

Create an Evaluation Protocol for Electronic Permit Application Processing

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Rationale

- As of October 1, 2017, Florida building code offices are required to “post each type of building permit application on its website.” And, to accept completed applications electronically by e-mail submission or an electronic fill-in form on the building department's website or through a third-party submission management software
- Although they have a mandate some smaller jurisdictions have been slow to commit.
- Documenting lessons learned and best practices from experienced jurisdictions can benefit less experienced jurisdictions and save 1,000’s of hours of staff research time
- Collection of permit information in one or more databases would enable the Florida Building Commission (FBC) to quickly obtain state-wide data for policy and code development efforts. Such data could benefit other branches of Florida’s government such as economic development, business recruitment, and demographic researchers.
- Currently, jurisdictions have to mail energy code forms to the University for Florida for analysis. Improved electronic submission could allow for UF researchers to access a database for analysis instead of entering information from pdf or hard copies.
- Permitting work flow tasks may vary among code offices, but there is likely a set of critical and common tasks that all offices need from an electronic application process
- A voluntary protocol or set of specifications would speed the evaluation process, could be completed as a self-assessment by a software producer, or used by the Florida Building Commission to vet tools and methods on behalf of Florida’s code enforcement agencies for the future.
- Consolidating stakeholder input on needs increases chances that software developers produce tools that work for Florida’s stakeholders

Overview

The Florida legislature and governor passed into law a new requirement for local building code enforcement agencies to make building permit applications available on their websites. Agencies are further required to accept permit applications electronically¹. Defining and implementing a compliance method falls to local code offices. While methods will likely vary, it is likely that each will need to address key work flow tasks.

The major goal of the proposed research is to document the critical and common work flow tasks involved with these permit applications and, using that, develop a voluntary protocol or specification for evaluating whether existing and emerging software tools as well as methods developed by code enforcement agencies meet the needs of Florida code enforcement agencies. The voluntary protocol can inform software developers of Florida-specific needs of intended users – contractors, permit processing staff, code officials, and other stakeholders. Workflow

¹CS/CS/CS/HB 535, Engrossed 2, Enrolled, Section 38 (p. 64, lines 1640-51) and Section 39 (p. 65-6, lines 1682-93) See Addendum A for full text.

input will be collected with the guidance of an Advisory Committee using direct meetings with code offices and a survey of building code stakeholders.

A second objective of the proposed research is to reduce learning curve for code agencies that want to move beyond the minimum required functionality. A third objective of the proposed research is to explore the benefits and challenges of electronic submission of Florida energy code compliance forms.

The end-goal of the proposed research is to

- Survey stakeholders and, using the survey results, develop a voluntary protocol for evaluating electronic permit application methods and software tools to meet the common work flow needs of local building code enforcement agencies and contractors submitting permits in Florida.
- Capitalize on experience of Florida building code offices with electronic permit application processing in case studies

Work Scope

This research will include multiple task for easy tracking of expenses. The proposed work will be conducted on the timeline shown in Figure 1.

Task	Description	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
1	Investigate Electronic Filing Systems used on a state-wide basis outside Florida		Task 1							
2	Industry Advisory Committee and Survey of Florida Local Code Offices & Stakeholders		Task 2							
3	Interim Report and presentation to TAC				Interim Report					
4	Survey analysis and case studies of experienced (3+ years) jurisdictions' methods						Task 4			
5	Develop Evaluation Protocol for Electronic Permit Application Processing Software and Methods:						Task 5			
6	Conduct webinars for stakeholder input						Task 6			
7	Final report, presentation to TAC, and webinar									Final Report

Figure 1: Timeline of Tasks 1 through 8

Task Descriptions

Task 1 Investigate Electronic Filing Systems in Other States:

Working toward development of a protocol for evaluating electronic methods and tools, researchers will query other states to identify any commercially available or internally developed systems in use on a state-wide basis and document key functionality and associated capabilities.

Task 2 Industry Advisory Committee and Survey of Florida Local Code Offices and Stakeholders and Stakeholders:

Researchers will solicit input from an Industry Advisory Committee. Advisory Committee recruitment will begin with invitations to stakeholder organizations such as the Florida Building Officials Association to provide one or more Advisors to the project. The team will also reach out to organizations that have already begun to address adoption of a standard electronic permit application protocol across jurisdictions such as the Brevard County Economic Development Council. In the interest of its SNAP program, the Brevard County EDC has agreed to forward the Advisory Committee invitation to members in the construction industry. SNAP stands for

Simplified, Nimble, Accelerated Permitting. It's a voluntary certification program for code jurisdictions that adopt best practices for streamlining the building permitting process including many best practices involving electronic permit applications. Two SNAP certified communities have agreed to provide an Advisor: Brevard County and the City of Rockledge (see attached support letters).

Researchers will collaborate with the Advisory Committee and local building permitting offices and stakeholders in the permitting process to document the typical work flow steps in current permitting processes. These typical work flow steps will be key elements in the specifications protocol for evaluating electronic permit submission, processing, and storage methods and software. In addition to all steps of the paper submission process, electronic application submission may lead to challenges with file storage, re-submissions, upload issues, and archiving. Balanced against those challenges, electronic submission promises benefits of easier field access, permit tracking, simultaneous review of different permits, searchable documents and databases, and inspection scheduling.

Dennis Clements², Building Code Official, City of Rockledge reports that the benefits must be weighed against strained budgets. This study would relieve those staff members from the burden of assessing the wide range of methods developed by individual code bodies and those available in the marketplace – effectively delivering knowledge garnered over 1000's of man hours at building code offices on the leading edge of the electronic submission wave.

Based on input from these parties, FSEC will draft a Survey of Florida Local Code Offices for review by the Advisory Committee. This process proved very successful in a previous industry survey FSEC conducted for the Florida Building Commission³.

The purpose of the survey of Florida local building departments is to gather information on character and satisfaction with currently adopted electronic submission methods and identify candidates with mature procedures (three to five years) for case studies. The survey will cover:

- Character and scope of electronic permit application method
- Number and nature of permits processed
- Detailed work flow patterns and tasks handled electronically
- Length of use of current electronic method
- Satisfaction level with multiple aspects of the adopted electronic method (e.g. staff verses contractor interface)
- User interface, office and field access
- Licensing costs
- File storage
- Access to records during and after permitting
- Ability to query details across permits
- Unresolved challenges
- Benefits beyond the permitting process
- Concerns (e.g. security)

² Personal communication, Janet McIlvaine with Dennis Clements, City of Rockledge Building Code Official, June 14, 2017.

³ Vieira et. al. 2016 <http://fsec.ucf.edu/en/publications/pdf/FSEC-CR-2024-16.pdf>

- Implications for cold storage, applications not completed, and other inactive records
- Public record inquires, and
- Any other capabilities, benefits, handicaps, and limitations of electronic compared to paper submissions identified by the Advisory Committee.

Some code enforcement offices have expanded electronic application submission to include, for example, tracking during the permit approval process, electronic plan review records, searchable documents and/or databases, easy contractor and owner access to past permit packages, and ability to examine district wide data. As with all things, with added capability comes added challenges. The proposed survey will also elicit input on those challenges and solutions for the benefit of less experienced code enforcement agencies.

Task 3 – Interim Report and presentation to TAC (see Deliverables below)

Task 4 Survey Analysis and Case Studies:

Survey responses will be analyzed and distilled into preliminary results for discussion with stakeholders in Task 5 then refined in Task 7 into the voluntary protocol for evaluating software and other methods of electronic permit application processing.

Early adopters with three or more years of experience have valuable knowledge to share, and will be invited to submit a case study to share lessons learned and best practices. This will stretch the impact of funds already spent by Florida’s building code community and may save local code offices hours of research, trial and error learning. Task 4 will include drafting the case studies will be made available on the FSEC website, newsletters, direct email to distribution list provided by FBC, and provided to interested stakeholder associations for distribution.

Task 5 Develop Evaluation Protocol for Electronic Permit Application Processing Software and Methods:

Combining outcomes of Tasks 1 through 5, researchers will finalize a voluntary protocol for evaluating new and existing software tools⁴ and methods developed by code agencies to determine if each provides the common work flow needs of local building code enforcement agencies and contractors submitting permits in Florida. The protocol will take the form of a set of specifications and/or capabilities gleaned from survey input and jurisdictions with mature electronic submission procedures. This voluntary protocol may be something that the FBC makes available as a voluntary guideline for local jurisdictions, as a mandatory requirement for local jurisdictions, or as something in-between such as a document that must be followed by third party software vendors who will be recognized as meeting the state’s electronic filing protocol. The protocol may serve as a set of feature criteria that an electronic tool must provide, and it may stipulate the documents that must be submitted for FBC approval. This is similar in character to the Technical Advisory Manual (TAM) that software providers must follow for FBC approval of energy code compliance software.

Task 6 Conduct webinars for stakeholder input

Concurrent with Task 5, FSEC will conduct webinars to present preliminary findings and solicit input from stakeholders,. Additionally, FSEC will conduct one in-person presentation to a

⁴ Examples include Viewpoint Cloud, GovPilot’s cloud-based Building and Construction software module, Accela Permitting, and Avolve. Tools such as e-PlanChecknd add capability for electronic design review and central access.

coalition of code enforcement officials or agencies.

Task 7 –Final report, final case studies, and presentation to TAC (see Deliverables below)

Deliverables

Task 3 Interim Report and presentation to TAC: An interim report summarizing survey implementation and other progress to be presented at the December meeting of the Code Administration Technical Advisory Committee (TAC).

Task 7 Final report, final case studies, and presentation to TAC: A final report will be submitted by the end date of the contract and subsequently presented at the next TAC meeting and/or TAC Chairs meeting at the discretion of the FBC to include

- Analysis of survey data
- Voluntary protocol for evaluating electronic permit application methods and software
- Case studies of experienced (3-5 years) jurisdictions' methods

Expected Outcome

The primary outcomes of the proposed research will be a voluntary software and system evaluation protocol in the form of a matrix of specifications and capabilities to meet the needs of the Florida Building Commission, Florida Building Code Officials, and key stakeholders in the Florida code and permitting process. The protocol will enable local governments to evaluate suitability of electronic permit application methods, systems, and software programs for Florida code enforcement agencies. It will also enable software developers to self-evaluate for programs for the Florida market, possibly resulting in more robust commercial options for permit application submission and processing. The protocol will include database methods for energy code forms that will be designed to reduce long term burden on code officials and researchers.

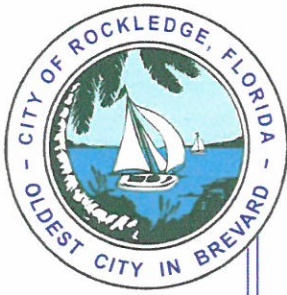
Impact on the Code

This study is expected to reduce the burden of compliance placed on building code offices, particularly for small jurisdictions which may not have the staff or budget to evaluate third-party systems sufficiently. It is also envisioned to help jurisdictions who have fully complied minimally with the requirement but will look forward to improving their system.

Budget: \$54,999

Addendum A CS/CS/CS/HB 535, Engrossed 2, Enrolled, Section 38 (p. 64, lines 1640-51) and Section 39 (p. 65-6, lines 1682-93).

“A local enforcement agency shall post each type of building permit application on its website. Completed applications must be able to be submitted electronically to the appropriate building department. Accepted methods of electronic submission include, but are not limited to, e-mail submission of applications in portable document format or submission of applications through an electronic fill-in form available on the building department's website or through a third-party submission management software. Payments, attachments, or drawings required as part of the permit application may be submitted in person in a nonelectronic format, at the discretion of the building official.”



CITY OF ROCKLEDGE

July 3, 2017

Robin Vieira
Director of Buildings Research
Florida Solar Energy Center
1679 Clearlake Road
Cocoa, FL 32922

RE: Letter of support for FSEC research

Dear Mr. Vieira,

The City of Rockledge Building Department is pleased to support your proposal to the Florida Department of Business and Professional Regulation, Florida Building Commission on accepting and processing permit applications electronically and associated electronic work tasks.

We support gathering information from local government building code officials and stakeholders they identify using a survey developed with input from an Industry Advisory Committee. The survey will identify experienced jurisdictions and gather their collective experience for the benefit of Florida's building code stakeholders at large.

We recognize the relevance of this research as a potential time and effort saver for those building departments adopting electronic permitting for the first time and the value of identifying key criteria for candidate systems whether commercially available software or internally developed methods and management strategies.

We look forward to acting as a member of the Industry Advisory Committee and sharing our experience with the research team as you develop and distribute the stakeholder survey, case studies, and an evaluation protocol for electronic permit application and tracking systems.

We look forward to our collaboration.

Sincerely,

Dennis Clements
Building Official

CITY HALL

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BOARD OF COUNTY COMMISSIONERS

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Building Code Division**
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Building A, Room 114
Viera, Florida 32940

July 3, 2017

Robin Vieira
Florida Solar Energy Center
1679 Clearlake Road
Cocoa, FL 32922

RE: Letter of support for FSEC research

Dear Mr. Vieira,

Brevard County Planning & Development is pleased to support your proposal to the Florida Department of Business and Professional Regulation, Florida Building Commission on accepting and processing permit applications electronically and associated electronic work tasks.

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We recognize the relevance of this research as a potential time and effort saver for those building departments adopting electronic permitting for the first time and the value of identifying key criteria for candidate systems whether commercially available software or internally developed methods and management strategies.

We look forward to acting as a member of the Industry Advisory Committee and sharing our experience with the research team as you develop and distribute the stakeholder survey, case studies, and an evaluation protocol for electronic permit applications and tracking systems.

We look forward to our collaboration.

Sincerely,

Michael McCaughin
Chief Building Official
Brevard County Planning & Development Department