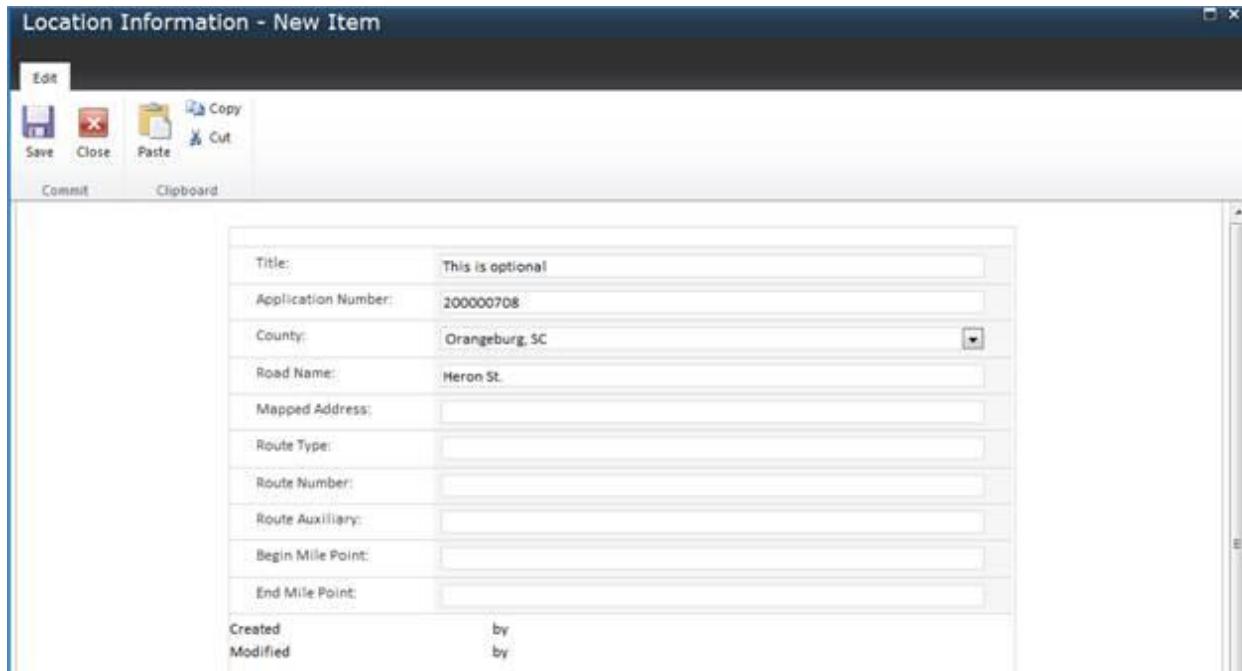
Road Name	Type	Route	Aux.
BARBER ST	S	915	00
BARLOW RD	S	838	00
BARNES SPRING RD	S	2013	00
BARNES ST	S	2796	00
BARNHART RD	S	1928	00
BARNSBURY RD	S	1400	00
BARNWELL ST	S	172	00
BARNWELL ST (EASTOVER)	S	1777	00
BARRINGTON DR	S	2135	00
BARRISTER DR	S	2655	00
BARTON ST	S	916	00
BARWICK ST	S	898	00
BASEHILL RD	S	2051	00
BASIL ST	S	2107	00
BASS RD	S	2549	00
BASSLER ST	S	3976	00
BAUER CIRCLE	S	2136	00

Adding additional locations to an existing application

Navigate to the “Location Information” for your application and click the “Add new item” link



Enter data in the first four fields (the other fields will be populated when you map the location). Please note that you will have to manually enter the “Application Number”. Also, do not include route information in the “Road Name” field.



Click “Save”. Now click the link titled “Click for Map” to map the new work location.



Encroachment Permits

[HomePage](#) [Anonymous Submissions](#) [Staff Functions](#) [Reference Library](#) [Customers](#) [Admin Functions](#)

Location Information
The permit locations associated with a permit application. Linked by application number to the master permit application.

ID	County	Road Name	ViewMap	Application Number	Title
4721	Orangeburg, SC	Heron St.	Click For Map	200000708	This is optional Edit
3541	Orangeburg, SC	COLUMBIA ROAD NE	Click For Map	200000708	TWEANPartnershipdbaTimeWarnerCable6-18-2013T10_51AM650.

[Add new item](#)

If you view the location properties, you can see that the mapping feature has populated the “Mapped Address” and “Route” information.

Location Information - This is optional

[View](#) [Edit Item](#) [Alert Me](#) [Delete Item](#) [Close](#)

[Manage](#) [Close](#)

Title:	This is optional
Application Number:	200000708
County:	Orangeburg, SC
Road Name:	Heron St.
Mapped Address:	1501-1599 Heron Street, Orangeburg, SC 29115, USA
Route Type:	St
Route Number:	702
Route Auxiliary:	None
Begin Mile Point:	0.667
End Mile Point:	0.745

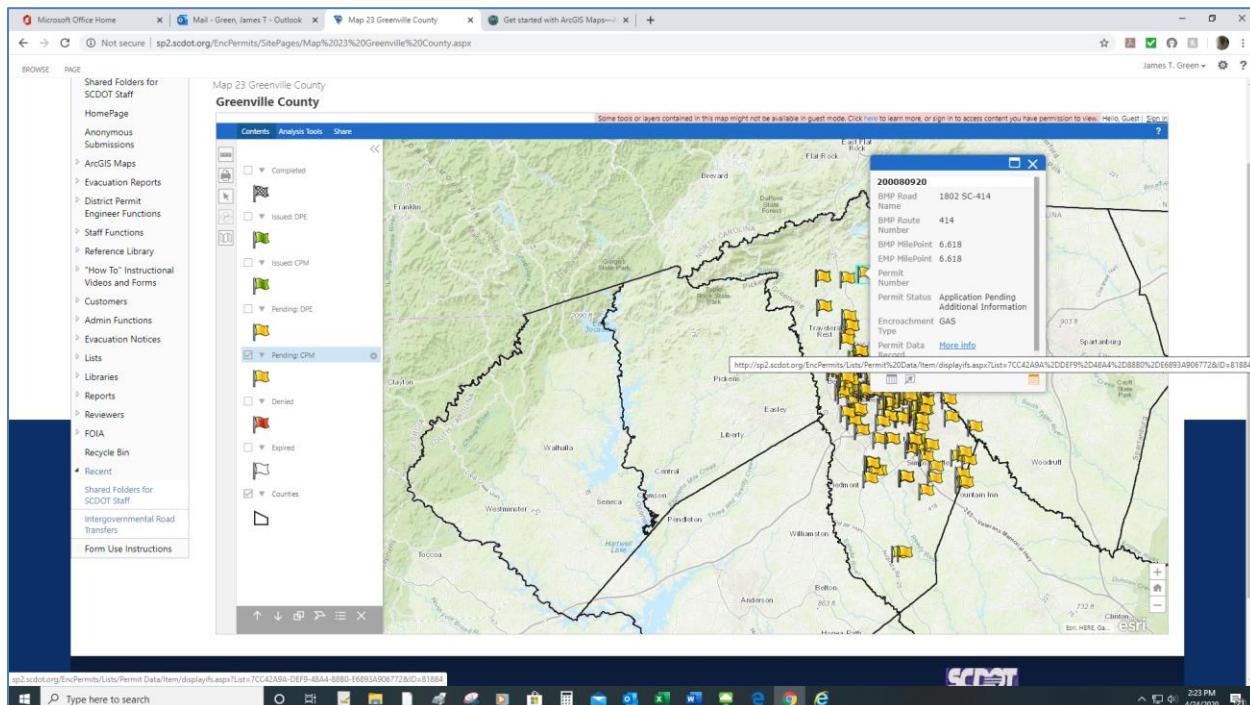
Created 07/05/2013 12:29:13 PM by Green, James T
Modified 07/05/2013 12:35:50 PM by System Account

ESRI ArcGIS Maps for SharePoint: Displaying Locations

The ArcGIS Maps web part is a JavaScript-based web part for SharePoint. It allows an administrator with ESRI credentials to create and configure dynamic, interactive maps which display geocoded items from SharePoint lists combined with layers from ArcGIS-hosted feature services.

EPPS GIS County Maps						
District and County Maps						
District Maps provide options to display Issued Permits and Pending Applications being managed by the District Permit Engineer. County Maps provide options to display all Completed Projects , Issued Permits , Pending Applications , Denied Applications , and Expired Permits . A user manual will soon be available [HERE].						
District 1	District 2	District 3	District 4	District 5	District 6	District 7
Kershaw	Abbeville	Greenville	Cherokee	Darlington	Beaufort	Aiken
Lee	Anderson	Oconee	Chester	Dillon	Berkeley	Allendale
Lexington	Edgefield	Pickens	Chesterfield	Florence	Charleston	Bamberg
Richland	Greenwood	Spartanburg	Fairfield	Georgetown	Colleton	Barnwell
Sumter	Laurens		Lancaster	Horry	Dorchester	Calhoun
	McCormick		Union	Marion	Jasper	Clarendon
	Newberry		York	Marlboro		Hampton
	Saluda			Williamsburg		Orangeburg

County Maps (Greenville County is illustrated below) provide filters by current status. Selecting a location displays a popup with additional information about the application/permit and includes a link to the main Permit Data Record.



System Messages

Email (Verbiage Templates)

Below in blue italics please find the proposed wording for e-mail to applicant acknowledging receipt of encroachment permit application. For account holders, an e-mail with this response will be automatically sent upon receipt of the application. For anonymous users, the e-mail with this response will be automatically sent upon “acceptance” by the county customer service person that determines the application to be legitimate.

SC Department of Transportation has received your encroachment permit application and has assigned Application # system generated application # to this request. This application will be processed and you will be contacted if additional information is needed or once the review is complete. If you have any questions regarding this application, you may contact the County Permit Manager by e-mail at: (CPM e-mail automatically generated) or by phone at: (county maintenance unit phone number automatically generated). Please reference your Application # in any correspondence. Thank you!

Below in red italics please find the proposed wording for e-mail notification for approved permits for account holders. The e-mail with this wording should be generated automatically when the CPM changes the status to “Permit Issued to Customer”.

Review of your encroachment permit application is complete and has been approved. Your encroachment permit number is: (system generated permit #). You should log into your account to access the approved permit documents including any special provisions or other accompanying documents. Please review the complete package and contact the County Permit Manager if you have any questions. You may contact the County Permit Manager by e-mail at: (CPM e-mail automatically generated) or by phone at: (county maintenance unit phone number automatically generated). Please reference your Permit # in any correspondence. Please also remember to contact the County Permit Manager prior to beginning construction of this encroachment. Thank you!

For anonymous users, the CPM will manually send an e-mail similar to the above and will include the approved permit documents.

How to: “Build the Final Package” and “Notify the Customer”

There are two distinct customer groups (accountholders and external). The County Permit Manager must determine to which group his customer belongs in order to understand whether the system will auto-generate an email to the customer or whether a manually processed notification is required. The best way to determine the customer group is to examine the “Customer Account” field on the Permit Data record (also visible on Documents). If empty, the customer is external. Otherwise, the customer is an accountholder.

Permit Data	
Tuesday Morning Test4-30-2013T9_29 AM420 <small>NEW</small>	InitDocName Tuesday Morning Test4-30-2013T9_00 AM195 <small>NEW</small>
Tuesday Morning Test4-30-2013T9_17 AM871 <small>NEW</small>	County Greenville
Tuesday Morning Test4-30-2013T9_12 AM241 <small>NEW</small>	Encroachment Type ELECTRIC
Tuesday Morning Test4-30-2013T9_00 AM195 <small>NEW</small>	Applicant Tuesday Morning Test
Monday Afternoon Testing4-29-2013T2_21 PM331 <small>NEW</small>	Contact Jose Valdiviso
	Customer Account SP2010User
	Short Description 113 J. Verne Smith Parkway
	Permit Status Application Submitted
	Application Number 100000802
	Permit Number
	Get Permit Number <DIV class=sdocbutton>Tuesday Morning Test4-30-2013T9_00 AM195,,,Tuesday Morning Test,8,Application Submitted,</DIV>
	Assigned To Cisson, Jason S. Collins, Carroll E. Biege, Michael Chance, Garen D. Watts, Tameki L.

Managing Permit Documents

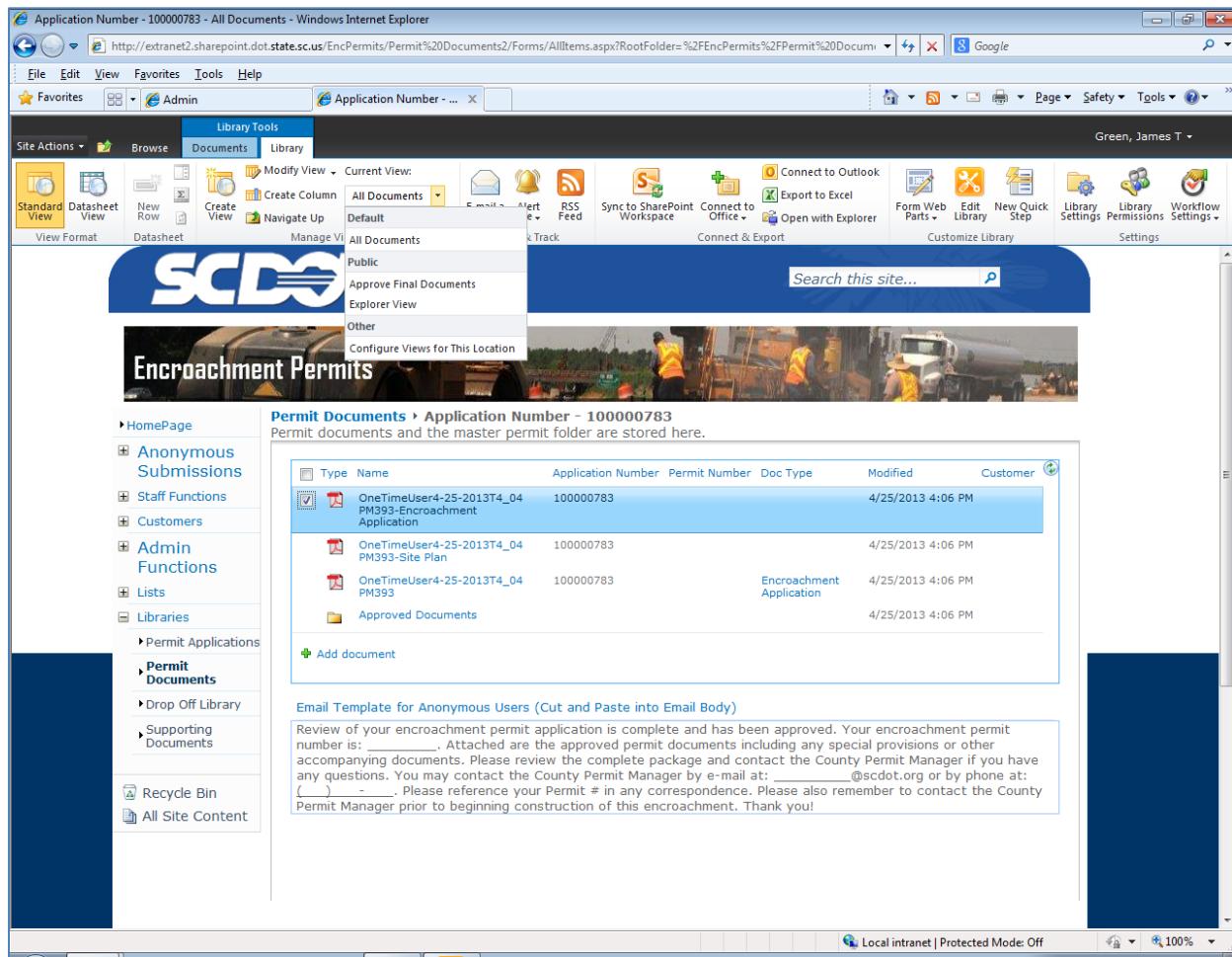
The system provides document-level security. This functionality is necessary to create a controlled environment for accountholders. When a new application is created, the system automatically creates a set of folders in the Permit Document library. The main folder is named “Application Number - #####” and contains a subfolder named “Approved Documents”.

By default, accountholders are given permissions to the main folder so that they can upload new documents for the application. However, customers cannot see and have no permissions to the “Approved Documents” subfolder until the Permit Status is changed to “Permit Issued to Customer”. Even then, the Permit Manager must also mark the “Give Customer Access?” field on the “Approve Final Documents” view to give the Customer access to the individual documents.

In addition, accountholders have no default permissions to documents uploaded by SCDOT staff. If and when it is determined that a staff document is to be made available to the customer, a SCDOT staff member must use the “Approve Final Documents” datasheet view to accomplish the security update. The next section contains instructions for accessing the datasheet view along with some other helpful information.

The “Approve Final Documents” view has a secondary function: “Give Customer Access”

To access this view, you must first reveal a set of “Library Tools” tabs on the ribbon. Start by selecting a document (click on the checkbox that appears when you move your mouse to the left of the document icon). That will active the ribbon and you should see the “Library Tools” tabs. Click the “Library” sub-tab and then use the dropdown under the label “Current View:” to select “Approve Final Documents”.



The screenshot shows a SharePoint library interface. The ribbon is active, with the 'Library Tools' tab selected. Under the 'Library' tab, the 'Current View:' dropdown is open, showing options like 'All Documents', 'Default', 'Public', 'Approve Final Documents', 'Explorer View', and 'Other'. The 'Approve Final Documents' option is highlighted. The main content area displays a list of documents with columns for Type, Name, Application Number, Permit Number, Doc Type, Modified, and Customer. One document is selected, showing details: OneTimeUser4-25-2013T4_04, PM393-Encroachment Application, 100000783, 4/25/2013 4:06 PM. Below the list is an 'Add document' button. At the bottom, there is an 'Email Template for Anonymous Users (Cut and Paste into Email Body)' containing a message about an approved encroachment permit application.

Type	Name	Application Number	Permit Number	Doc Type	Modified	Customer
<input checked="" type="checkbox"/>	OneTimeUser4-25-2013T4_04 PM393-Encroachment Application	100000783			4/25/2013 4:06 PM	
<input checked="" type="checkbox"/>	OneTimeUser4-25-2013T4_04 PM393-Site Plan	100000783			4/25/2013 4:06 PM	
<input checked="" type="checkbox"/>	OneTimeUser4-25-2013T4_04 PM393	100000783	Encroachment Application		4/25/2013 4:06 PM	
	Approved Documents				4/25/2013 4:06 PM	
	Add document					

Mark one or more checkboxes in the column “Give Customer Access?”. This will trigger a function that will give the Customer permission to view the marked document(s). When finished, change the view back to “All Documents”.

Permit Documents > Application Number - 100000798 > Approve Final Documents								
Permit documents and the master permit folder are stored here.								
Approved Document?	Give Customer Access?	Name	Application Number	Permit Number	Do			
<input type="checkbox"/>	<input type="checkbox"/>	Monday Morning Test4-29-2013T12_15 PM17:Encroachment Application.xps	100000798					
<input type="checkbox"/>	<input type="checkbox"/>	Approved Documents						
<input type="checkbox"/>	<input type="checkbox"/>	Monday Morning Test4-29-2013T12_15 PM17.pdf	100000798		Encroac			
<input type="checkbox"/>	<input type="checkbox"/>	IMG_20130321_191646.jpg	100000798		Permit R			

About SharePoint's Datasheet Views

SharePoint's Datasheet Views are actually Access Web Datasheets. As opposed to SharePoint's standard one item limitation for update views, the usefulness of this view is that you can make changes to a row, and then immediately move on to the next row. The view takes care of sending your changes to the server and communicating the status back to you, without disrupting your work.

When you add or edit a row, the Access Web Datasheet sends the change to the server, marks the row as pending, and displays the Pending (➔) icon in the row header (far left column). When a row has pending changes, you should not edit the row until the changes are committed. However, you can successfully edit other rows while the last set of changes is being sent to the server.

When the view gets a response from the server, it updates the row accordingly. If the edit resulted in a conflict or error, the row header shows the Conflict (✖) icon or the Error (✖) icon. If the edit was successfully committed, the Pending icon is removed, and the row is made available for additional editing.

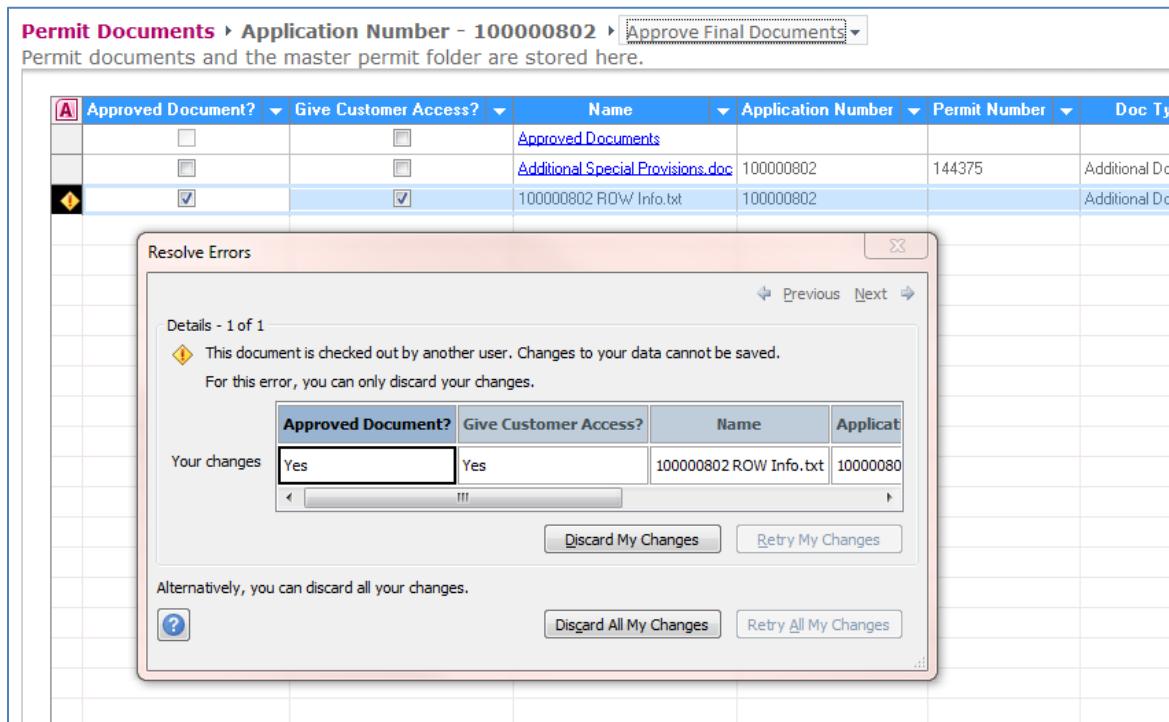
If you attempt to refresh or move away from the view when there are pending changes, you will be prompted to wait until all of your changes are committed. Based on the server response, you may need to resolve conflicts or errors. The submission of pending changes should only take a few seconds to complete.



****Warning: Save Conflicts****

There are two types of Save Conflicts that you may encounter when working in Access Datasheet Views. The first type will occur when a document or item is “checked out” by another user. The first step in resolving the problem is to contact the person who has the document “Checked Out” and ask them to “Check In” the document. [Note: Users should avoid using “check out” unless they expect to edit the document. And while system admins can override check out – be aware that unpublished changes made by that user will be lost.]

The following illustration shows messaging that occurred as a result of a conflict with workflow automation. Please note that the option, “Retry My Changes”, may not be effective. In most cases, you will have to click “Discard My Changes”, refresh the screen, and reenter them.



A second type of save conflict can occur when trying to make a change to a row you've already changed. This problem occurs because a Workflow is automatically triggered for any change on these documents or their metadata. For example, let's update the column to “Give Customer Access?” and then move to another row. T

The view submits the update to the server. The server performs the update but also starts the workflow that updates the item-level security. To perform the security action, the workflow must “check out” the item. If you attempt to make another change on the item before the workflow is finished (normally a

few seconds), you will create a conflict (basically with yourself). Again, you will have to click “Discard My Changes”, refresh the screen, and reenter them.

Permit Documents > Application Number - 100000795 > Approve Final Documents

Permit documents and the master permit folder are stored here.

	Approved Document?	Give Customer Access?	Name	Application Number	Permit Number	Do
	<input type="checkbox"/>	<input type="checkbox"/>	Approved Documents			
◆	<input type="checkbox"/>	<input checked="" type="checkbox"/>	MondayMorningTest4-29-2013T9_10 AM261.pdf	100000795		Encroac
◆	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Mixon Avenue Site Map.JPG	100000795		Site Plan

Resolve Conflicts

Details - 1 of 2

◆ Rows you changed were previously changed by Green, James T on 4/30/2013 01:47 PM. Your changes conflict with that user's changes.

For each conflict, discard your changes and keep the other user's changes or retry your changes.

	Approved Document?	Give Customer Access?	Name
Other user's changes	Yes	Yes	MondayMorningTest4-29-201
Your changes	No	Yes	MondayMorningTest4-29-201

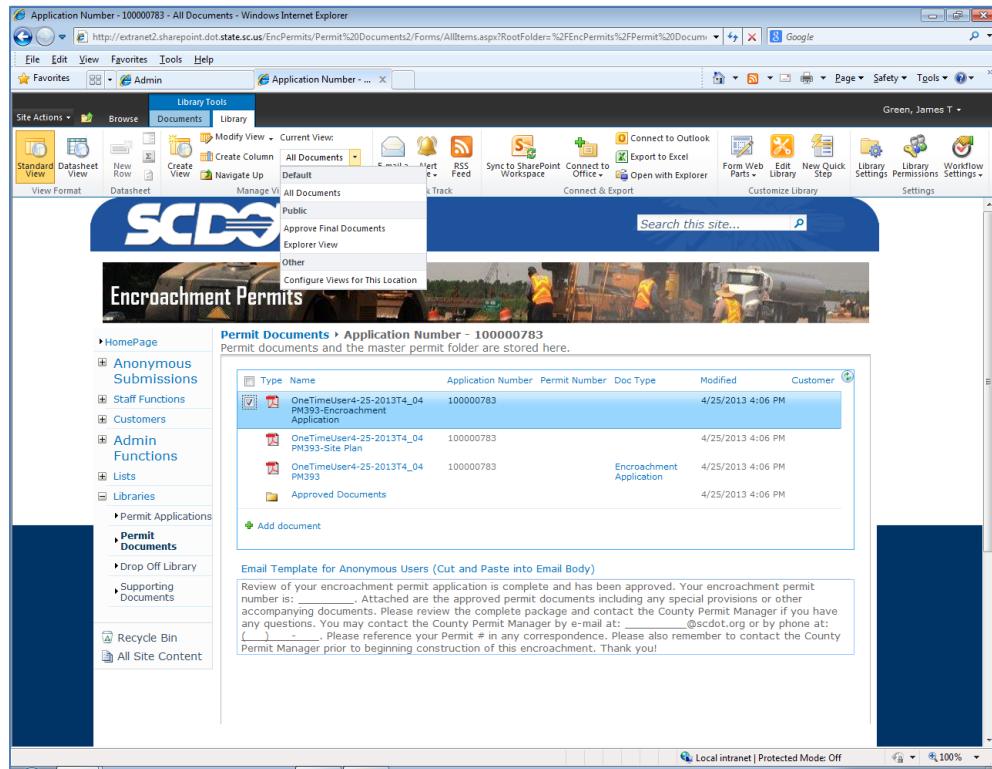
If you have multiple conflicts or errors, you can also retry or discard all your changes.

Discard My Changes Retry My Changes

Discard All My Changes Retry All My Changes

Building the “Final Package” (Approved Documents)

Once the Application has been approved, it can be issued a Permit Number which then allows the standard Permit document to be generated. The County Permit Manager reviews the documents and determines which should be moved to the “Approved Documents” subfolder. To move the documents into the folder, access the “Approve Final Document” view (see earlier section for detailed instructions).



The screenshot shows a SharePoint library interface for the application number 100000783. The library is titled "Permit Documents" and contains a list of documents. The list includes:

Type	Name	Application Number	Permit Number	Doc Type	Modified	Customer
File	OneTimeUser4-25-2013T4_04 PM393-Encroachment Application	100000783			4/25/2013 4:06 PM	
File	OneTimeUser4-25-2013T4_04 PM393-Site Plan	100000783			4/25/2013 4:06 PM	
File	OneTimeUser4-25-2013T4_04 PM393	100000783		Encroachment Application	4/25/2013 4:06 PM	
Folder	Approved Documents				4/25/2013 4:06 PM	

Below the list, there is a link to "Add document". A "Customer" column is present but empty for all items. The "Approved Documents" folder is highlighted with a blue border. A message box titled "Email Template for Anonymous Users (Cut and Paste into Email Body)" contains the following text:

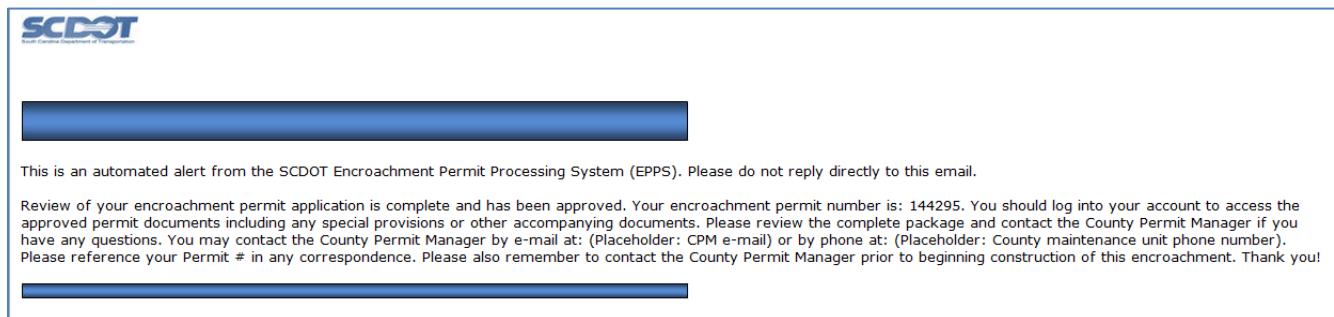
Review of your encroachment permit application is complete and has been approved. Your encroachment permit number is: PM393. Attached are the approved permit documents including any special provisions or other accompanying documents. Please review the complete package and contact the County Permit Manager if you have any questions. You may contact the County Permit Manager by e-mail at: [redacted]@scdot.org or by phone at: [redacted]. Please reference your Permit # in any correspondence. Please also remember to contact the County Permit Manager prior to beginning construction of this encroachment. Thank you!

Mark the “Approved Document?” column for all documents you want to move. If this is for an accountholder, then also mark the “Give Customer Access?” column before moving to another row (to avoid Save Conflicts). When all documents have been processed, change the view to “All Documents”.

The system automation will move the documents to the subfolder and apply security updates to allow the customer access. As stated earlier in this discussion, the customer will still not be able to see or access the “Approved Documents” subfolder (or its contents) until the Permit Status is changed to “Permit Issued to Customer”.

Notifying the Customer (Accountholder)

When the Permit Status is changed to “Permit Issued to Customer”, the system will automatically send a notification to accountholders and update security on the “Approved Documents” subfolder.

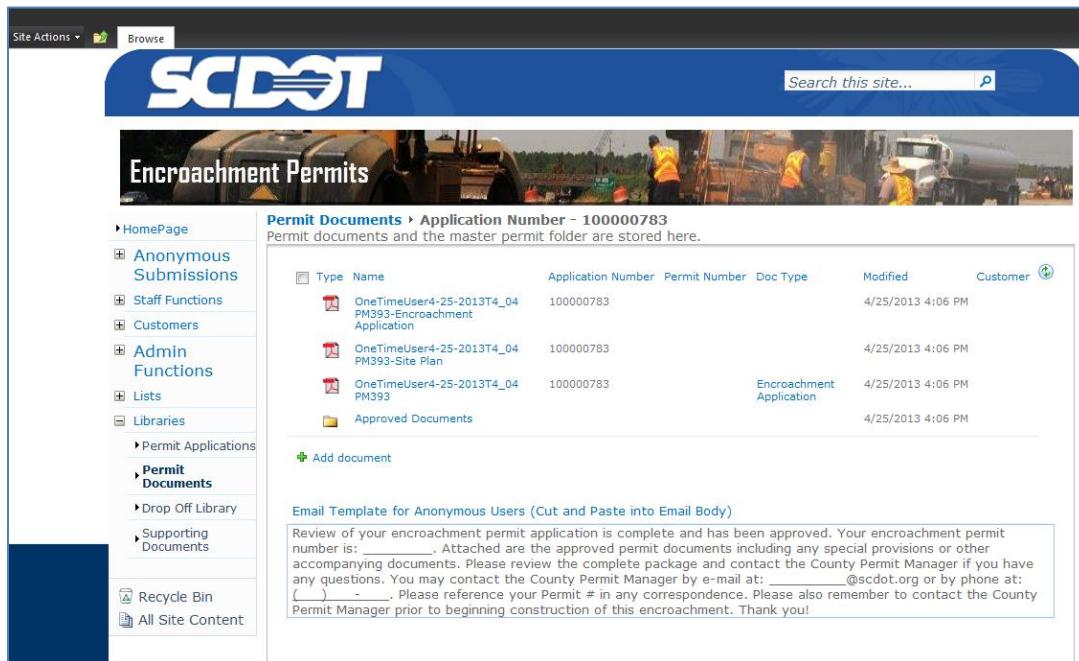


This is an automated alert from the SCDOT Encroachment Permit Processing System (EPPS). Please do not reply directly to this email.

Review of your encroachment permit application is complete and has been approved. Your encroachment permit number is: 144295. You should log into your account to access the approved permit documents including any special provisions or other accompanying documents. Please review the complete package and contact the County Permit Manager if you have any questions. You may contact the County Permit Manager by e-mail at: (Placeholder: CPM e-mail) or by phone at: (Placeholder: County maintenance unit phone number). Please reference your Permit # in any correspondence. Please also remember to contact the County Permit Manager prior to beginning construction of this encroachment. Thank you!

Notifying the Customer (Anonymous User)

There is no automated notification for anonymous customers. This communication must be manually initiated by the County Permit Manager. To assist with this manual effort, there is a content webpart on the library screen that displays the template language provided by David Cook. The webpart is only visible to SCDOT Staff and Admins. There are three placeholders in the message body: “Permit Number” plus County Permit Manager “email” and “phone”.



Permit Documents > Application Number - 100000783
Permit documents and the master permit folder are stored here.

Type	Name	Application Number	Permit Number	Doc Type	Modified	Customer
File	OneTimeUser4-25-2013T4_04 PM393-Encroachment Application	100000783			4/25/2013 4:06 PM	
File	OneTimeUser4-25-2013T4_04 PM393-Site Plan	100000783			4/25/2013 4:06 PM	
File	OneTimeUser4-25-2013T4_04 PM393	100000783		Encroachment Application	4/25/2013 4:06 PM	
Folder	Approved Documents				4/25/2013 4:06 PM	

[Add document](#)

Email Template for Anonymous Users (Cut and Paste into Email Body)

Review of your encroachment permit application is complete and has been approved. Your encroachment permit number is: _____. Attached are the approved permit documents including any special provisions or other accompanying documents. Please review the complete package and contact the County Permit Manager if you have any questions. You may contact the County Permit Manager by e-mail at: _____@scdot.org or by phone at: (____) _____. Please reference your Permit # in any correspondence. Please also remember to contact the County Permit Manager prior to beginning construction of this encroachment. Thank you!

Before preparing an email for the Anonymous Customer, the final documents should be moved into the “Approved Documents” subfolder (see earlier section for instructions). Now it is time to click on the “Approved Documents” subfolder. You should also select and copy the email template to your clipboard.

Permit Documents > ... Approved Documents

Permit documents and the master permit folder are

Type	Name	Application N
OneTimeUser4-25-2013T4_04	PM393	100000783
OneTimeUser4-25-2013T4_04	PM393-Site Plan	100000783
OneTimeUser4-25-2013T4_04	PM393-Encroachment Application	100000783

Add document

Email Template for Anonymous Users (Cut and Paste)

Review of your encroachment permit application is complete and has been approved. Your encroachment permit number is: _____ . Attached are the approved permit documents including any special provisions or other accompanying documents. Please review the complete package and contact the County Permit Manager if you have any questions. You may contact the County Permit Manager by e-mail at: _____@scdot.org or by phone at: (____) - _____. Please reference your Permit # in any correspondence. Please also remember to contact the County Permit Manager prior to beginning construction of this encroachment. Thank you!

Now you can select the documents you intend to send as attachments to the customer. This action will open the ribbon. Find the “Email Documents” function in the ribbon and click it.

Permit Documents > ... Approved Documents

Permit documents and the master permit folder are stored here.

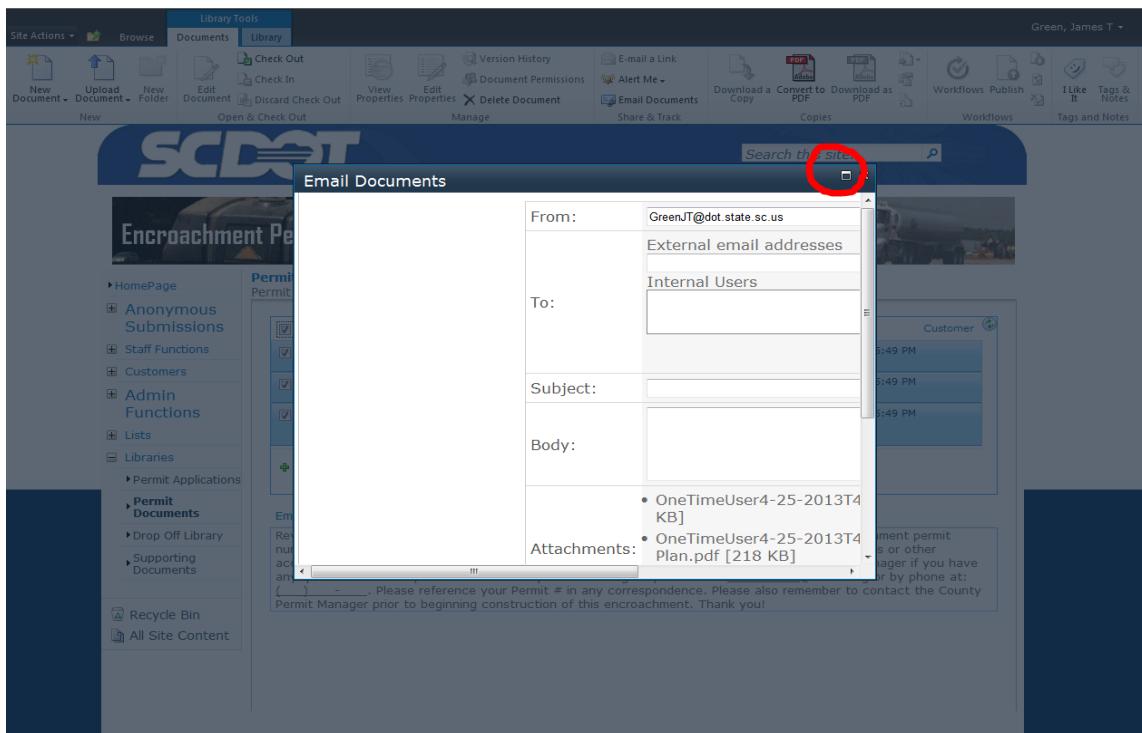
Type	Name	Application Number	Permit Number	Doc Type	Modified	Customer
OneTimeUser4-25-2013T4_04	PM393	100000783		Encroachment Application	4/30/2013 5:49 PM	
OneTimeUser4-25-2013T4_04	PM393-Site Plan	100000783			4/30/2013 5:49 PM	
OneTimeUser4-25-2013T4_04	PM393-Encroachment Application	100000783			4/30/2013 5:49 PM	

Add document

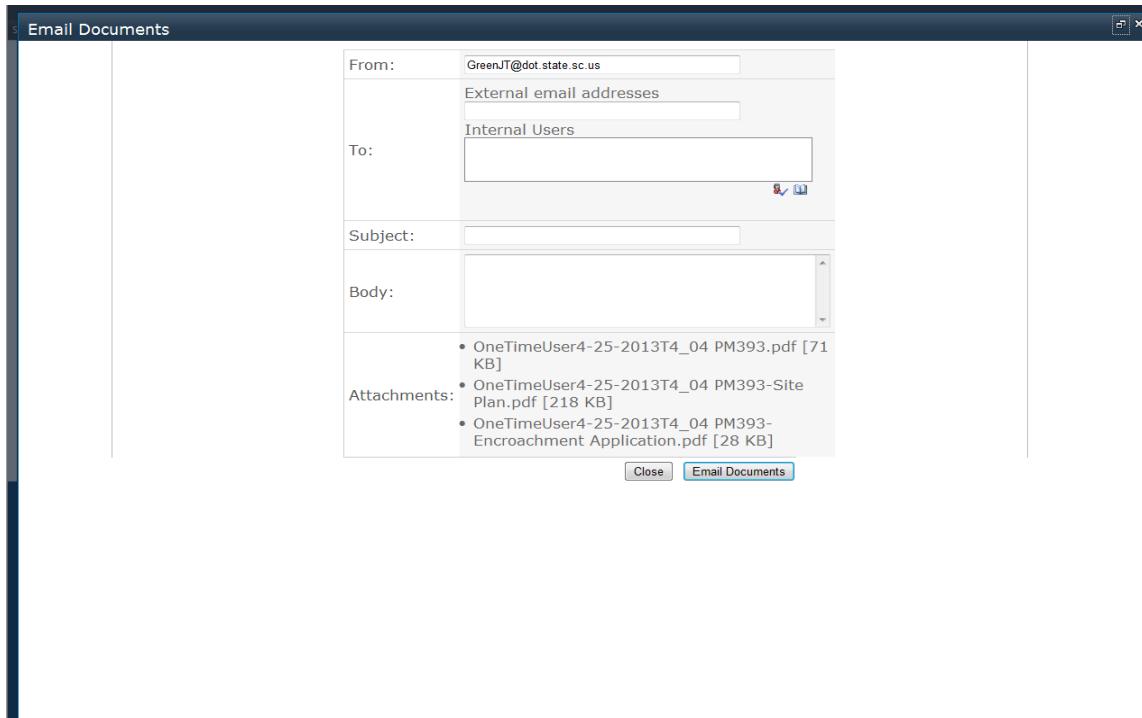
Email Template for Anonymous Users (Cut and Paste into Email Body)

Review of your encroachment permit application is complete and has been approved. Your encroachment permit number is: _____ . Attached are the approved permit documents including any special provisions or other accompanying documents. Please review the complete package and contact the County Permit Manager if you have any questions. You may contact the County Permit Manager by e-mail at: _____@scdot.org or by phone at: (____) - _____. Please reference your Permit # in any correspondence. Please also remember to contact the County Permit Manager prior to beginning construction of this encroachment. Thank you!

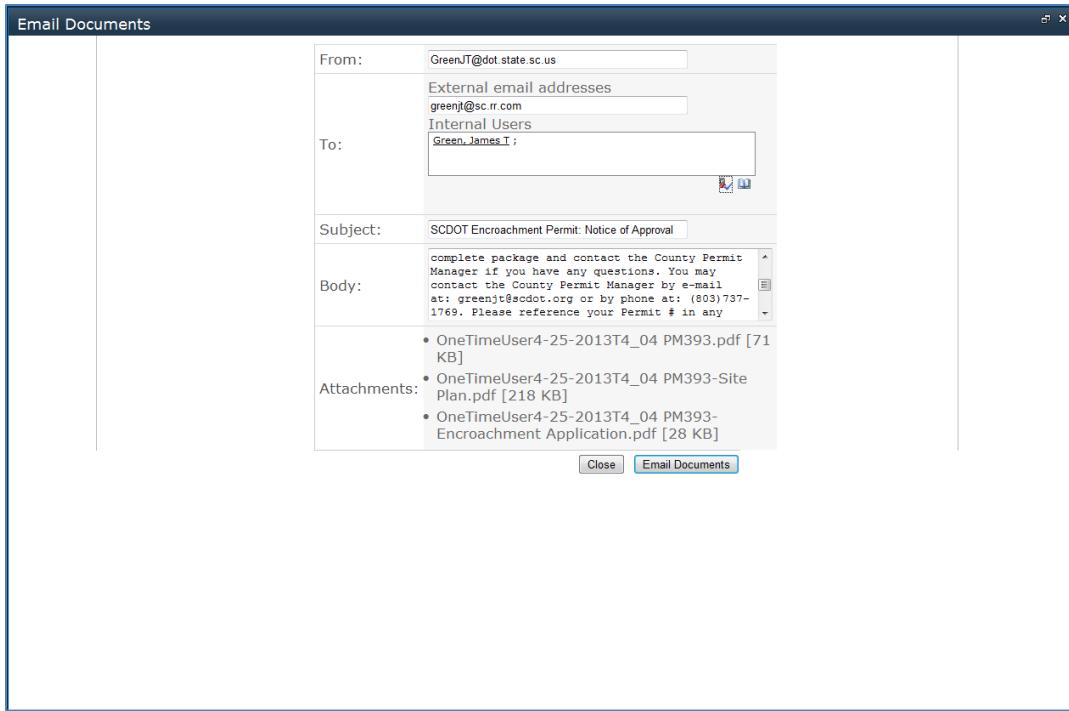
You will likely need to maximize the email dialog.



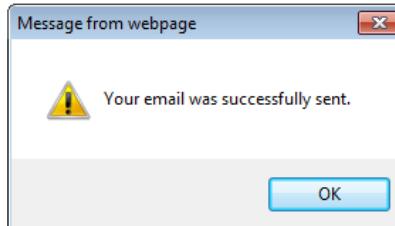
First thing: verify that the files you intend to send to the Customer are listed as "Attachments:". Note also that the "From:" field should default to you (the current user).



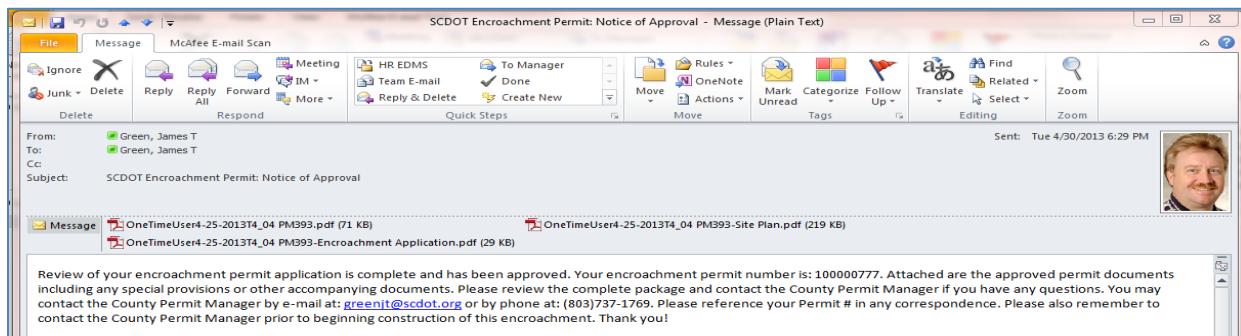
Now you can paste the email template you copied earlier into the "Body:" and then replace the "Permit Number", "Email", and "Phone Number" placeholders. Enter the "Subject: **Kenny/David: Is there a convention or template?**" and the Customer's email address in the "External email addresses" field.



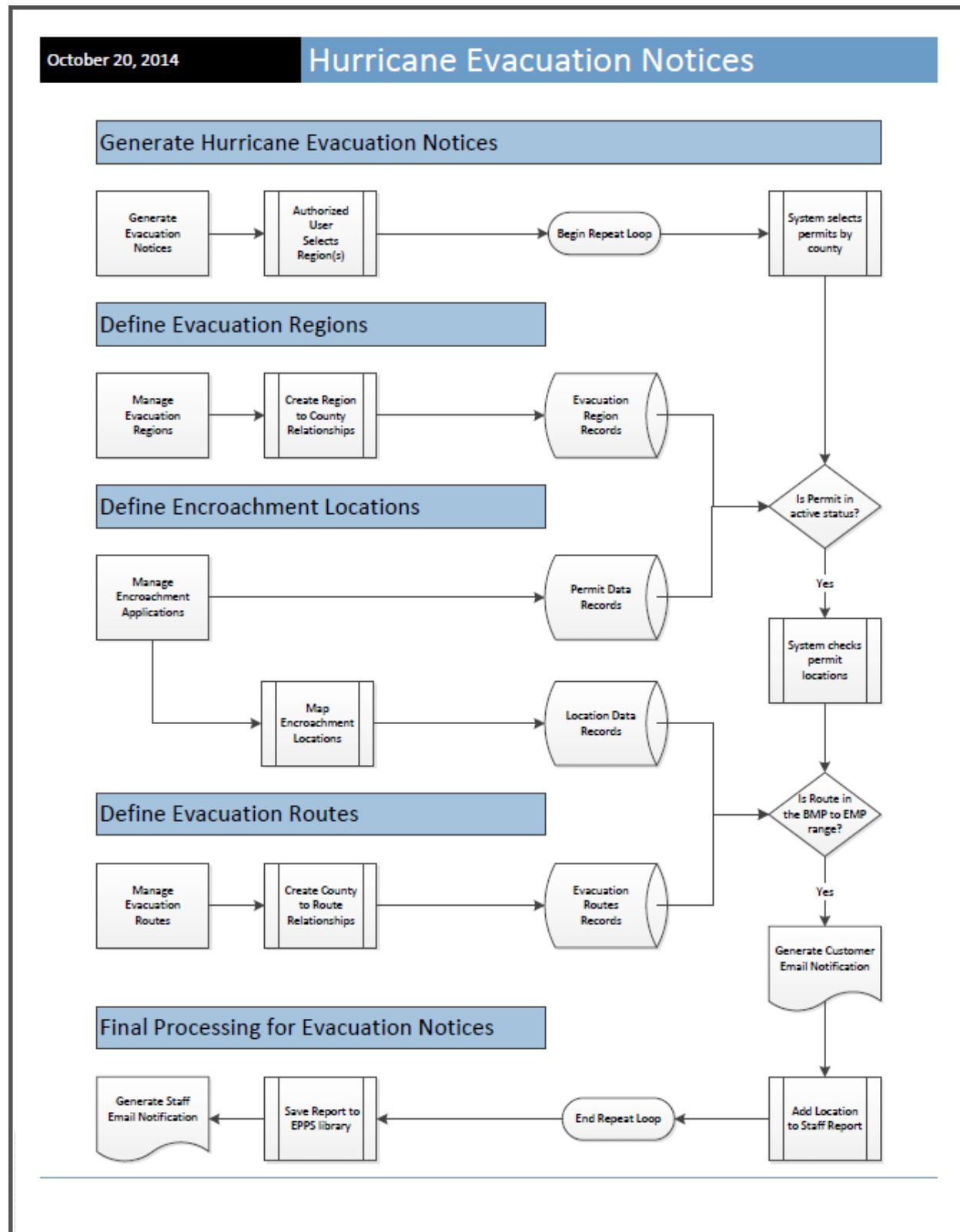
You should receive a confirmation. Click "OK" to close the email dialog.



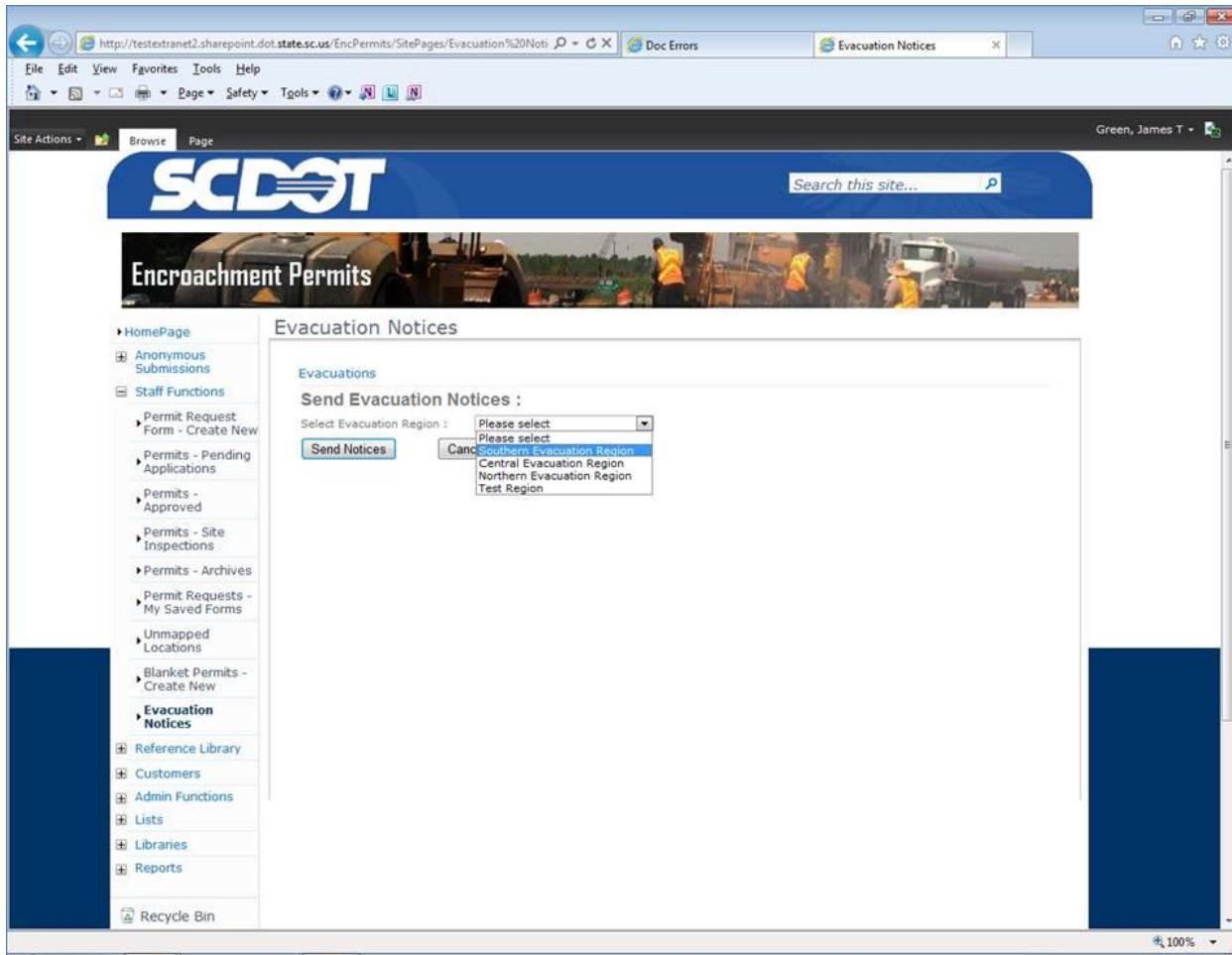
This is what external customers receive.



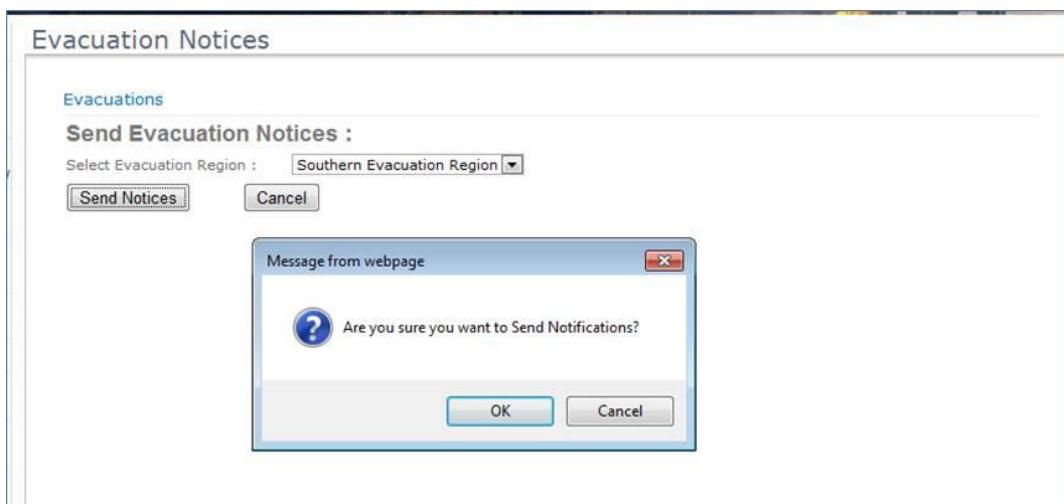
Hurricane Evacuation Notices



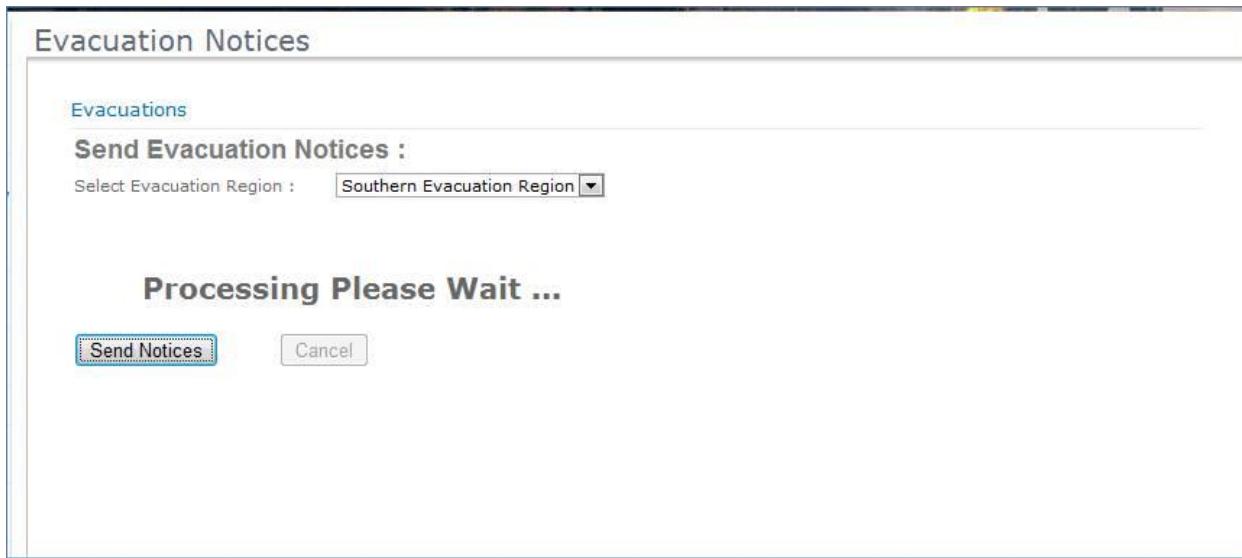
The user interface to initiate “Evacuation Notices” can be accessed using the link found under the “Staff Functions” navigation headings. To better manage EPPS limited system resources, only one Region can be selected at a time. To process multiple Regions, repeat the process.



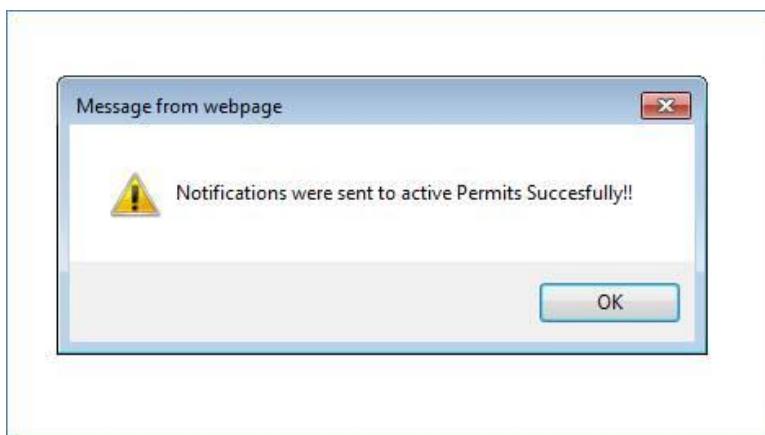
Click “Send Notices” and then “OK” on the “Are you sure..?” message.



The “Processing, Please Wait...” message may persist for several minutes while the program is working.



Eventually, the user will get the “Success” message.



This is an example of the email that is sent to Customers who have an active permit on an evacuation route.

Sent: Friday, August 29, 2014 2:17 PM
To: Green, James T
Subject: Encroachment Permit # 200013617

SCDOT
South Carolina Department of Transportation

This is an automated alert from the SCDOT Encroachment Permit Processing System (EPPS). Please do not reply directly to this email.

Due to the potential hurricane evacuation in the State of South Carolina, please cease all work and clear the SCDOT right-of-way of all equipment in the location covered under SCDOT Encroachment Permit # 200013617.

Work may resume at this location once the State Government has given an all-clear to return to the effected areas. Thanks in advance for your quick response to this request.

James J. Feda, P.E.
Director of Maintenance
South Carolina Department of Transportation
955 Park Street
Columbia, South Carolina 29201.
(803) 737-1290

Thank you for using the SCDOT Encroachment Permit System.

This is an example of the email sent to all members of the EORS User Group when the process completes.

Sent: Friday, August 29, 2014 2:17 PM
To: Green, James T
Subject: Evacuation Notifications were sent to Active Permits

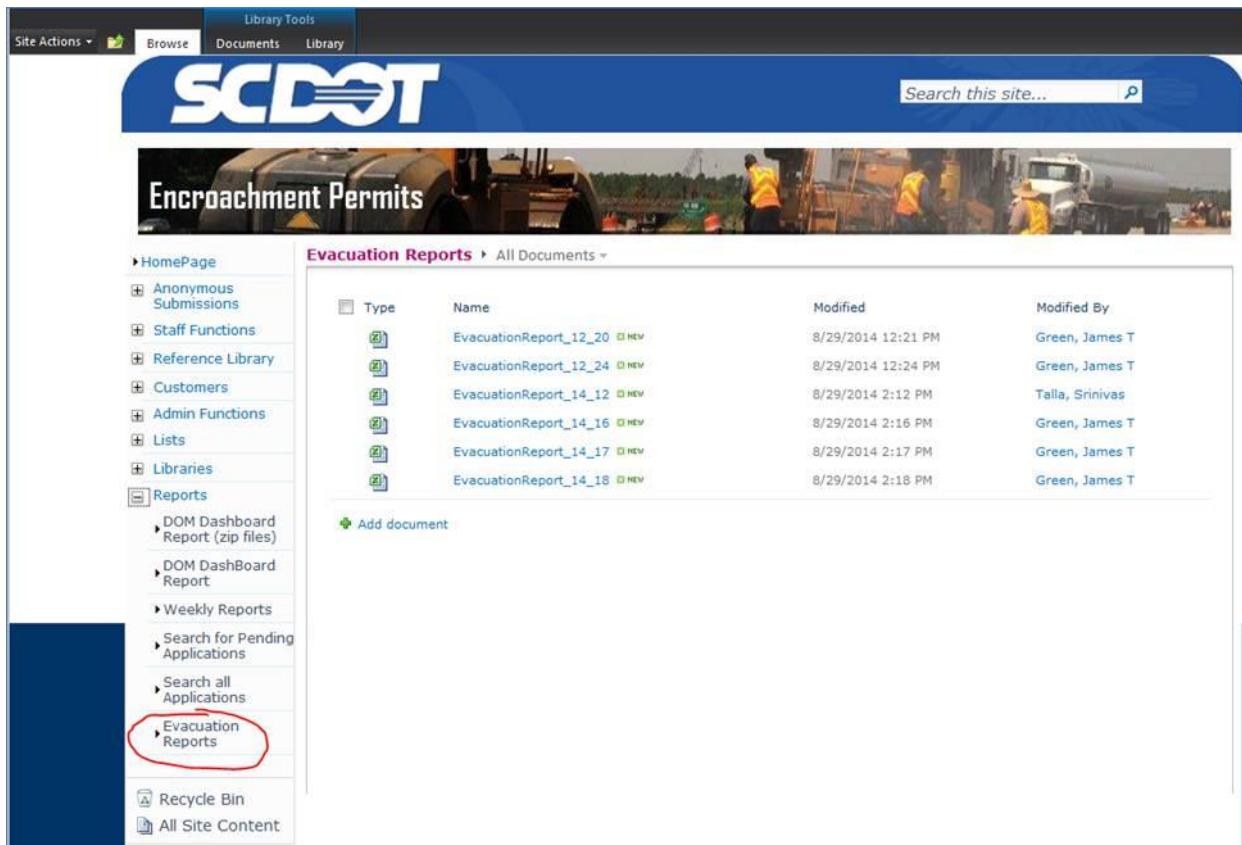
SCDOT
South Carolina Department of Transportation

This is an automated alert from the SCDOT Encroachment Permit Processing System (EPPS). Please do not reply directly to this email.

Evacuation Notifications were sent to Active Permits to Cease all Work.
A Report has been generated with Permit Numbers for which the Notifications are sent. [Click here](#) to view the Report.

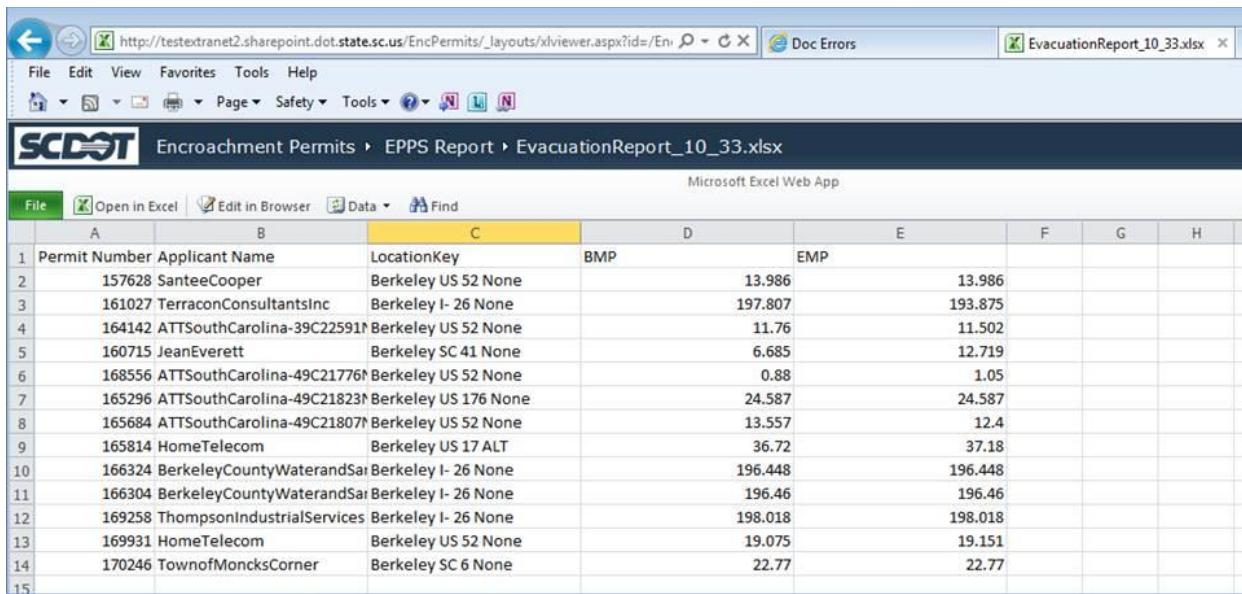
Thank you for using the SCDOT Encroachment Permit System.

The report is saved to the EPPS “Reports” library.



The screenshot shows a SharePoint site for SCDOT. The navigation bar includes 'Site Actions', 'Browse', 'Documents', and 'Library'. The main content area features a banner for 'Encroachment Permits' with a construction site image. The left navigation menu lists various site functions, and the 'Evacuation Reports' item is circled in red. The main content area displays a table of 'Evacuation Reports' with columns for Type, Name, Modified, and Modified By. A link to 'Add document' is also present.

This is an example of the report.



The screenshot shows a Microsoft Excel Web App interface with a table titled 'EvacuationReport_10_33.xlsx'. The table has columns labeled A, B, C, D, E, F, G, and H. The data includes rows for various permits, their applicants, locations, and associated BMP and EMP values.

	A	B	C	D	E	F	G	H
1	Permit Number	Applicant Name	LocationKey	BMP	EMP			
2	157628	SanteeCooper	Berkeley US 52 None	13.986	13.986			
3	161027	TerraconConsultantsInc	Berkeley I- 26 None	197.807	193.875			
4	164142	ATTSouthCarolina-39C22591	Berkeley US 52 None	11.76	11.502			
5	160715	JeanEverett	Berkeley SC 41 None	6.685	12.719			
6	168556	ATTSouthCarolina-49C21776	Berkeley US 52 None	0.88	1.05			
7	165296	ATTSouthCarolina-49C21823	Berkeley US 176 None	24.587	24.587			
8	165684	ATTSouthCarolina-49C21807	Berkeley US 52 None	13.557	12.4			
9	165814	HomeTelecom	Berkeley US 17 ALT	36.72	37.18			
10	166324	BerkeleyCountyWaterandSewer	Berkeley I- 26 None	196.448	196.448			
11	166304	BerkeleyCountyWaterandSewer	Berkeley I- 26 None	196.46	196.46			
12	169258	ThompsonIndustrialServices	Berkeley I- 26 None	198.018	198.018			
13	169931	HomeTelecom	Berkeley US 52 None	19.075	19.151			
14	170246	TownofMoncksCorner	Berkeley SC 6 None	22.77	22.77			
15								

There are two resource lists that support the process: "Evacuation Regions" and "Evacuation Routes". The initial values for these lists were supplied by Walter Reed and can be maintained by any member of the "EORS User Group".

Encroachment Permits



Evacuation Regions > All Items

Region	Region Name	Counties
1	Southern Evacuation Region	Aiken; Allendale; Bamberg; Barnwell; Beaufort; Colleton; Dorchester; Hampton; Jasper; Orangeburg; Richland
2	Central Evacuation Region	Berkeley; Calhoun; Charleston; Colleton; Dorchester; Lexington; Orangeburg; Richland
3	Northern Evacuation Region	Clarendon; Darlington; Dillon; Florence; Georgetown; Horry; Kershaw; Lee; Marion; Sumter; Williamsburg

[+ Add new item](#)

Encroachment Permits



Evacuation Routes > All Items

Region	County	Route Type	Route Number	Route Auxiliary	BMP	EMP
1	Aiken	I-	20	None	0	37.17
1	Aiken	SC	125	None	7.92	25.74
1	Aiken	SC	28	None	0	1.66
1	Aiken	SC	389	None	0	4.72
1	Aiken	SC	39	None	6.02	21.18
1	Aiken	US	278	None	2.38	30.33
1	Aiken	US	78	None	15.89	34.35
1	Allendale	SC	125	None	0	10.91
1	Allendale	SC	3	None	0	22.36
1	Allendale	US	278	None	0	13.53
1	Bamberg	SC	61	None	0	6.5
1	Bamberg	SC	64	None	2.27	17.58
1	Bamberg	US	301	None	2.97	3.23
1	Bamberg	US	321	None	5.13	20.47
1	Bamberg	US	78	None	0	21.48
1	Barnwell	S-	565	None	0	0.05
1	Barnwell	SC	125	None	0	11.16

These are the current members of the “EORS User Group”.



Site Settings > People and Groups - EORS User Group

New Actions Settings View: Detail View

Picture	Name	About me	Title	Department
	Cook, David B			Director of Maintenance
	Feda, Jim			Director of Maintenance
	Floyd, Lee			Director of Maintenance
	Hunter, Mark W			Director of Maintenance
	Johannemann, James A.			Director of Maintenance
	Reed, Walter A			Director of Maintenance

Groups

- Encroachment.Cus...mers
- Encroachment.SCD...OT.Staff
- Encroachment.SCD...OT.Admins
- Encroachment.SCD...OT.Reviewers
- Encroachment.SCD...OT.DPE
- Encroachment.SCD...OT.CustomerService
- Encroachment.SCD...OT.ReportUsers
- Encroachment.SCD...OT.ReportViewers
- District 3 Audience
- EORS User Group**
- TestCustomer
- More...

HomePage

- Anonymous Submissions
- District Permit

Here is an example that illustrates how Encroachment Permit # 160914 would be selected for email notification by this process:

Step 1. An authorized user selects a Region. For this example, let's use "Region 1" which contains Aiken County.

Step 2. The system selects Permit Data records by county and status. Permit # 160914 is selected because County = "Aiken" and Status = "Permit Issued to Customer" (one of the active statuses).

Permit Data - TownofJackson9-25-2013T5_08PM979

View **Alert Me** **Edit Item** **Delete Item** **Close**

Manage **Close**

County: Aiken	Encroachment Type: OTHER	Application Number: 200003400	Permit Number: 160914
Applicant: TownofJackson	Contact: Vickie Van Vactor		
Address 1: 106 Main Street	Phone: (803) 471-2228		
Address 2: P.O. Box 369	Fax: (803) 471-3909		
City: Jackson	State: SC	ZIP Code: 29831	Email: vvanvactor@jackson-sc.gov
Short Description From Jackson Middle School at 18731 Atomic Road to 19439 Atomic Road			
Road Names: ATOMIC RD;		Customer Account	
Permit Status (Use "View Routing" link to update status) Permit Issued to Customer		<input type="checkbox"/> Approved with Waiver? <input type="checkbox"/> LPA Project?	

Step 3. The system checks the encroachment locations for Permit # 160914 to see if any are on an Evacuation Route and within the Beginning Mile Point – Ending Mile Point range.

Encroachment Permits

Location Information
The permit locations associated with a permit application. Linked by application number to the master permit application.

Edit this page to modify your web part content.

ID	County	Road Name	ViewMap	Application Number	Title	BMP MilePoint	EMP MilePoint
Count = 1				200003400			
11623	Aiken, SC	ATOMIC RD	Click For Map		TownofJackson9-25-2013T5_08PM979	16.168	17.382

Plot Work Location(s)

--%>

BMP Marker	EMP Marker
County: Aiken, SC	County: Aiken, SC
Route Type: SC	Route Type: SC
Route Number: 125	Route Number: 125
Route Auxiliary: None	Route Auxiliary:
MilePoint: 16.168	MilePoint: 17.382
Valid: <input checked="" type="checkbox"/>	Valid: <input checked="" type="checkbox"/>

Location: 702-712 North Silverton Street, Jackson, SC 29831, USA

Open Street Finder

Reset

Map **Satellite**

In this example, the encroachment location is on Route 125 and in the BMP – EMP range and will be selected for an evacuation notice.

Encroachment Permits

Evacuation Routes > All Items

Region	County	Route Type	Route Number	Route Auxiliary	BMP	EMP
1	Aiken	I-	20	None	0	37.17
1	Aiken	SC	125	None	7.92	25.74
1	Aiken	SC	28	None	0	1.66
1	Aiken	SC	389	None	0	4.72
1	Aiken	SC	39	None	6.02	21.18
1	Aiken	US	278	None	2.38	30.33
1	Aiken	US	78	None	15.89	34.35

Weekly Reports

Weekly reports (Excel) break out performance metrics by District, County, and Current Status.

Processing times are calculations and recorded by an event receiver attached to the Permit Data Record while a scheduled task on the server produces the reports each Monday morning.

EPPS Processing Time Calculations

EPPS processing time calculations are displayed in calendar days. No allowance is made for weekends or holidays. Processing Time is recalculated every time that “Permit Status” is changed until a decision is made. SCDOT staff members are responsible for timely and accurately changing “Permit Status”. SCDOT Processing Time can be negatively affected by the following:

- Staff not changing status from “Application Approved” to “Permit Issued to Customer”. While “Application Approved” does mark the business decision, it does not stop processing time because there are additional required tasks that precede customer notification.
- Staff not monitoring for anonymous applications. Processing Time starts immediately upon the proper submission of the application.
- Staff not monitoring for long duration reviews. SCDOT staff members have access to multiple data views and reports that identify the applications assigned to them and the current value of processing times.

Total Processing Time is the duration starting from the application submission (timestamped by the system as “Create Date”) and ending when Permit Status is changed to reflect that a decision has been rendered. An indicator called “Time Active” is used to identify applications that are subject to time adjustments. It is set to “No” the first time that Permit Status is changed to “Permit Issued to Customer”, “Application Canceled”, or “Application Denied”). If an application is subsequently reopened, as happens for processing waivers and extension/modification requests, the additional processing time is not counted. Please note that staff attempts to “game the system” by prematurely recording a decision (to stop time calculations) and then reopening the application for normal processing are identifiable in the database version histories and will be identified by periodic system audits.

The current process produces calculations (within 1 day) for Customer and SCDOT Processing Time(s) are stored on the Permit Data record. An event receiver is triggered by any change to the Permit or Routing Data information and determines if an update to the processing time fields is necessary. A nightly batch job is run at approximately 3:00 AM that updates all “Time Active” applications so that the processing times calculations are current each morning.

Customer Time is the sum of all durations when Permit Status is equal to “Application Pending Additional Information”. Please note that while no time is charged against SCDOT staff for these durations, the “Time Active” indicator will continue to show “Yes”. SCDOT Time is the difference between Total Processing Time and Customer Time.

The final value of “Total Processing Time” is then calculated as follows:

- “Permit Issued to Customer”. This will also set a new field called “Issued Date”. Total Processing Time = **Issued Date** – Create Date.
- “Application Canceled” or “Application Denied”. Total Processing Time = **Decision Date** – Create Date.

The following screenshot is of the April 20, 2020 weekly report.

EPPS: ALL APPLICATIONS generated from Apr 20, 2019 to Apr 20, 2020													
Organization	Total # To Date		Under Review by SCDOT Staff	Pending Customer Info	Decisions								
	District	County	Count	Count	Permit Denied or Cancelled	Permit Issued (Active)	Project Completed (Archived)	# Permits Completed in <= 30 days	# Permits Completed in > 30 days	% Permits Completed in <= 30 days	Average Days to Decision		
1 Kershaw	222	4	13	20	185	0	193	29	86	16			
1 Lee	71	0	0	7	64	0	69	2	97	4			
1 Lexington	668	16	78	68	504	2	635	33	95	13			
1 Richland	1244	39	52	164	989	0	1177	67	94	12			
1 Sumter	253	21	9	8	213	2	234	19	92	14			
District Total		2458	80	152	267	1955	4	2308	150	93	13		
2 Abbeville	74	2	1	5	66	0	70	4	94	9			
2 Anderson	399	12	63	24	296	4	369	30	92	10			
2 Edgefield	60	0	4	6	50	0	60	0	100	2			
2 Greenwood	138	2	24	11	101	0	122	16	88	14			
2 Laurens	160	1	12	16	91	40	154	6	96	7			
2 McCormick	44	2	1	4	33	4	42	2	95	6			
2 Newberry	163	1	24	24	114	0	163	0	100	3			
2 Saluda	42	0	1	6	32	3	42	0	100	2			
District Total		1080	20	130	96	783	51	1022	58	94	5		
3 Greenville	1438	25	392	168	826	27	1417	21	98	4			
3 Oconee	230	2	23	41	163	1	223	7	96	9			
3 Pickens	224	5	20	17	182	0	212	12	94	7			
3 Spartanburg	720	2	109	181	423	5	715	5	99	3			
District Total		2612	34	544	407	1594	33	2567	45	98	4		
4 Cherokee	196	3	15	22	153	3	186	10	94	10			
4 Chester	79	0	5	4	54	16	77	2	97	11			
4 Chesterfield	83	1	2	6	74	0	82	1	98	6			
4 Fairfield	76	1	7	4	64	0	69	7	90	15			
4 Lancaster	166	3	25	17	118	3	154	12	92	12			
4 Union	45	0	1	4	39	1	45	0	100	10			
4 York	412	14	36	56	303	3	405	7	98	9			
District Total		1057	21	91	113	805	26	1018	39	96	10		
5 Darlington	254	3	8	8	234	1	233	21	91	7			
5 Dillon	85	0	6	1	77	1	83	2	97	7			
5 Florence	426	8	26	8	375	9	415	11	97	5			
5 Georgetown	252	8	12	10	211	11	250	2	99	8			
5 Horry	643	23	70	72	460	18	551	92	85	19			
5 Marion	107	2	2	6	96	1	100	7	93	11			
5 Marlboro	39	1	2	1	35	0	39	0	100	3			
5 Williamsburg	68	6	0	2	60	0	58	10	85	26			
District Total		1874	51	126	108	1548	41	1725	145	92	12		
6 Beaufort	392	16	60	46	259	11	368	24	93	13			
6 Berkeley	463	2	32	68	354	7	443	20	95	9			
6 Charleston	1268	10	184	209	858	7	1257	1	99	3			
6 Colleton	94	0	2	11	68	13	94	0	100	2			
6 Dorchester	291	2	22	30	237	0	288	3	98	10			
6 Jasper	131	0	12	36	71	12	131	0	100	3			

DOM Dashboards and Press Releases.

Encroachment Permits are usually mentioned in State of the SCDOT press releases. EPPS generates a set of Excel files to support the Director of Maintenance Dashboard solution created by Roger Daley (is this still valid?)



Routine Maintenance Accomplishments

- 570,000 potholes patched
- 8,000 encroachment permits processed
- 345,000 roadside acres mowed
- 8,400 miles of shoulder/ditch re-graded
- 42,000 fallen or hazardous trees removed
- 312,000 signs repaired or replaced
- 5,000,000 pounds of litter and debris removed

SCDOT 27

Director of Maintenance Office

South Carolina Department of Transportation Intranet



Home Contact Road Maint. Bridge Maint. Sign Shop Supply & Equipment References

Statewide Work Request Past 12 Months



53196

Work Request by District Past 12 Months

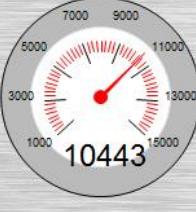
District	Percentage
District-1	18.3%
District-3	13.3%
District-6	10.5%
District-5	14.0%
District-7	13.2%
District-4	10.2%
District-2	20.5%

Statewide Request Completed < 60 Days In Past 12 Months



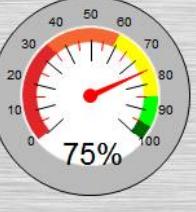
79%

Statewide Encroachment Permits Requested Past 12 Months



10443

Statewide Encroachment Permits SCDOT Processing <30 Days



75%

Click On Engineering District



Future Updates

Refer to the SSG Task Management System,

http://depts.sharepoint.dot.state.sc.us/IT%20Services/ITS_SSG for additional information concerning maintenance and support tasks.

Refer to the ITS_SSG/SPS/Project Documentation library,

http://depts.sharepoint.dot.state.sc.us/IT%20Services/ITS_SSG/SPS/Shared%20Documents/ for additional information concerning system enhancements.