Online Plan Review and Permitting
A Primer for N.C. Planners, Engineers, and Inspectors

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Introduction

In recent years, a demand for greater customer and staff convenience and efficiency has driven a trend toward more online plan review and permitting. Social distancing needs during the COVID-19 pandemic, in turn, have heightened this transition. Even if communities have not had the time or money to implement such a system in the past (and have even less time or money in the present), there may still be simple ways to begin shifting planning functions online. The following write-up is intended to provide background information about online permitting to assist local governments with evaluating the range of options.

Common Business Processes

Most local government planning, engineering, and inspections departments have plan review business processes that include some basic steps, such as the following:

1) Plan intake
2) Fee payment
3) Plan routing and tracking
4) Plan review and comment preparation
5) Comment distribution
6) Revised plan submittal, review, and comment (as needed)
7) Board review and approval (if required)
8) Distribution of approval letter
9) Coordination with related approvals (as needed)
10) Site inspections (as needed)

In addition, software can help link plan review and permitting with:

- Geospatial analysis;
- Property tracking (such as current and previous applications for each property);
- Code enforcement;
- Data reporting and other functions.

Short-Term Fixes for Online Permitting

Procuring and implementing major new software can take months or years, but many communities need to improve online options in the short-term as a result of the COVID-19 pandemic. Here are some options, work-arounds, and temporary processes that North Carolina communities may consider:

- Make applications available online
- Use online form builders such as Google Forms, JotForm, or Form.com to create automated online applications
- Make PDFs fillable using Adobe or pdfFiller.
- Establish clear workflows for accepting plans by email or cloud-based file-sharing services
- Provide online help through pop-up windows or downloadable documents, or even a live chat window
- Explore low-cost options to handle payments online, which could include accepting credit card payments over the phone
- If there is a low volume of permits, communities may be able to offer customers the option of calling in and having staff fill out the forms (a community could choose to charge for this service, if it needed to)

Online Permitting Options

Two options for moving to online permitting include the following:

A) Move certain functions online
B) Purchase whole-system software

Here is more detail about each approach.

A) Move certain functions online
- **Description:** This approach can potentially enable communities to move certain plan review and permitting functions online quickly and inexpensively, such as plan intake and plan review. Functions such as automated work-flow advancement and notification may be more difficult to implement this way. Local governments may choose to continue operating a system that includes both electronic and manual components, or it can work to move all functions online over time. The relative functionality and efficiency of the resulting system will depend on the number of functions that are automated and the level of integration of the different system components.
- **Cost:** Based on conversations with multiple N.C. communities, costs range from under $100/year for an individual license for electronic file reading software such as Adobe to about $350-$1,200/year for an annual seat license for electronic plan review software such as Bluebeam, with other vendors such as e-PlanSoft pricing their products depending on individual customer needs.

- **Considerations:**
  a. Can help reduce direct human contact
  b. May require some website configuration
  c. May not do much to improve process efficiency if limited in scope
  d. May require strong internal project management for more comprehensive efforts
  e. Will probably require strong cooperation with information technology department
  f. May necessitate more trouble-shooting over time to configure and integrate future software modules
  g. May necessitate documenting processes and maintaining in-house tech support to ensure operational continuity, as knowledgeable staff come and go and the potential for vendor support is limited because of customer configuration
- **N.C. examples:** City of Asheville, Henderson County, City of Locust, Town of Lowell, Onslow County, Pender County

B) Purchase full-service software
- **Description:** Installation of a full-service online plan review and permitting system can help local governments provide 24-hour access to community clients, share project information more transparently, and increase the convenience and efficiency of a community's plan review and permitting system. Integration with an Enterprise-wide Resource Planning (ERP) system like MUNIS can facilitate fee collection and links with organizational financial tracking and budgeting.
- **Cost:** Based on conversations with multiple NC communities, costs range from about $30k-$175k upfront for installation of a permitting or land management module, with annual maintenance fees ranging from about $10k-$40k
- **Considerations:**
  a. Can provide an integrated solution for online permitting, including online plan intake and fee payment, internal workflow management, activity tracking by property, and ready integration with GIS
  b. Full-service software can also necessitate considerable staff time to configure work flows and trouble-shoot the new system
  c. A common challenge is whether and how to import historical data
  d. Configuring and installing this software generally requires a dedicated project manager, as well as ongoing tech support and training for internal and external users once the system has launched
- **N.C. examples:** Town of Clayton, Town of Kernersville, Town of Morrisville, Town of Surf City, Wake County, Town of Wendell

Sample Practices

- As a result of the pandemic, the City of Wilson has made online forms "fillable" electronically so that customers don't have to print them out and instead can submit

them digitally (https://www.wilsonnc.org/residents/all-departments/development-services/development-reviews).

- Some communities such as Henderson County, the Town of Locust, the Town of Lowell, Onslow County, and Pender County have started accepting applications via email.

- The Town of Kernersville installed ViewPoint permitting software from OpenGov and is able to make adjustments in-house to customize it to the Town's review process. It now handles 100% of its applications this way.

- The Town of Surf City installed ViewPoint from OpenGov and now handles 100% of its permits this way.

- The City of Asheville built its system one component at a time, and now has an online Development Portal that guides applicants through the process to submit their applications, asking straightforward questions, and providing the necessary online help (https://develop.ashevillenc.gov/). The system then links with Accela organization-wide software to handle internal process flow. The City now handles about 90% of submittals electronically.

- The Town of Morrisville installed the Energov online permitting system as part of an organization-wide software installation and it has cut down considerably on plan processing work, while necessitating significant in-house technical assistance to help new users learn the system.

- The Town of Wendell uses the Energov online permitting portal established by Wake County, and has been reviewing plans on-screen using Bluebeam software. It now handles about 90% of its plans and permits in this way.

Suggestions for Evaluating Software Permitting Options

Some suggestions from N.C. planning practitioners include the following:

Research and Prepare

- Map out your process and workflows
- Conduct a software needs assessment
- Enlist the help of knowledgeable staff
- Coordinate closely with your IT department
- Talk with your customers and find out what they like about other online systems they use
- Find out what your neighbors are using

Consider Functionality

- See if a vendor will let you do a test run
- See if system allows inspectors to enter results from the field

- See how the system works on mobile devices
- See if the system translates into Spanish
- Evaluate

Tailor to Your Needs

- Assess how easy it is to customize the system to your workflow
- Find out how easy it is to import historical data
- See if the system allows customers to request their own inspections
- See if the system will allow applicants and the general public to check the status and progress of project reviews without having to call or come into the office (through special permitting software or off-the-shelf solutions like Google Spreadsheet or Microsoft Excel shared to the web)

Test and Educate

- Conduct a beta test
- Educate your users prior to launching the new system
- Cross train staff so you have back-ups who are knowledgeable in the system
- Prepare to provide ongoing tech support both internally and externally once you launch

Conclusion

Customers and crises such as the COVID-19 pandemic are increasing the demand for online plan review and permitting options. North Carolina communities are responding with a variety of approaches to improve convenience and efficiency, and reduce public health risks from face-to-face contact. Even if you don't have the time and money to implement full-service online permitting, there are things you can do to move more planning functions online. With the possibility of future waves of infection and more social distancing until a vaccine is developed, it may well be worth the effort.