

ENERGY STAR. The simple choice for energy efficiency.



ENERGY STAR® Certified Homes RaterPRO App

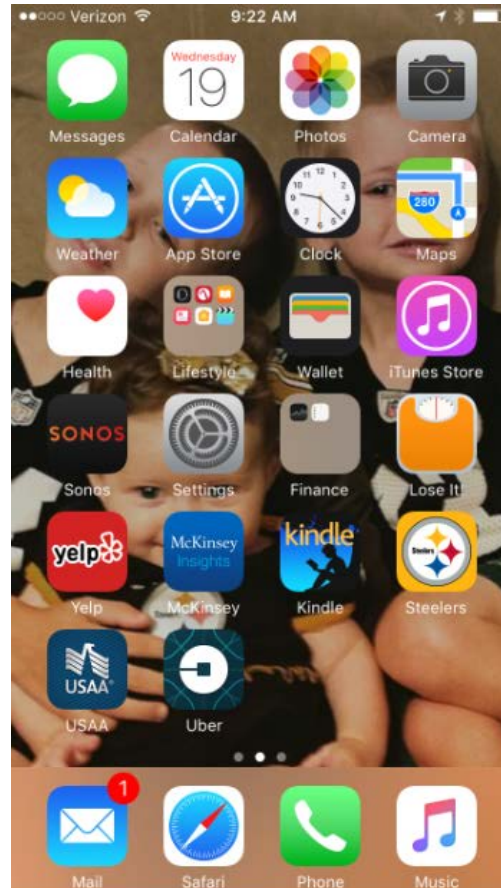




Agenda

- History of Apps
- Why ENERGY STAR is pursuing an App
- Live demonstration and not live admin site
- Next steps and timeline

History of Apps



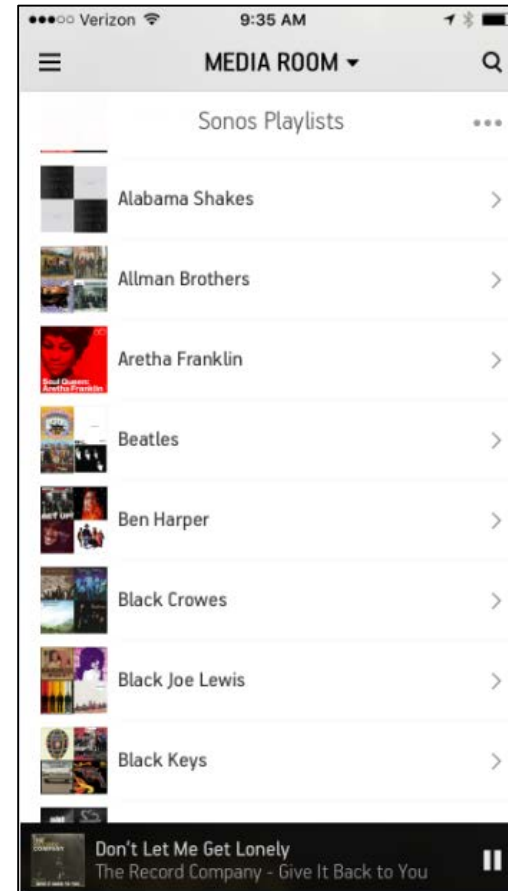
History of Apps

- The first App was launched in July of 2008
- Since that time over 2 million IOS apps and 2.2 million Droid apps have been developed
- Apps are problem solvers



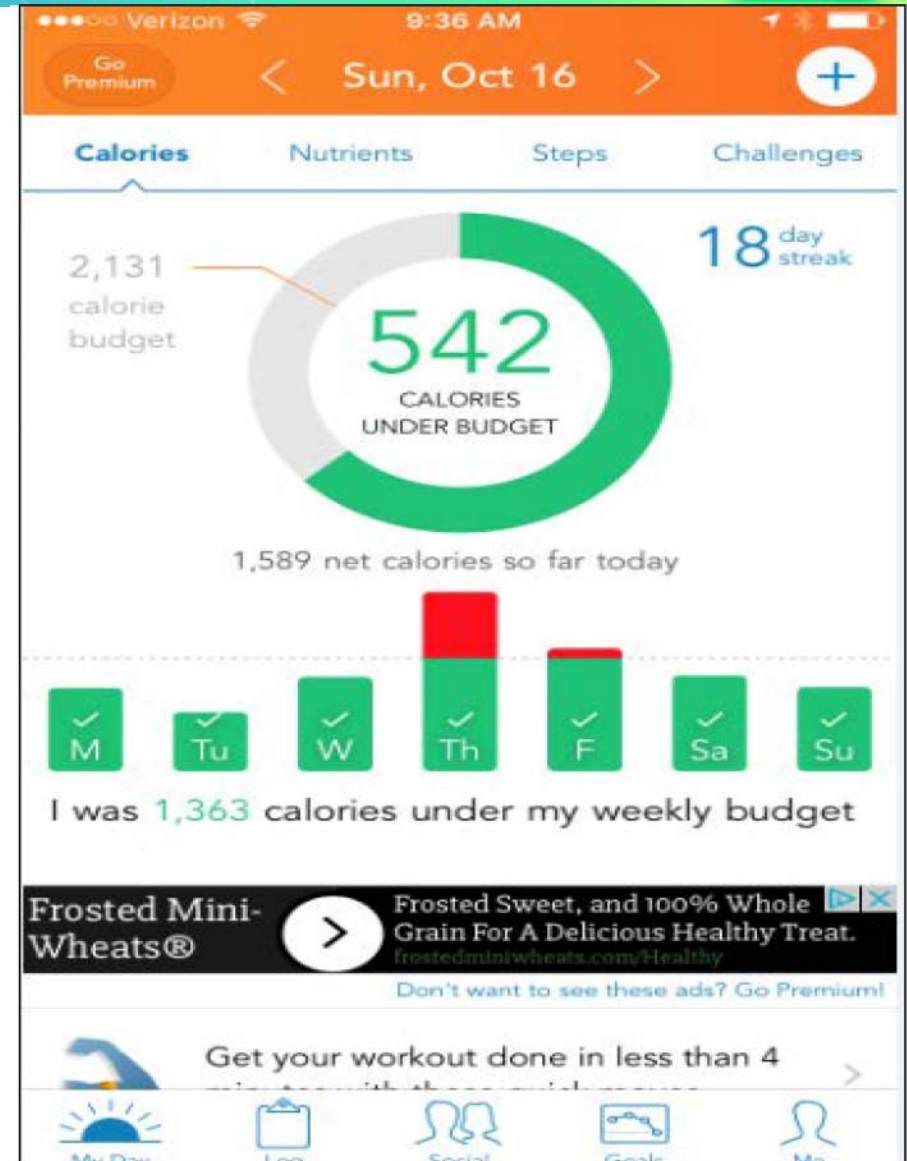
History of Apps

- Problem: Desire to hear the top 30 million songs ever recorded
- Solution: Sonos paired with Apple Music has made my dinner experiences wonderful
- Problem: Kids and wife like horrible music
- Solution: Playlists to sandwich good music between Justin Timberlake and Taylor Swift



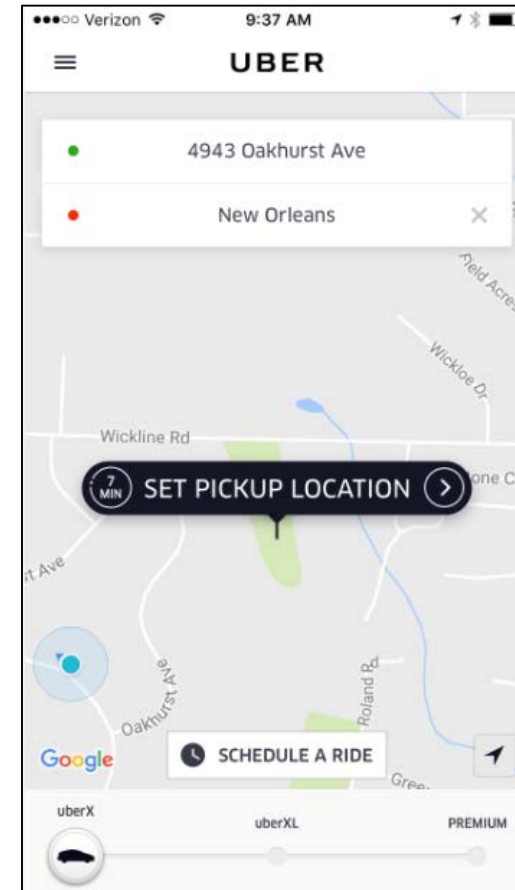
History of Apps

- Problem: Dean keeps showing this picture of me at conference presentations.
- Solution: LoseIt App to make the picture look dated
- Problem: Actually have to use the app



History of Apps

- Problem: Taxi's have a monopoly, and they don't serve the suburbs
- Solution: People will drive their car for money
- Problem: Humans have too many accidents
- Solution: Robots drive cars in Pittsburgh



History of Apps

- Apps are problem solvers
- They prevent clients from taking advantage of their consultants
- They spur innovation beyond the app itself





Why ENERGY STAR is Pursuing an App





Goal

- Provide a useful tool to facilitate field data collection amongst pre-drywall and final inspections that is verifiable and increase confidence in the rating process, and the industry.

Issues that need to be addressed

- App for everyone
- Granite – not granite
- Need for higher standard to ensure inspection and improvement



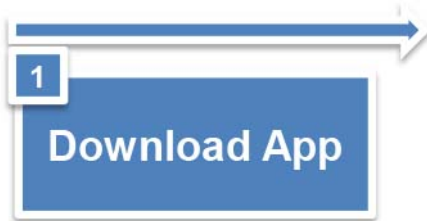


What a field app should have

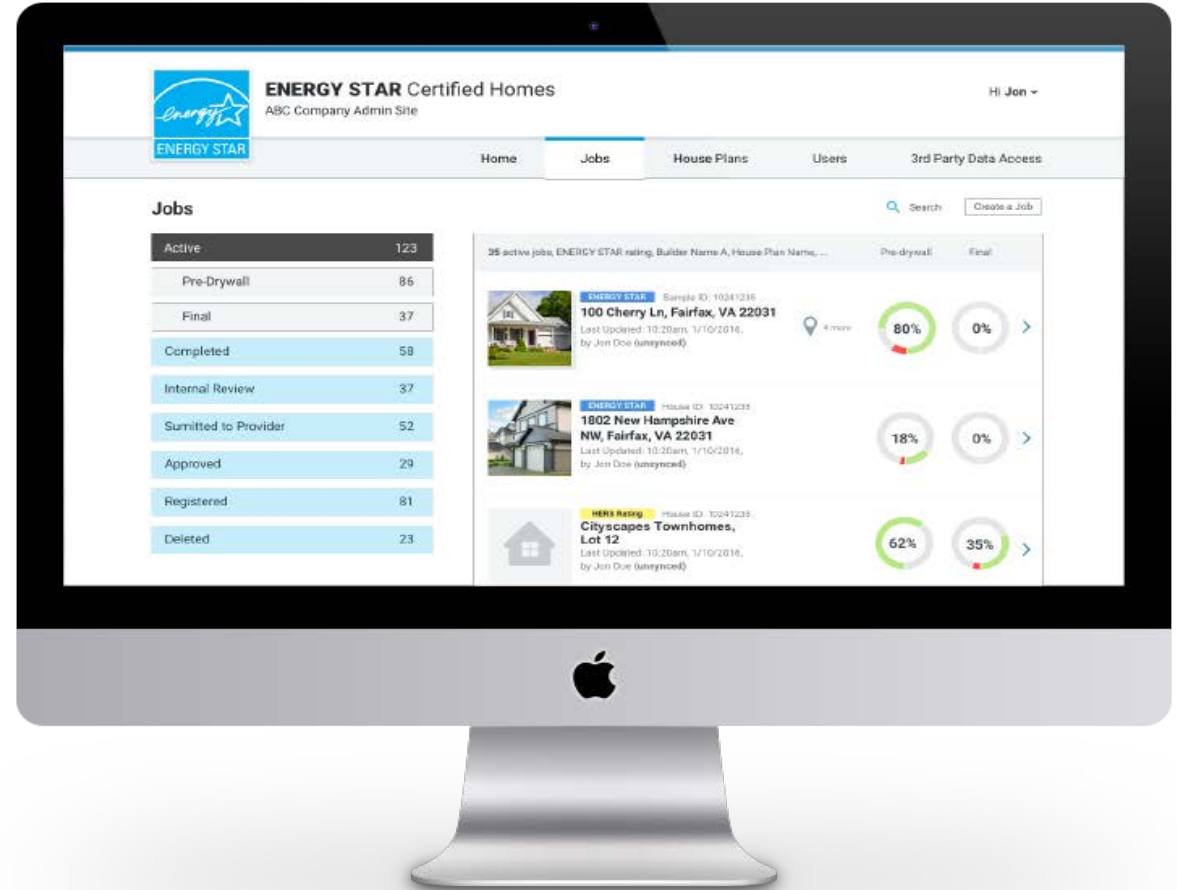
- Built upon existing technologies in industry: i.e. Retrotec or The Energy Conservatory blower door app
- Capturing photos, signatures, bar codes, geotagging
- Ability to work offline
- Ability to communicate with rating software – preload design values and house specific information
- Report back to rating software with field verified data points
- Provide instant reports, and aggregate reports to builders



A Better way



- HERS Rating Companies, HERS Raters, field inspectors download the app.



A Better way



- During the REM file design, minimum rated features are connected with the app, so that HERS Raters, and field inspectors are able to see them when performing on site inspections.



A Better way



- The HERS Rater now has access to minimum rated features at pre-drywall for insulation, duct blaster test, window values, square footage.

49 checklist items for pre-drywall and final, any status [Filter](#)

Exterior Walls - Pre-Drywall

Insulation levels match proposed design ⓘ

Builder Verified	Must Correct	Rater Verified
------------------	--------------	----------------

Insulation is Grade I ⓘ

Builder Verified	Must Correct	Rater Verified
------------------	--------------	----------------

Floor / foundation assemblies match proposed design ⓘ

Foundation

Foundation Type	Thermal Boundary Loc.	Crawl Space Type
None	N/A	N/A

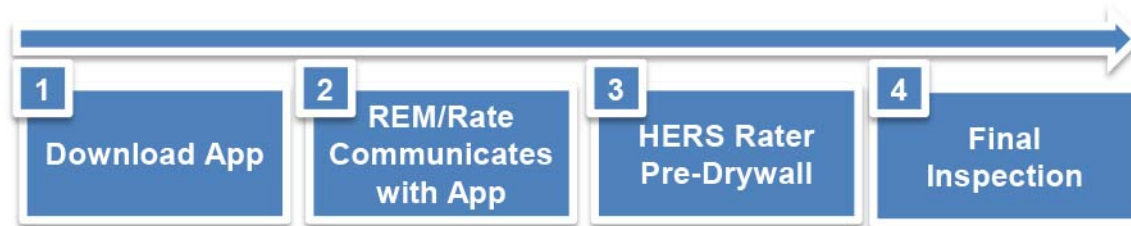
Slabs

Name	Slab Type Name	Perimeter Ins (R)	Perimeter Ins Depth (ft)	Under-Slab Ins. (R)	Under-Slab
slab	Uninsulated	0.0	0.0	0.0	0.0

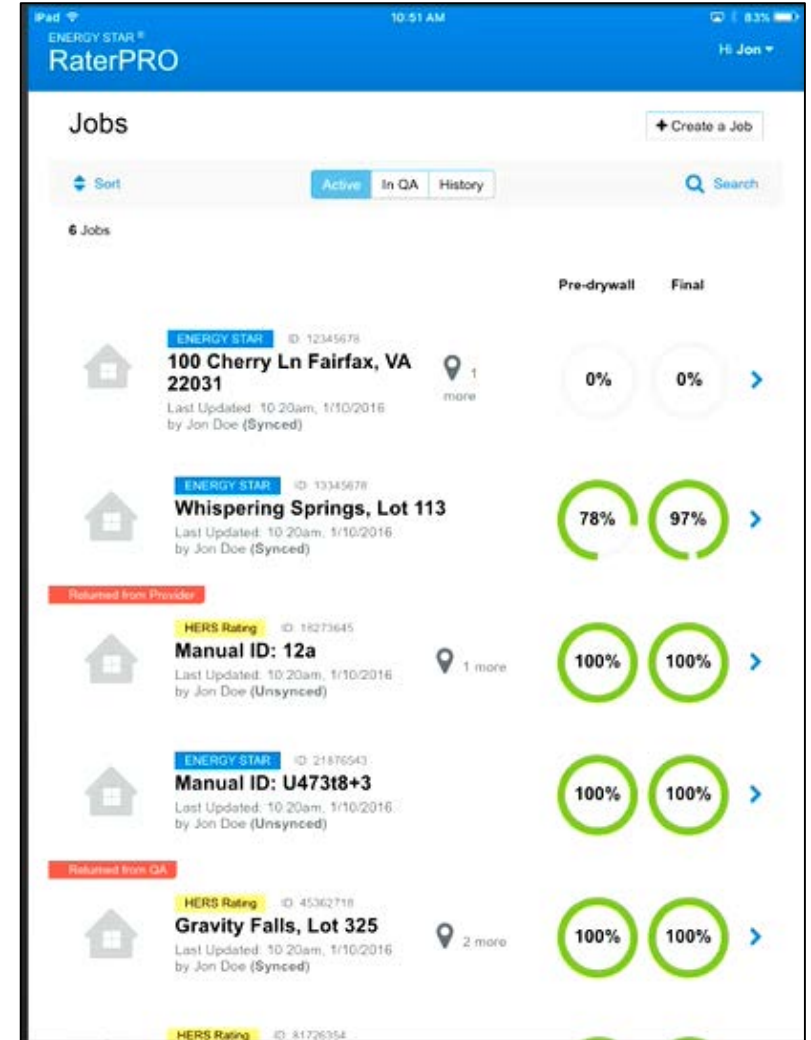
2 Addresses For This Sample Set [Less](#)



A Better way



- Final inspection, rater comes to house, with the app filled with all the information.
 - Verifies minimum rated features HVAC equipment, attic insulation, lighting and appliances, water heater





A Better way



- Plug in allows blower door and duct blaster to be controlled by iPad and geo-tag the information proving critical tests were performed on site.
 - Photo verify test results if app doesn't connect.



A Better way



- Rater finalizes inspection, and the following process occurs:
 - App uploads field collected features into REM/Rate or other software
 - Company has ability to internally QA all submissions prior to submittal to Provider
 - REM file along with geo tagged information are sent to QAD/Provider for posting on RESNET registry



Answers to your questions?

- How much will the monthly fee be to use the RaterPRO app?
–\$0
- Will EPA or ICF have access to information in the RaterPRO app?
–NO!
- Will the RaterPRO app be required for ENERGY STAR?
–NO!



Answers to your questions?

- Is this just for ENERGY STAR homes?
- No, this can be used for any HERS Rated home
- Rick, Can you explain whether it is an Open Source, Cross Development Platform, HTML5, Apache Cordova, AngularJS, Node.JS, Docker Containers, Amazon Web Services, Jenkins, EC2 Container Service?
- I have a slide at the end with all of this IT Jargon, and definitions, I don't know any of it, and don't want to steer you down the wrong path.

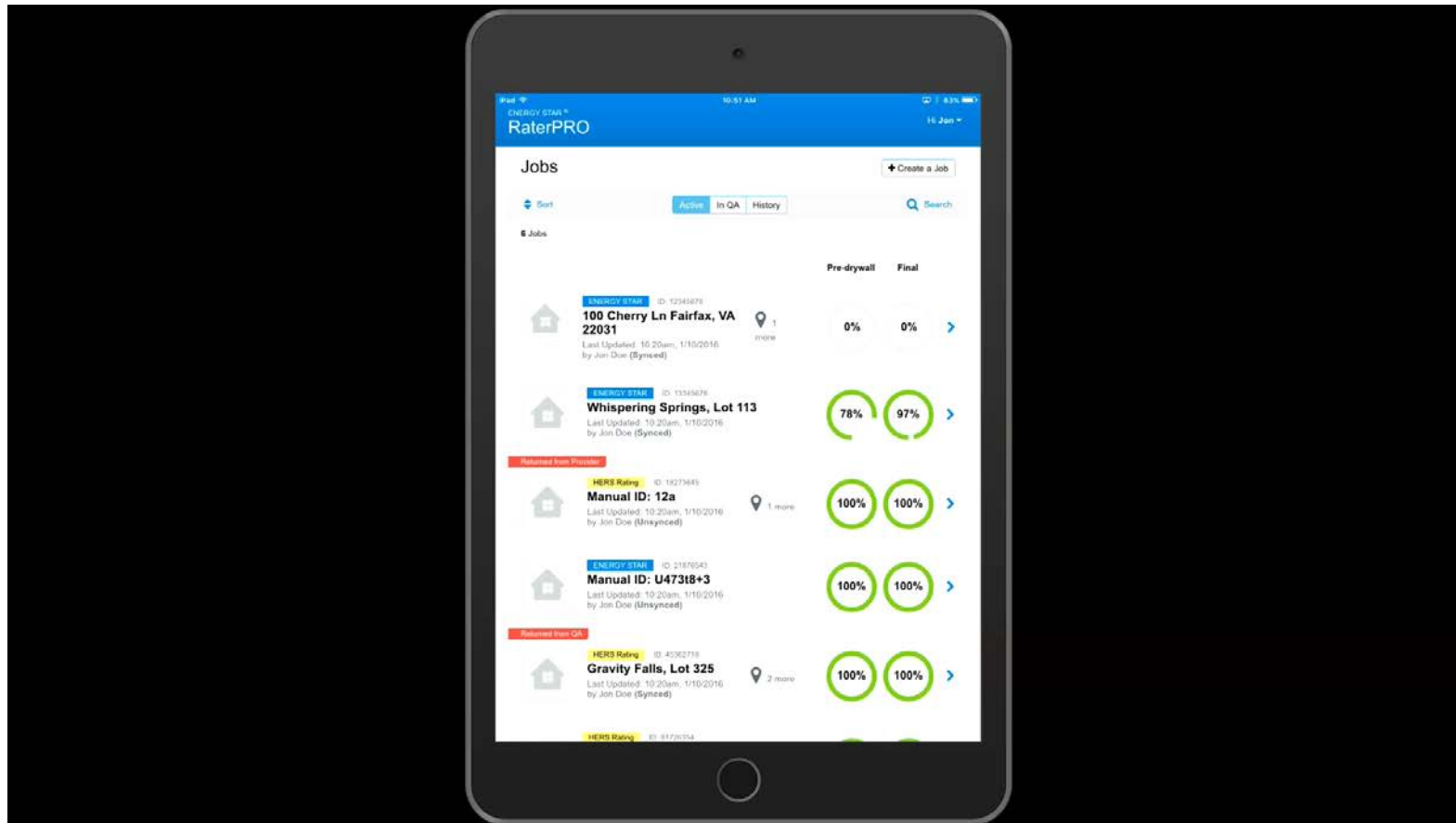


Live Demo, or Pre-recorded Videos



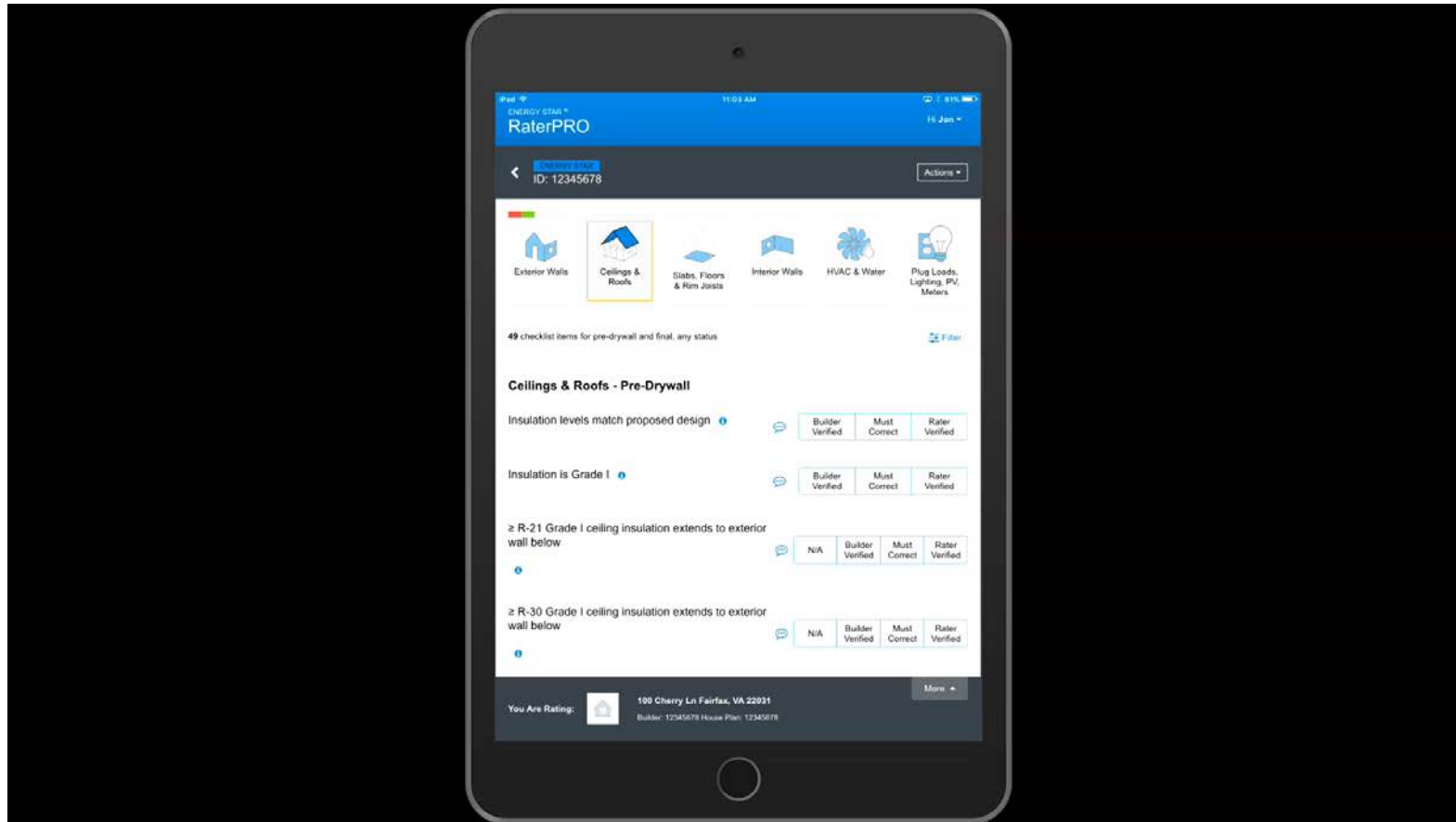


Field App Video



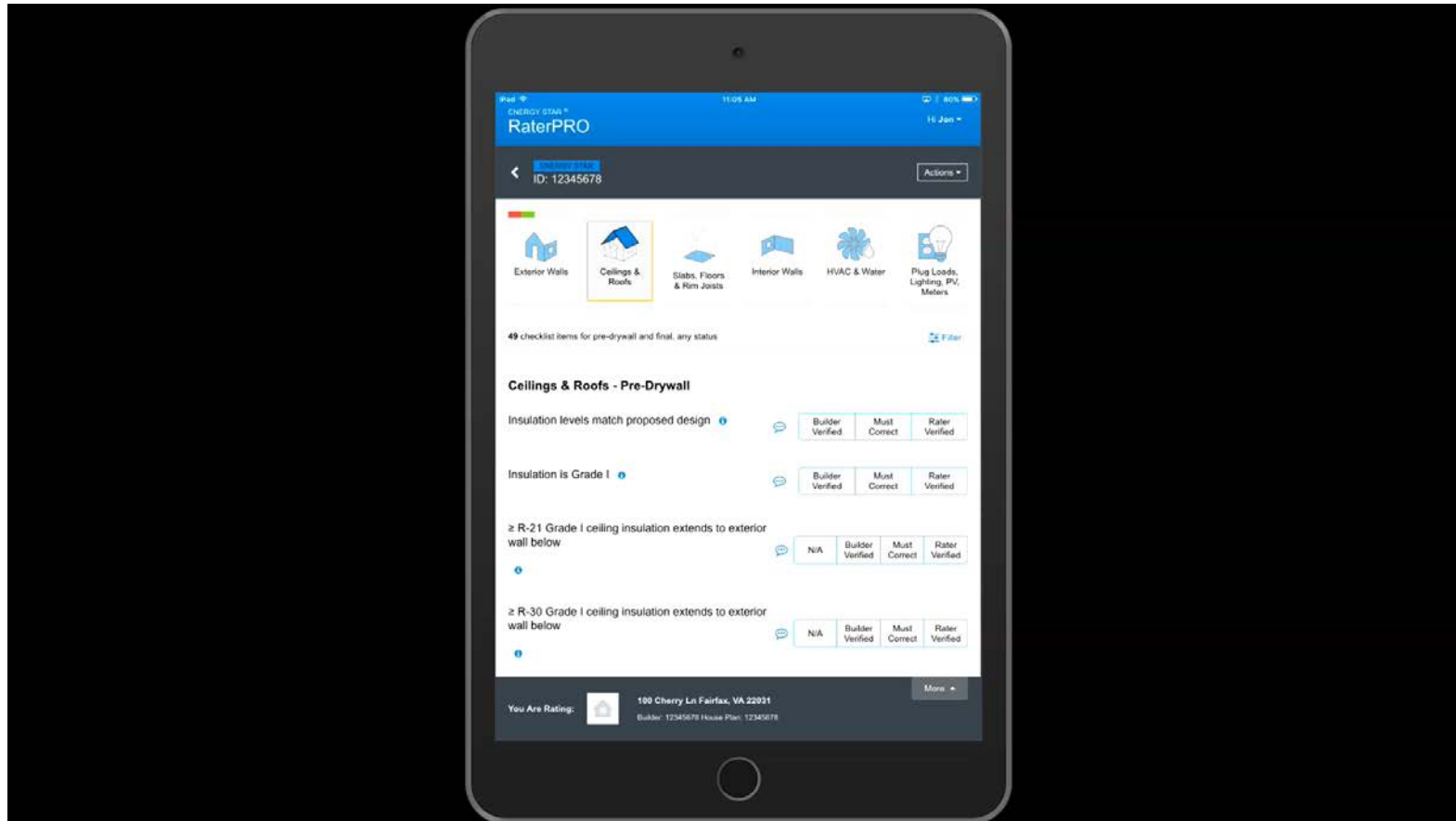


Field App Video



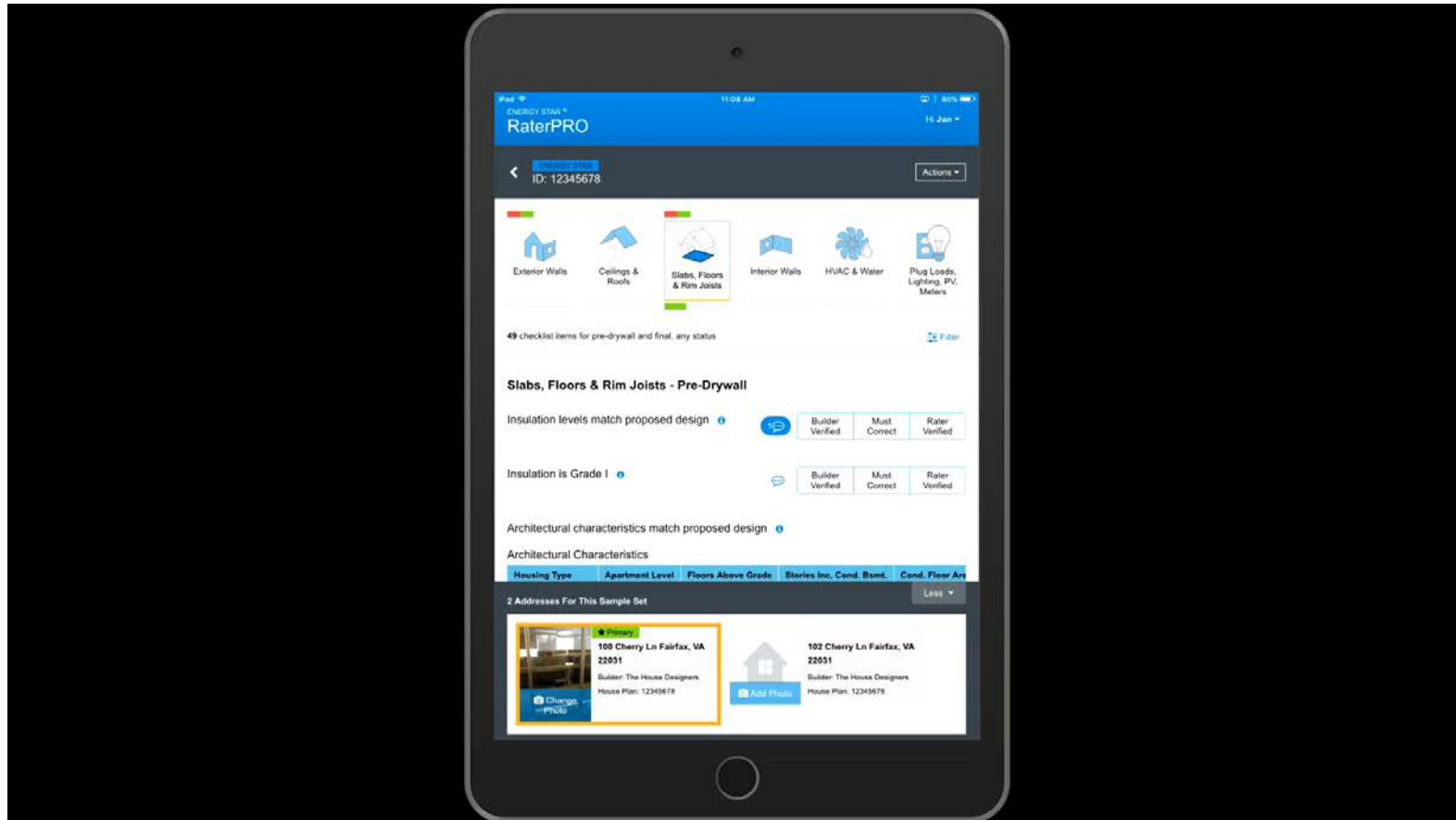


Field App Video



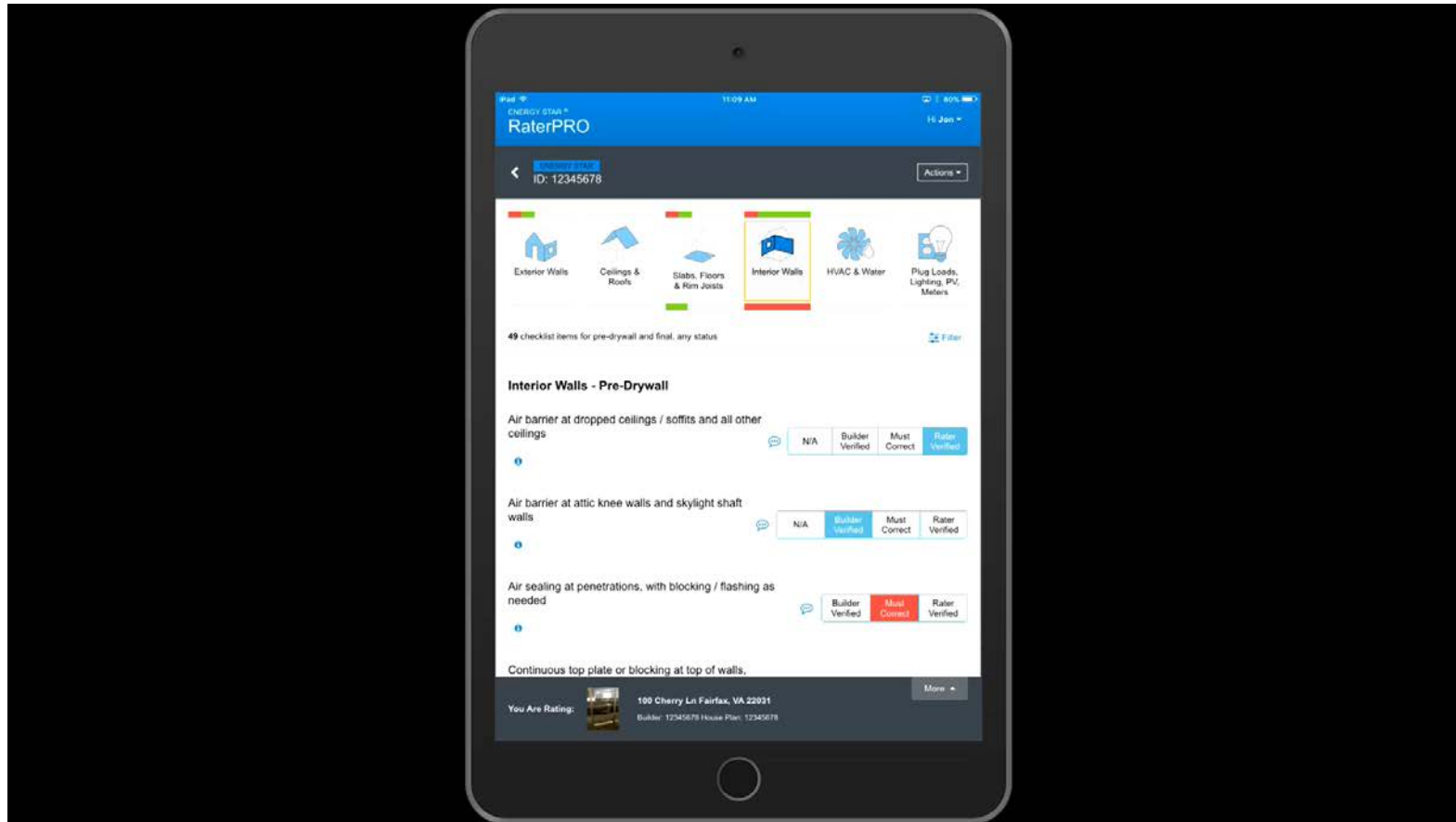


Field App Video



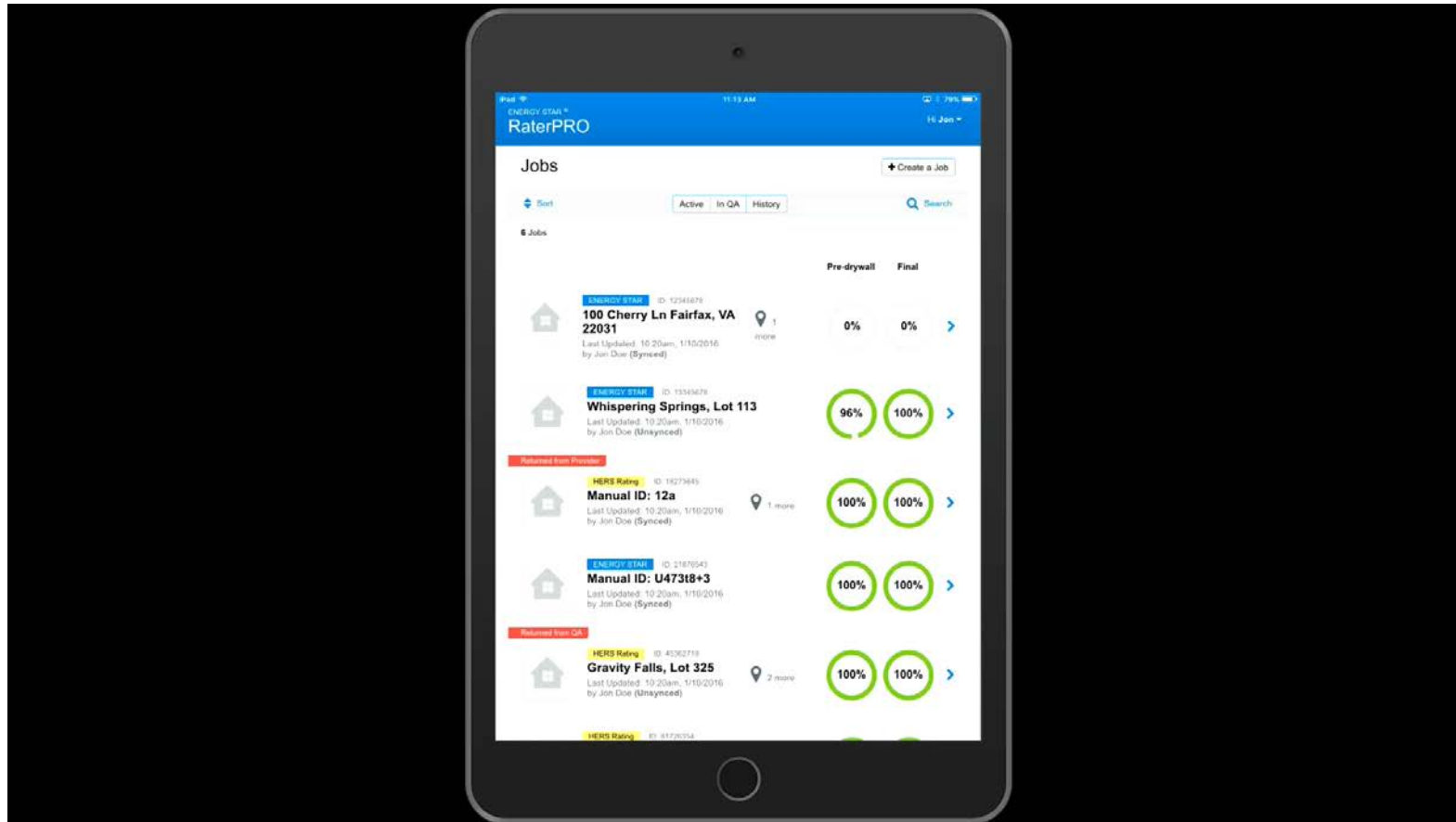


Field App Video





Field App Video



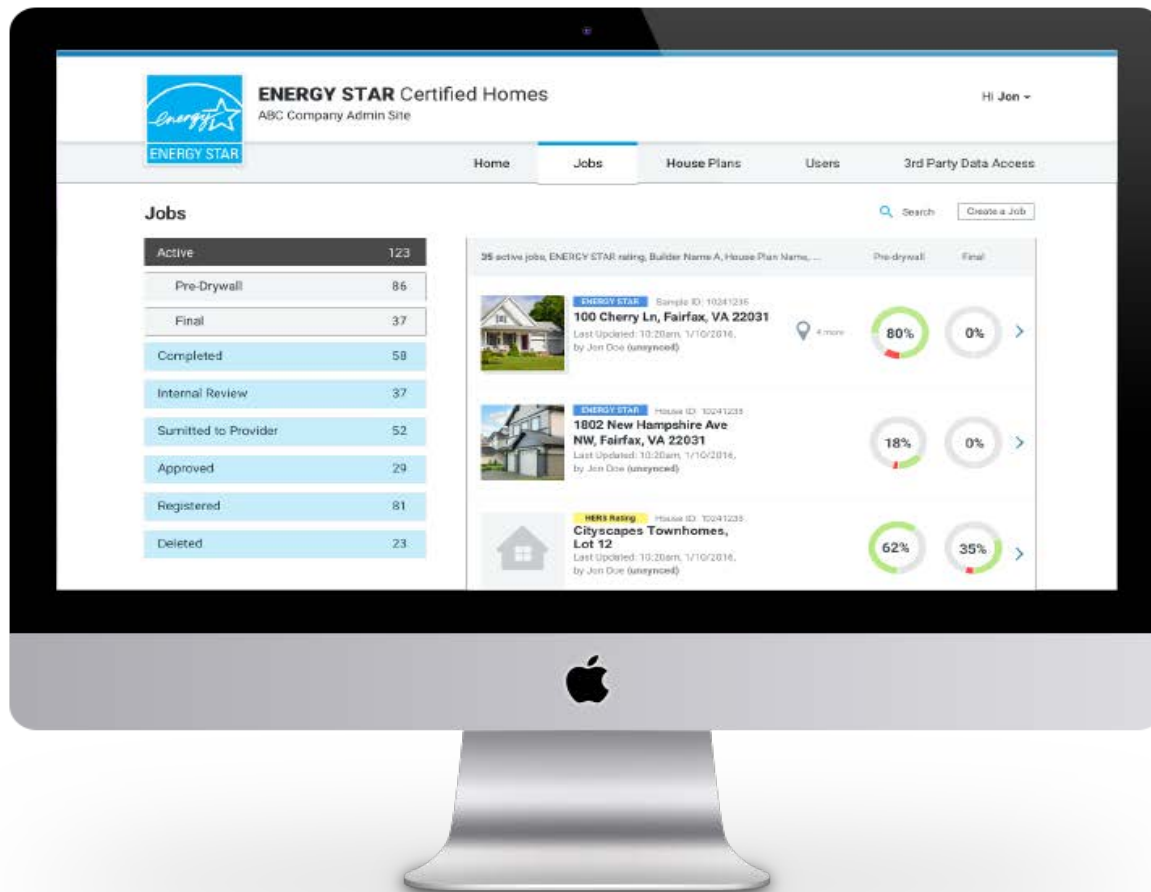


Admin Site Screen Shots





Administrator: Home





Administrator: Create a Job

ENERGY STAR Certified Homes
ABC Company Admin Site

Hi Jon

Home Jobs House Plans Users 3rd-Party Data Access

Create A Job

Sample Set

House Plan

Builder

Rating Type

Location

Street address

OR

City State Zipcode

OR

Community name Lot #

OR

Manual identifier

House Front Photo

HVAC Design Report

Rater Design Review Checklist

Rating company admins have the options to add **one or more** house plans from local computer or from house plan library on this company admin site.

House Plan

- From Computer
- From House Plan Library

Search

- House Plan Name A - subplan xyz
Builder: ABC Company Community: Name AAA
- House Plan Name A - subplan xyz
Builder: ABC Company Community: Name AAA
- House Plan Name A - subplan xyz
Builder: ABC Company Community: Name AAA
- House Plan Name A - subplan xyz
Builder: ABC Company Community: Name AAA



Administrator: Load a REM XML File

ENERGY STAR Certified Homes
ABC Company Admin Site

Hi Jon ▾

Home
Jobs
House Plans
Users
3rd-Party Data Access

House Plans

➤
Add a House Plan

Showing 1 - 20 of 185 results

[House Plan Name AAA - Subplan XYZ](#) [Edit](#)

Builder: ABC Company Community: Name AAA

HVAC Design Report: [Report_File_Name_A.pdf](#), [Report_File_Name_B.pdf](#)

Rater Design Review Checklist: [Checklist_File_Name.pdf](#)

[House Plan Name AAA - Subplan XYZ](#) [Edit](#)

Builder: ABC Company Community: Name AAA

HVAC Design Report: [Report_File_Name_A.pdf](#), [Report_File_Name_B.pdf](#)

Rater Design Review Checklist: [Checklist_File_Name.pdf](#)

[House Plan Name AAA - Subplan XYZ](#) [Edit](#)

Builder: ABC Company Community: Name AAA

HVAC Design Report: [Report_File_Name_A.pdf](#), [Report_File_Name_B.pdf](#)

Rater Design Review Checklist: [Checklist_File_Name.pdf](#)

[House Plan Name AAA - Subplan XYZ](#) [Edit](#)

Builder: ABC Company Community: Name AAA

HVAC Design Report: [Report_File_Name_A.pdf](#), [Report_File_Name_B.pdf](#)

Rater Design Review Checklist: [Checklist_File_Name.pdf](#)

[House Plan Name AAA - Subplan XYZ](#) [Edit](#)

Builder: ABC Company Community: Name AAA

HVAC Design Report: [Report_File_Name_A.pdf](#), [Report_File_Name_B.pdf](#)

Rater Design Review Checklist: [Checklist_File_Name.pdf](#)

1
2
3
4
5
6
7
8
9
10
next »

Add a House Plan

Admin can only add one house plan to the library at a time.

After user selects a REM XML file from computer, the system displays a model window that shows the file name, house plan name, community name, and builder parsed from the REM XML file.

Admins have the option to change the parsed value, and enter a sub-plan name.

Admins have the ability to upload one or multiple HVAC Design Reports and Rater Design Review Checklists for each house plan.

Click "Save" to complete the process, or click "Delete" to remove this house plan and other associated data and files

House Plan Information
✕

House_Plan_File_Name_A.xml

House plan name
House Plan Name X

Sub-plan name (optional)

Builder
ABC Company

Community name
Community AAA

HVAC Design Report

Rater Design Review Checklist

[Delete this house plan](#)

House Plan Information
✕

House_Plan_File_Name_A.xml

House plan name
House Plan Name X

Sub-plan name (optional)
with basement

Builder
ABC Company

Community name
Community AAA

HVAC Design Report

[Report_File_Name_A.pdf](#)

[Report_File_Name_B.pdf](#)

Rater Design Review Checklist

[Checklist_File_Name.pdf](#)

[Delete this house plan](#)



Administrator: Internal Review

ENERGY STAR Certified Homes

ABC Company Admin Site

Hi Jon ▾

Home
Jobs
House Plans
Users
3rd-Party Data Access

Jobs

Actions ▾
Create a Job

Active	123		37 internal review jobs, ENERGY STAR rating, Builder Name A, House Plan Name x ...	Search
Pre-drywall	86		<input type="checkbox"/> Select All	
Final	37	<input type="checkbox"/>	<div style="display: flex; align-items: center;"> <div> <p>Sample ID: 10241235</p> <p>100 Cherry Ln, Fairfax, VA 22031</p> <p>Last updated: 10:20am, 1/10/2016, by Jon Doe (unsynced)</p> </div> </div>	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">ENERGY STAR</div> <div style="display: flex; gap: 10px;"> <div style="text-align: center;"> <p>80%</p> </div> <div style="text-align: center;"> <p>0%</p> </div> </div> </div>
Completed	58		<input type="checkbox"/> House photo	
Internal Review	37		<input type="checkbox"/> House photo	
Submitted to provider	52	<input type="checkbox"/>	<div style="display: flex; align-items: center;"> <div> <p>House ID: 10240351</p> <p>Community Name A, Lot 12</p> <p>Last updated: 10:20am, 1/7/2016, by Jon Doe</p> </div> </div>	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">ENERGY STAR</div> <div style="display: flex; gap: 10px;"> <div style="text-align: center;"> <p>18%</p> </div> <div style="text-align: center;"> <p>0%</p> </div> </div> </div>
Approved	29		<input type="checkbox"/> House photo placeholder	
Registered	81	<input type="checkbox"/>	<div style="display: flex; align-items: center;"> <div> <p>House ID: 10240350</p> <p>Manual ID: 01052016001</p> <p>Last updated: 10:20am, 1/5/2016, by Jon Doe (unsynced)</p> </div> </div>	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">HERS Rating</div> <div style="display: flex; gap: 10px;"> <div style="text-align: center;"> <p>62%</p> </div> <div style="text-align: center;"> <p>35%</p> </div> </div> </div>
Deleted	23		<input type="checkbox"/> House photo	
		<input type="checkbox"/>	<div style="display: flex; align-items: center;"> <div> <p>Sample ID: 10240332s</p> <p>202 Main St, Fairfax, VA 22031</p> <p>Last updated: 10:20am, 1/4/2016, by Jon Doe</p> </div> </div>	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">ENERGY STAR</div> <div style="display: flex; gap: 10px;"> <div style="text-align: center;"> <p>100%</p> </div> <div style="text-align: center;"> <p>100%</p> </div> </div> </div>
		<input type="checkbox"/>	<div style="display: flex; align-items: center;"> <div> <p>House ID: 10240335</p> <p>Community Name B, Lot 6</p> <p>Last updated: 10:20am, 1/3/2016, by Jon Doe</p> </div> </div>	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">ENERGY STAR</div> <div style="display: flex; gap: 10px;"> <div style="text-align: center;"> <p>0%</p> </div> <div style="text-align: center;"> <p>0%</p> </div> </div> </div>



Administrator: Review a Job

Logo ENERGY STAR Certified Homes
ABC Company Admin Site
Hi Jon ▾

Home
Jobs
House Plans
Users
3rd-Party Data Access

◀ [Back to jobs](#)

Sample ID: 10241235 ENERGY STAR

65 checklist items for Pre-drywall and Final, any status

Icon
Exterior Walls

Icon
Ceilings & Roofs

Icon
Slabs, Floors & Rim Joists

Icon
Interior Walls

Icon
HVAC & V

Ceilings & Roofs – Pre-Drywall

Rater Verified

Name	Ceiling Type Name	Ceiling Type	Cont. Ins. (R)	Cavity Ins. (R)	Ins. Grade	Ra

Photo 1

Rater's comments. Lorem ipsum dolor sit amet, consectetur adipiscing elit. ⋮

Insulation levels match proposed design Rater Verified

Rater's comments. Lorem ipsum dolor sit amet, consectetur adipiscing elit. ⋮

Insulation is Grade 1 Builder Verified

Primary

100 Cherry Ln,
Fairfax, VA 22031

Builder Name A
House Plan File Name B

105 Cherry Ln,
Fairfax, VA 22031

Builder Name E
House Plan File Name A

107 Cherry Ln,
Fairfax, VA 22031

Builder Name C
House Plan File Name D

Community A, Lot 27

Builder Name B
House Plan File Name C

Community B, Lot 17

Builder Name B
House Plan File Name C

Actions ▾

- Flag for QA
- Download REM XML
- Submit to provider
- Edit
- Delete

Reuse the Provider Review screen.

If the rating company has only one provider company, directly submit the job to the provider company.

If the rating company has multiple provider, hover over or click "Submit to provider" display a list of providers for users to select from.

Actions ▾

- Flag for QA
- Download REM XML
- Submit to provider > Provider Company A
- Edit Provider Company B
- Delete Provider Company C



Timeline and Next Steps





- The RaterPRO app should be completed for internal testing December of 2016
- Internal testing will occur up until the RESNET conference
- RESNET Conference will unveil the beta version of the RaterPRO app
- Beta testing will be spring 2017 through the summer
- Full Launch will occur Autumn of 2017



IT Glossary

- Cross Development Platform – developing apps to work on multiple operating systems with a single code base.
- Apache Cordova – Apache Cordova wraps your HTML/JavaScript app into a native container which can access the device functions of several platforms.
- AngularJS – a complete JavaScript-based open-source front-end web application framework mainly maintained by Google and by a community of individuals and corporations to address many of the challenges encountered in developing single-page applications.
- HTML5 – the latest evolution of the standard that defines HTML. The term represents two different concepts: It is a new version of the language HTML, with new elements, attributes, and behaviors, and a larger set of technologies that allows more diverse and powerful Web sites and applications.
- Node.JS – is a JavaScript runtime built on [Chrome's V8 JavaScript engine](#). Node.js uses an event-driven, non-blocking I/O model that makes it lightweight and efficient.
- Docker Containers – wrap a piece of software in a complete filesystem that contains everything needed to run: code, runtime, system tools, system libraries – anything that can be installed on a server.
- Amazon Web Services (AWS) - a subsidiary of [Amazon.com](#), offers a suite of [cloud-computing](#) services that make up an [on-demand computing platform](#).
- Jenkins – is an [award-winning](#), cross-platform, continuous integration and continuous delivery application that increases your productivity.
- EC2 Container Service – is a highly scalable, high performance [container](#) management service that supports [Docker](#) containers and allows you to easily run applications on a managed cluster of Amazon EC2 instances.