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## Instructions for Use of CNA Assessment Tool v1.2



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## INTRODUCTION

### HOW TO USE THESE MATERIALS

This instructional guide is a companion to the Capital Needs Assessment (CNA) e-Tool created by the U.S. Department of Housing and Urban Development (HUD) and the U.S. Department of Agriculture (USDA). **This version of the guide applies to version 1.2 of the tool.**

This guide contains an indexed table of contents with hyperlinked contents.

Updated versions of this guide can be found at

[https://portal.hud.gov/hudportal/HUD?src=/program\\_offices/housing/mfh/cna](https://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/mfh/cna)

## PROCESS OVERVIEW

### INTRODUCTION

This section of the guide provides an orientation to help new users gain an understanding of the CNA e-Tool. This section will answer the following questions:

- For whom is the CNA e-Tool intended?
- What is the flow of the e-Tool?
- How is editing performed in the e-Tool?

### AUDIENCES

Listed below are the primary audiences involved in the CNA process. For each audience, there is a unique icon. These icons appear throughout this document and other CNA trainings to indicate items of note for each specific role.



Assessor



Agency Reviewer



Lender



Owner

Icon	Role Description
	<p><b>Assessors</b> are firms or persons employed for the purpose of conducting the property assessment. The Assessor reports his/her work in the CNA Assessment Tool.</p> <p>For USDA’s direct loan programs and preservation transactions, Assessors will submit CNAs for review by USDA.</p> <p>For HUD programs and USDA guaranteed loan programs, the Assessor will send a completed CNA to the Lender.</p>
	<p><b>Agency Reviewers</b> are employees or contractors of HUD or USDA, depending on the specifics of the program, who review and approve the CNA after it is submitted. Agency Reviewers primarily work within the Web Portal, but will need to be familiar with the fields within the Assessment Tool as well.</p>
	<p><b>Lenders</b> are banks, credit unions, or other financial institutions that may be providing financing or servicing an existing loan for a multifamily property where a CNA is required. Lenders are normally responsible for completing the Financial Factors and Repair Replace Decision steps within the Assessment Tool. For HUD Federal Housing Administration (FHA) programs and USDA’s 538 Loan Guarantee program, Lenders are responsible for submitting CNAs through the Submission Web Portal.</p>
	<p><b>Owners</b> are the owners of the properties being evaluated.</p>

**NOTE:** These audiences are defined broadly to illustrate the CNA process. Individual firms, institutions, and agencies may define these roles differently.

## THE CNA PROCESS FLOW

There are two key parts to the CNA e-Tool: the Excel-based Assessment Tool, and the Web Portal. The illustration below demonstrates the flow of the CNA process through both of these parts.

Essentially, data entry begins offline, in the CNA Assessment Tool/Excel. The resulting Excel document is then uploaded to the Web Portal for the second part of the process, where attachments are uploaded, reports are generated, and the reviewing agency makes a decision.

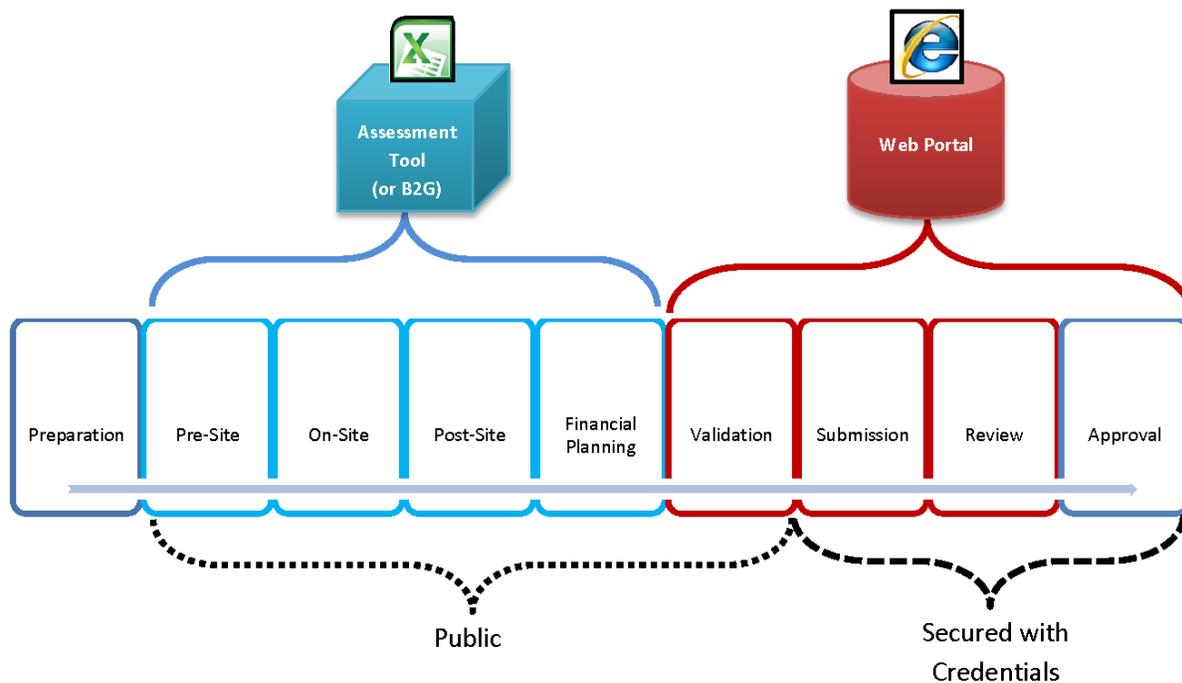


Figure 1 –CNA Process Flow

### CNA ASSESSMENT TOOL

The CNA Assessment Tool is Excel®-based. Although the tool contains some basic formulas to help calculate certain values, the tool is primarily intended for data entry. The tool covers these steps in the process:

- Pre-Site
- On-Site
- Post-Site
- Financial Planning

Refer to the [CNA Assessment Tool Process](#) topic for additional information about these steps.

**NOTE:** An alternative to using the CNA Assessment Tool for completing these steps is to use tools created with the business-to-government (B2G) protocol. B2G is an XML schema that allows non-government users (e.g., lenders, due diligence firms) to develop their own in-house tools for completing CNAs. This instructional guide does not cover these independent tools.

## WEB PORTAL

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The Web Portal is a web-based solution that contains the “logic” or “rules” of the CNA process. Data that is entered into the CNA Assessment Tool is evaluated by the Web Portal in order to generate flags and reports and to enable review by the reviewing agency.

All of the following take place on the Web Portal:

- The CNA is uploaded for Validation
- Flags are generated, alerting you to potential issues with the file
- Reports, such as the Building Unit Mix and Financial Schedule, are generated
- Supporting attachments are uploaded
- A decision is rendered by the reviewing agency

**NOTE:** In the past, many Excel CNA Worksheet tools produced tables, lists, and schedules (such as the Reserve for Replacement Schedule) within the Excel document itself. That is not the case with the CNA e-Tool. To generate reports, the user must perform the Validation step on the Web Portal. Although this requires the user to access the internet, it prevents the formulas from being corrupted by modifications or copy errors, and ensures that the results are consistent for every file.

For more details on the Web Portal, refer to the [Overview of Validation and Submission Processes Using the Web Portal](#) topic.

## CNA ASSESSMENT TOOL BY PHASE OF PROCESS

This section breaks down the CNA Assessment Tool based on the steps in the typical CNA process.

The image below demonstrates the tabs in the CNA Assessment Tool and the role primarily responsible for performing data entry at each phase. These phases and roles are merely suggestions. Different agencies may decide to use different processes.

**NOTE:** A form named LoV Admin is displayed in the screenshot below and in many screenshots throughout this guide. This form is intended for the administrators who control the design of the CNA Assessment Tool only, and does not appear for most users, nor are its functions described in this guide.

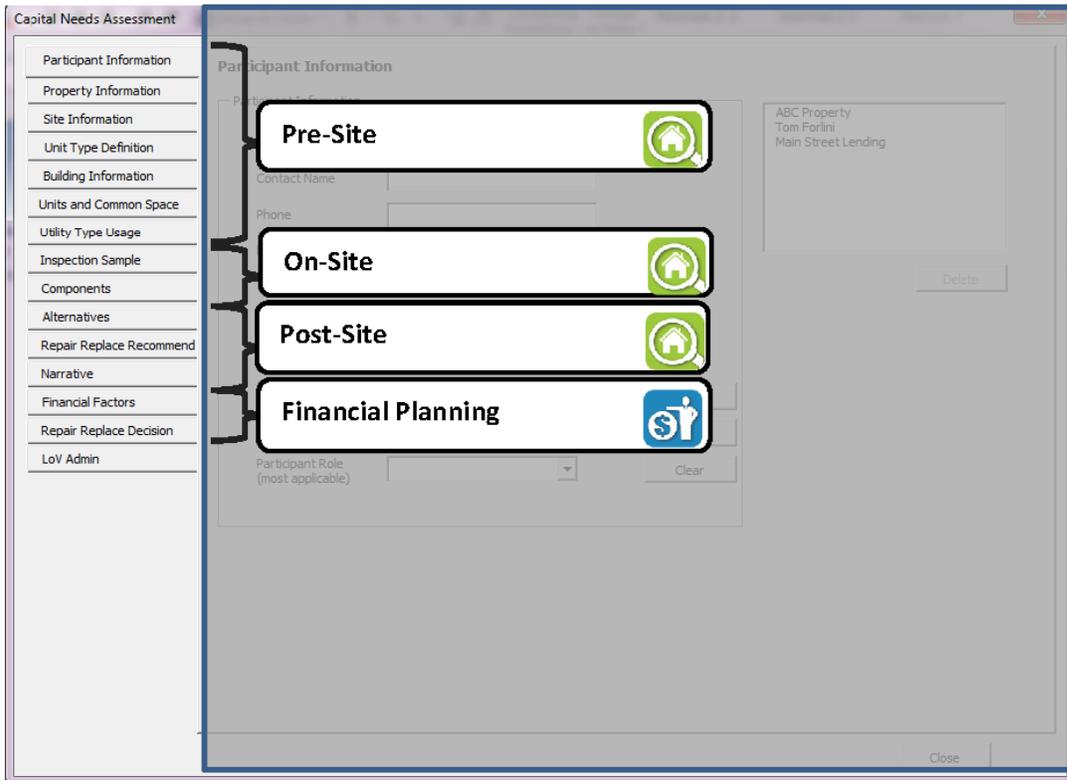


Figure 2 – Mapping Between Assessment Tool, Process, and Role

## PRE-SITE

Pre-Site forms may be completed by an  Assessor prior to the site visit, but often require modification or correction based on observations made at the site. The Assessor obtains information from the  Lender and the  Owner to complete this part of the tool.

Forms in this section include:

- [Participant Information](#)
- [Property Information](#)
- [Site Information](#)
- [Unit Type Definition](#)

- [Building Information](#)
- [Units and Common Spaces](#)
- [Utility Type Usage](#)

## ON-SITE

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On-Site forms are usually completed by an  Assessor during or immediately after the site visit. The Assessor meets the  Owner or the Owner's designee at the site. Others may participate as well.

 **NOTE:** It may be possible and desirable to complete some *On-Site* fields prior to arrival at the site (e.g., the list of units to be inspected may be identified in advance to ensure a random selection).

Forms completed during this step include:

- [Inspection Sample](#)
- [Components](#)

## POST-SITE

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Post-Site forms are usually completed by an  Assessor after the site visit. The Assessor completes the rest of his/her portion of the CNA Assessment Tool and validates (likely multiple times as he or she adjusts values). Forms completed during this step include:

- [Alternatives](#)
- [Repair, Replace, Add New Recommendation](#)
- [Narrative](#)

## FINANCIAL PLANNING

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Financial Planning forms are usually completed by the  Lender after the  Assessor submits the CNA Assessment Tool file to the financial institution. The exception is the data item on the Financial Factors form named *Estimate Period* that the Assessor must complete in order to generate a projected schedule of needs over time. Forms completed during this step include:

- [Financial Factors](#)
- [Repair Replace Decision](#)

## EXAMPLE OVERALL PROCESS

The illustration below demonstrates a possible process flow from start to finish. Note that, depending on the agency and program involved, the exact circumstances may differ. The boxes on the left refer to general steps in the process, while the arrows on the right refer to the stages within the CNA Assessment Tool.

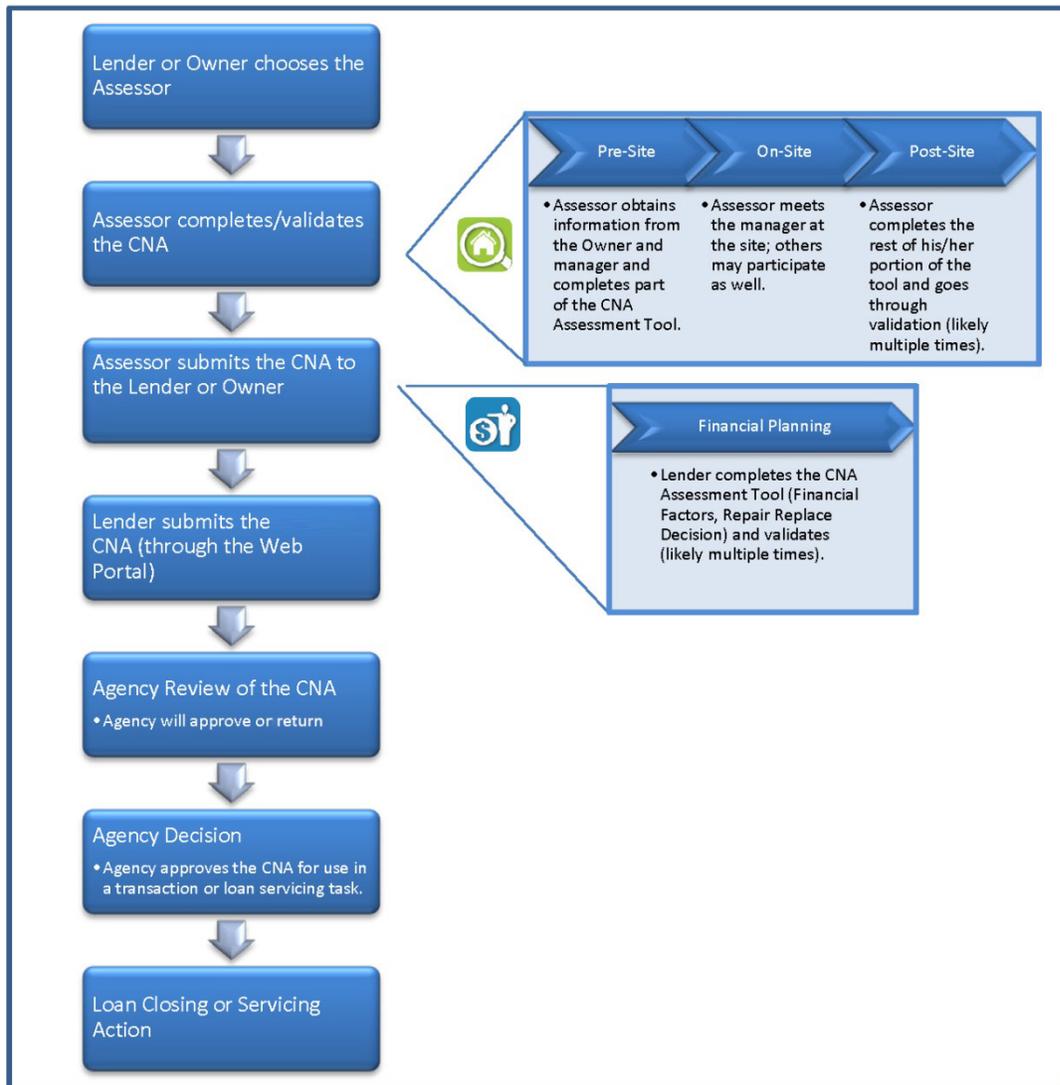


Figure 3 – Example Overall Process

## SUGGESTED DATA ENTRY PROCESS

The tables below list common tasks associated with the creation of a CNA, ordered by task, along with links to the forms where the tasks are completed.

Results and reports generation tasks traditionally associated with CNAs are completed by the Web Portal rather than created and displayed within the Assessment Tool itself.

PRE-SITE PHASE			
Step	Task/Data Object	Form/Tab Name	Key Points
1.	Property	<a href="#">Property Information</a>	
2.	Assessment Scope	<a href="#">Property Information</a>	Identify agency, program, and purpose of CNA.
3.	Participants	<a href="#">Participant Information</a>	You must create an Owner and Assessor; other participants are optional.
4.	Sites	<a href="#">Site Information</a>	Create and describe at least one
5.	Global List of All Unit Types for the Property	<a href="#">Unit Type Definition</a>	Includes bedrooms, baths, sq. ft., and number of plumbing fixtures.
6.	Buildings	<a href="#">Building Information (main tab)</a>	Create buildings, copy, and rename buildings already created.
7.	Assign Unit Types to a Building	<a href="#">Building Information: Assign Units Tab</a>	Assign unit types from global list to each building.
8.	Number of Units in a Building	<a href="#">Units and Common Spaces: Units Tab</a>	Assign counts of each unit type in building. Identify the count of Section 504 accessible units.
9.	Common Spaces in a Building	<a href="#">Units and Common Spaces (sub-tab)</a>	Describe common areas for each building.
10.	Surface Parking (Including Carports)	<a href="#">Site Information</a>	Report non-accessible spaces and accessible spaces separately.
11.	Garage Parking (Located Within a Unit)	<a href="#">Units and Common Spaces: Units Tab</a>	Report non-accessible spaces and accessible spaces separately.
12.	Garage Parking (Located in Common Area)	<a href="#">Units and Common Spaces: Common Spaces Tab</a>	Report non-accessible spaces and accessible spaces separately.
13.	Total Square Footage, Total Units, etc.	<a href="#">Property Information: Property Summary Tab</a> and selected other summary locations	Tool calculates automatically.
14.	Review Replacement Cost per Sq. Ft for Each Building	<a href="#">Building Information</a>	Tool auto-calculates total replacement cost.
15.	Utility Types, Rates, Tenant-Paid versus Owner-Paid	<a href="#">Utility Type Usage</a>	Enter rate for each applicable utility type. May be a weighted average.
16.	Accessibility Laws	Section 504: <a href="#">Property Information</a>  Fair Housing: <a href="#">Building Information</a>	<i>Federally Assisted Indicator</i> determines applicability of <b>Section 504</b> .  On the Building Information form, if <i>Year Built</i> is "1990," "1991," or "1992,"

Step	Task/Data Object	Form/Tab Name	Key Points
			<p>permit dates are required to determine the applicability of <b>Fair Housing design and construction requirements</b>.</p> <p>If <b>either</b> is “YES,” accessibility laws apply, and extra information is required on some forms.</p>
17.	USGS Seismic Analysis Thresholds	<a href="#">Property Information</a>	Refer to <a href="#">special instructions</a> .
18.	Select an Inspection Sample	Property Information: <a href="#">Assessment Scope Tab</a>  <a href="#">Inspection Sample</a>	<p>Identify sample % on Assessment Scope sub-tab.</p> <p>List selected sample of units on Inspection Sample form. Tool checks sample versus requirement.</p>

#### ON-SITE PHASE

Step	Task/Data Object	Form/Tab Name	Key Points
19.	Record Unit Inspection Results	<a href="#">Inspection Sample</a>	Include accessibility status.
20.	Existing Systems/ Features	<a href="#">Components</a>	Identify and evaluate existing components.

#### POST-SITE PHASE

Step	Task/Data Object	Form/Tab Name	Key Points
21.	Describe Potential Replacements	<a href="#">Alternatives</a>	<p>At least one alternative (which is not a one-time repair) is required for each component. Describe an alternative with a recommended useful life (RUL) for each component. The Tool will suggest the Standard EUL for the <i>Component Type</i>.</p>
		<a href="#">Repair/Replace Recommendation</a>	If a replacement, select action as “ <i>Replace</i> .”
22.	Describe “one-time,” or temporary, typically non-capital, immediate repairs (e.g., patch holes in drywall or replace broken window panes)	<a href="#">Alternatives</a>  <a href="#">Repair/Replace Recommendation</a>	<p>On Alternatives form, select component and identify alternative (e.g., “patch drywall holes” or “replace broken panes”).</p> <p>On Recommendation form, select the</p>

Step	Task/Data Object	Form/Tab Name	Key Points
			alternative and identify action as “ <i>One-Time Repair.</i> ”
23.	Add a periodically repeating repair to a component (e.g., waterproof exterior masonry walls, or paint exterior walls)		On the Components, Alternatives, Repair/Replace Recommendation forms, identify <i>Component ID</i> (e.g., waterproof brick/block veneer, paint cement board siding).  On Recommendation form, select the alternative and identify action as “ <i>Repair.</i> ”
24.	Add New Systems/ Components (e.g., add air conditioning to a building)	<a href="#">Components</a>  <a href="#">Alternatives</a>  <a href="#">Repair/Replace Recommendation</a>	Identify component (HVAC xxx; enter assessed RUL as “0”).  Specify new item as alternative with RUL; recommend this alternative with the action “ <i>Add New.</i> ”
25.	Record Assessor’s Recommendations	<a href="#">Repair/Replace Recommendation</a>	Create a single recommendation for each <i>Component ID</i> .
26.	Identify as Critical Repairs, Non-Critical Repairs, or Future Repairs	<a href="#">Repair/Replace Recommendation</a>	<b>Critical Repairs</b> 1. <i>When</i> = “ <i>Now</i> ” and 2. <i>Life Safety Indicator</i> or <i>Accessibility Indicators</i> = “ <i>Yes</i> ”  <b>Non-Critical Repairs</b> 1. <i>When</i> = “ <i>Now</i> ” and 2. <i>Life Safety Indicator</i> and <i>Accessibility Indicators</i> = “ <i>No</i> ”  <b>Future Repairs</b> <i>When</i> = “ <i>End of Cycle</i> ”
27.	Spread Future Repairs Over Multiple Years	<a href="#">Repair/Replace Recommendation</a>	Use <i>Duration</i> field. Usually “1” or “2,” indicating +/- number of years each side of end-of-cycle year.
28.	“20 Year Schedule” Report	N/A	Generated by portal at time of Validation or Submission.
29.	Repair Lists (Critical Repairs, Non-Critical Repairs, Future Repairs)	N/A	Generated by portal at time of Validation or Submission.
30.	Narrative Portion of Report	<a href="#">Narrative</a> (or prepare a PDF attachment)	See agency-specific guidance (e.g., HUD MAP Guide, Mortgagee Letters, USDA Unnumbered Letters).
31.	Photographs for Report	Not entered in CNA Assessment Tool;	Prepare a PDF attachment, annotated photo album in order per

Step	Task/Data Object	Form/Tab Name	Key Points
		uploaded by Lender to Web Portal at time of Submission.	American Society of the International Association for Testing and Materials (ASTM) 2018-08 Outline and Standard Estimated Useful Life (EUL) Table.
32.	ASHRAE Level II Energy Audit (if required)	<a href="#">Property Information</a>  <a href="#">Utility Types Usage</a>  <a href="#">Components</a>  <a href="#">Alternatives</a>	On the Property form, indicate whether prepared and who prepared.  Use results to complete Utility Types, and to identify annual utility usage of components and alternatives.  Attached at Submission. Refer to agency guidance for requirements.
33.	Other Forensic Tests/ Additional Tests/ Additional Reports	<a href="#">Property Information</a> (identify or name other tests)	Include test results/reports as attachments at time of Submission. Refer to agency guidance for requirements.
34.	EPA Portfolio Manager Benchmarking Report	Not entered in CNA Tool; Lender attaches to CNA at time of Submission.	Refer to agency guidance for requirements.

#### FINANCIAL PLANNING PHASE

Step	Task/Data Object	Form/Tab Name	Key Points
35.	Length of Estimate Period	<a href="#">Financial Factors</a>	Assessor should enter number of years, per agency guidance. Lenders enter all other Financial Factors.
36.	RfR Minimum Balance Requirements	<a href="#">Financial Factors</a>	Choose and enter \$/unit, otherwise system supplies % to equal a single average year of needs
37.	Inflation Rates and Interest Rates on Escrow Balances	<a href="#">Financial Factors</a>	Refer to agency guidance. Select values based on current and/or long-term averages of indicated factor.
38.	% Graduated Increase in Annual RfR Deposit	<a href="#">Financial Factors</a>	Refer to agency guidance. Enter % of proposed annual increase in amount of annual deposit.
39.	Trial Initial and Annual RfR Deposits	<a href="#">Financial Factors</a>	Refer to agency guidance. Enter estimated values and re-validate with re-estimated values to achieve balanced schedule for estimate period.
40.	"Reserve 20 Year	N/A	Generated by portal at time of

Step	Task/Data Object	Form/Tab Name	Key Points
	Schedule” Report		Validation or Submission.
41.	Changes Required by Lender	<a href="#">Repair Replace Decision</a>	Lender modifications to Needs Assessor recommendations.

## COMMON CNA ACTIONS AND WHERE TO RECORD THEM IN THE ASSESSMENT TOOL

This section is intended to help users understand where and how key CNA actions and decisions are recorded in the tool.

### REPORTS AND ATTACHMENTS

Reports, such as the Building Unit Mix and Financial Schedule, are not handled within the CNA Assessment Tool itself. These reports are generated by the Web Portal upon Validation.

The same is true of attachments. It is not possible to add attachments, such as supporting photographs, directly to the CNA Assessment Tool. The Web Portal provides panels for uploading the attachments after the CNA is successfully validated.

Refer to the [CNA Web Portal](#) section of this guide for more information.

### CATEGORIES OF REPAIRS

The Assessment Tool supports the following categories of repairs. The entries discussed below are made in the Repair, Replace, Add New Recommendation form.

- A **Critical Repair** is specified by (1) setting *When* to “Now,” and (2) either setting the *Accessibility Indicator* to “YES” (for repairs necessary to remedy accessibility deficiencies) or setting the *Life Safety Indicator* to “YES” (for any other type of Critical Repair).
- A **Non-Critical Repair** is specified by (1) setting *When* to “Now,” and (2) selecting “NO” for both the *Accessibility Indicator* and the *Life Safety Indicator*. Non-critical repairs and replacements are those necessary or desirable for current maintenance and operation of the property, or necessary to maintain or improve marketability.
- A **Future Repair** is specified by setting *When* to “End of Cycle.”
- The term **Immediate Repairs** refers to a combination of Critical Repairs and Non-Critical Repairs.

### TIMING AND SCOPE/LOCATION FOR REPAIRS

This section explains how to distinguish between Immediate Repairs and Future Repairs when using the tool.

- Immediate Repairs consists of two sub-categories, each with its own specifications:
  - For **Accessibility Critical Repairs**, (1) indicate which accessibility statute contains the applicable requirement, (2) indicate the appropriate timing (recognizing that “as expeditious as possible” may vary by type of repair), and (3) indicate the scope/location of the repair in sufficient detail (e.g., grade, quality, make or model, size, color, location of work) so that the property owner will understand what is required, bidders will understand what is required, and inspectors will be able to determine (post-repair) that the repair was correctly completed.
  - For **Life Safety Critical Repairs**, indicate the scope/location of the repair in sufficient detail (e.g., grade, quality, make or model, size, color, location of work) so that the property owner will understand what is required, bidders will understand what is required, and inspectors will be able to determine (post-repair) that the repair was correctly completed.
- A **Future Repair** may be described generically without detailed specifications or location.

 **NOTE:** The CNA Tool does not dictate *when* an Immediate Repair is to be completed (e.g., number of days, weeks, months). Agency or Lender policy applicable to specific circumstances will determine the time permitted for completion of the different categories of Immediate Repairs.

## CNA ASSESSMENT TOOL OVERVIEW

### ABOUT THE CNA ASSESSMENT TOOL

The CNA Assessment Tool is an Excel-based tool that allows the user to quickly and easily enter data about an assessment. The sections that follow will explain how the tool works and provide general tips on using it to create a CNA.

### MICROSOFT® EXCEL® VERSION NOTES

Before you begin, it is important to note that the Assessment Tool may exhibit different behaviors in different versions of Excel.

- **Excel 2013.** The tool should not have any unusual behaviors in this version.
- **Versions of Excel prior to 2013, but after 2009.** Users may experience a Run Time error warning box upon enabling macros. Selecting **End** should allow you to continue without issues.

- **Excel 2009 or prior.** These versions of Excel are not supported and should not be used.

## TWO METHODS FOR ENTERING DATA

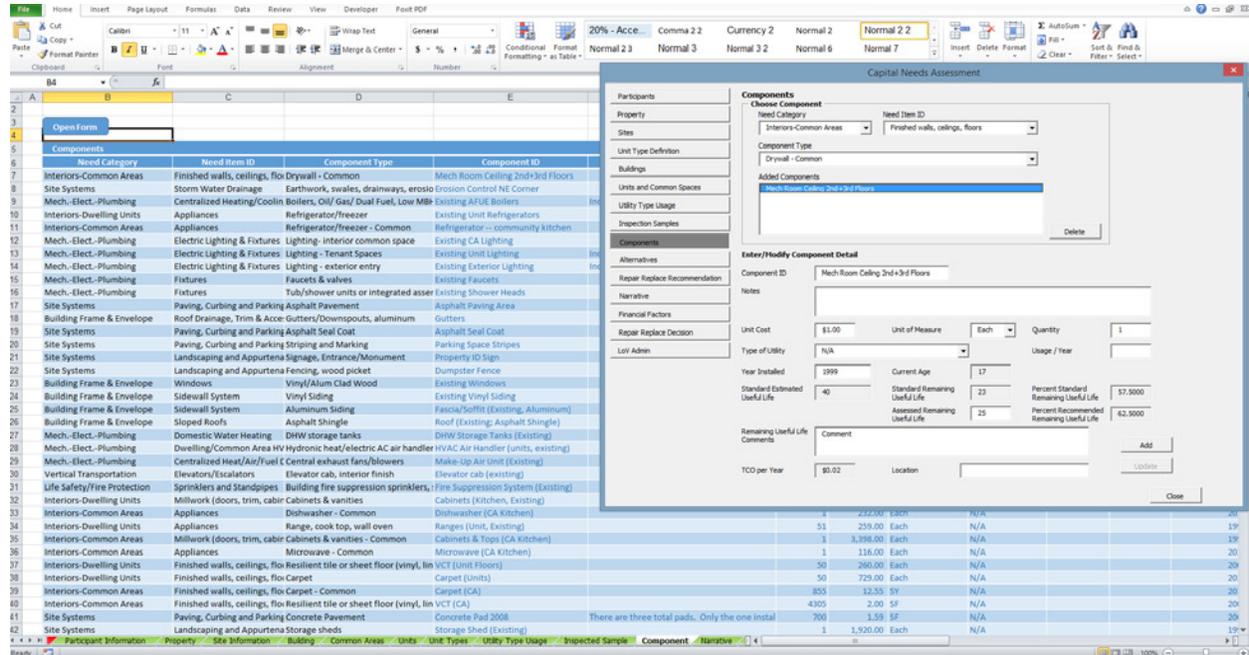


Figure 4 – The Assessment Tool Showing the Worksheet and Forms

The CNA Assessment Tool consists of two main features:

- Worksheets (presented as rows and columns of data)
- Forms (presented as pop-ups with context-enabled drop-down menus and list boxes for many fields)

It is possible to enter or review data using either the worksheets or the forms. However, it is **highly** recommended that new users rely on the forms. Working directly with worksheets is considered an advanced technique, and may introduce errors. The materials in this instruction guide refer to the forms rather than the worksheets, unless specifically stated otherwise.

**NOTE:** The labels on the fields inside the forms are not always an exact match for the labels on the worksheets for the same field. This guide uses the labels that appear on the forms.

## DATA ENTRY FOR FIELD TYPES

---

Regardless of whether you are working with the form or the worksheets, it is important that the data you provide to the tool matches the expected format. For example, if a field expects data as a percentage, you should type the percentage without the % sign.

In general, the CNA Assessment Tool itself does not restrict data entry, making it important to know how to format the data yourself. Refer to the detailed Field Definitions data in this guide for a field-by-field breakdown.

The table below explains the general requirements for entering data entry for each field type.

Type	Expected Data Entry	Example
Percent	The whole value, without the % sign.	10
Dollar Amount	For most fields, this should be entered as a whole dollar amount, without the \$ sign or any commas. No decimals should be included. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <b>NOTE:</b> Some exceptions exist, such as utility rates, and the cost of components and alternatives, which may include decimals.</div>	3000
Date	The date is mm/dd/yyyy.	10/03/2013
State	The code recognized by the U.S. Postal Service.	CA
Phone Number	The phone number (including area code) with or without dashes.	2345556789 or 234-555-6789

## UNITS OF MEASURE

---

The table below lists units of measure you will encounter in the tool.

Unit	Meaning
BED	Number of Beds
CFM	Cubic Feet per Minute

Unit	Meaning
DAY	Days
Each	Each
GPM	Gallons per Minute
HP	Horsepower
KW	Kilowatts
kWh	Kilowatt Hours
LBS	Pounds
LF	Linear Feet
MBH	Thousands of BTUs per Hour
RM	Running Meter
SF	Square Feet
SY	Square Yards
TON	Ton
Other	Other Unit of Measurement

## WORKING WITH FORMS

### GENERAL LAYOUT OF FORMS

---

Most forms in the CNA Assessment Tool follow the same basic design. The Site Information form pictured below illustrates the general pattern.

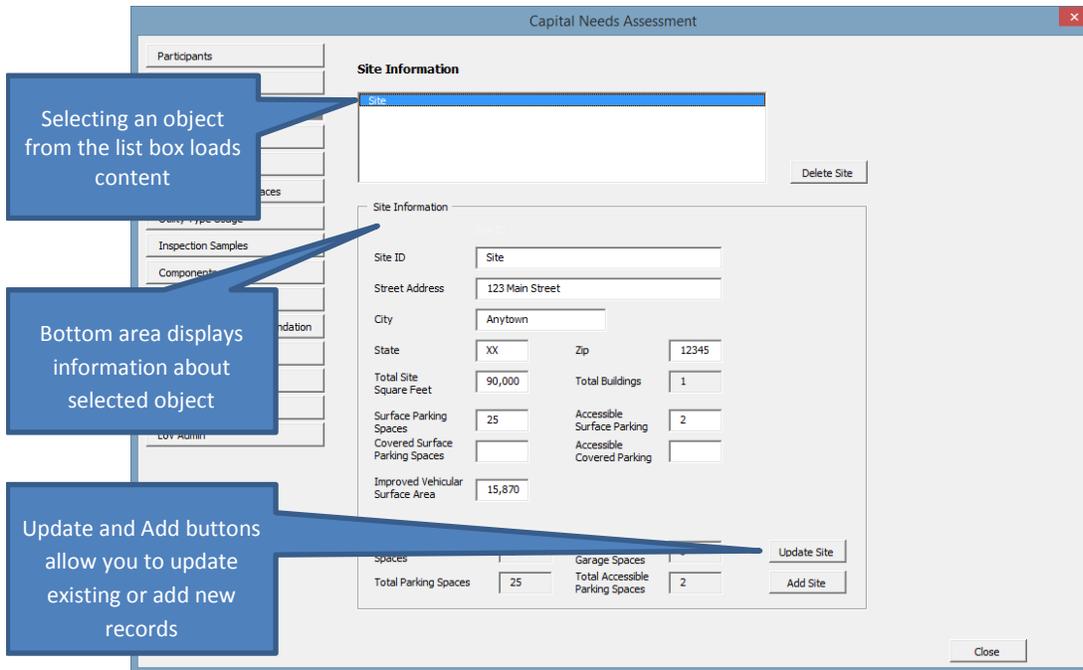


Figure 5 - General Layout of a Form in the CNA Assessment Tool

- A selectable list at the top of the page lists the objects associated with this form (in the case of this example, a site named "Site").
- The section at the middle and bottom of the page contains information about the object selected.
- *Update* and *Add* buttons are available to allow you to update an existing record or add a new one.

Not every form follows this exact design. For example, some forms, such as the Components form pictured below, require you to select from multiple, connected lists to access data for an object for editing.

The Components form requires you to use multiple drop-downs before you can access an object.

Figure 6 - Screenshot of the Components Form

Detailed instructions are available for every form in the tool. Refer to the related documentation for each form elsewhere in this document for a detailed breakdown.

### TIPS ON WORKING WITH FORMS

Below are some general important tips for working with the forms in the CNA Assessment Tool.

No.	Tip
1.	<b>Set the zoom level in Excel to 100%.</b> Higher or lower zoom settings can cause portions of the forms to be hidden.
2.	<b>Select Add or Update prior to leaving each form.</b> Each form has an <i>Add</i> or <i>Update</i> button. In order to transfer your entries on a form to the corresponding worksheet, you must select <i>Add</i> or <i>Update</i> . Moving to another form without selecting <i>Add</i> or <i>Update</i> may result in loss of information.
3.	<b>Save frequently.</b> You must save the worksheet in order to retain any changes prior to closing Excel. Remember that selecting <i>Add</i> or <i>Update</i> is <b>not</b> the same as saving.
4.	<b>Close the form before going to another Excel worksheet.</b> If you fail to do so, Excel may crash.

## No. Tip

- 5. Enable macros.** You must enable macros for the forms to work correctly. If prompted when opening the spreadsheet, select *Enable* to enable macros contained in the file.

## WORKING WITH WORKSHEETS

It is possible to bypass the forms and edit the worksheets directly. An example of a worksheet is pictured below.

Need Category	Need Item ID	Component Type	Component ID	Notes	Quantity	Unit Cost	Unit of Measure	Type of Utility	Utility Type	Usage/Year	Year Installed
Interiors-Common Areas	Finished walls, ceilings, flo Drywall - Common	Mech Rooms Ceiling 2x6/3x3 Floors			1	1.00	Each	N/A			19
Site Systems	Storm Water Drainage	Earthwork, swales, drainways, erosion	Erosion Control MC Corner		1	1.00	Each	N/A			19
Mech.-Elect.-Plumbing	Centralized Heating/Cooling	Boilers, Oil/ Gas/ Dual Fuel, Low MBH	Existing AFUE Boilers	Includes all 3 existing boilers (one for DHW ans	1	38,615.00	Each	Common Natural Gas		14052	19
Interiors-Dwelling Units	Appliances	Refrigerator/Freezer	Existing Unit Refrigerators		51	400.00	Each	Common Electricity		624	19
Interiors-Common Areas	Appliances	Refrigerator/Freezer - Common	Refrigerator - community kitchen		1	400.00	Each	Common Electricity		624	19
Mech.-Elect.-Plumbing	Electric Lighting & Fixtures	Lighting - interior common space	Existing CA Lighting		1	22,679.00	Each	Common Electricity		98691	19
Mech.-Elect.-Plumbing	Electric Lighting & Fixtures	Lighting - Tenant Spaces	Existing Unit Lighting	Includes two T8 fixtures plus various Edison fix	1	11,721.00	Each	Common Electricity		48721	19
Mech.-Elect.-Plumbing	Electric Lighting & Fixtures	Lighting - exterior entry	Existing Exterior Lighting	Includes 7 mercury vapor post lights plus 4 wall	1	1,144.00	Each	Common Electricity		14988	19
Mech.-Elect.-Plumbing	Fixtures	Faucets & valves	Existing Faucets		1	108.00	Each	Common Water and Sewer		2906	19
Mech.-Elect.-Plumbing	Fixtures	Tub/shower units or integrated asse	Existing Shower Heads		30	1.00	Each	Common Water and Sewer		2271	19
Site Systems	Paving, Curbing and Parking	Asphalt Pavement	Asphalt Paving Area		15879	0.50	SF	N/A			20
Building Frame & Envelope	Roof Drainage, Trim & Ace	Gutters/Downdrafts, aluminum	Gutters		1050	4.00	LF	N/A			20
Site Systems	Paving, Curbing and Parking	Asphalt Seal Coat	Asphalt Seal Coat		15870	0.19	SF	N/A			20
Site Systems	Paving, Curbing and Parking	Striping and Marking	Parking Space Stripes		25	11.90	Each	N/A			20
Site Systems	Landscaping and Appurtena	Signage, Entrance/Monument	Property ID Sign		1	2,380.00	Each	N/A			20
Site Systems	Landscaping and Appurtena	Fencing, wood picket	Dumpster Fence		2	715.00	Each	N/A			20
Building Frame & Envelope	Windows	Vinyl/Alum Clad Wood	Existing Windows		1271	321.00	Each	Common Natural Gas		0	19
Building Frame & Envelope	Sidewall System	Vinyl Siding	Existing Vinyl Siding		2220	1.92	SF	Common Natural Gas		0	19
Building Frame & Envelope	Sidewall System	Aluminum Siding	Fascia/Soffit (Existing, Aluminum)		667	6.91	SF	N/A			19
Building Frame & Envelope	Sloped Roofs	Asphalt Shingle	Roof (Existing: Asphalt Shingle)		18000	3.66	SF	Common Natural Gas			20
Mech.-Elect.-Plumbing	Domestic Water Heating	DHW storage tanks	DHW Storage Tanks (Existing)		2	1,213.00	Each	N/A			19
Mech.-Elect.-Plumbing	Dwelling/Common Area HV	Hydronic heat/electric AC air handler	HVAC Air Handler (units, existing)		72	601.00	Each	Common Natural Gas		0	19
Mech.-Elect.-Plumbing	Centralized Heat/Air/Fuel	Central exhaust fans/blowers	Make-Up Air Unit (Existing)		2	6,098.00	Each	Common Electricity		0	19
Vertical Transportation	Elevators/Escalators	Elevator cab, interior finish	Elevator cab (existing)		1	7,513.00	Each	N/A			20
Life Safety/Fire Protection	Sprinklers and Standpipes	Building fire suppression sprinklers,	Fire Suppression System (Existing)		41020	0.13	SF	N/A			19
Interiors-Dwelling Units	Millwork (doors, trim, cabir	Cabinets & vanities	Cabinets (Kitchen, Existing)		30	1,650.00	Each	N/A			19
Interiors-Common Areas	Appliances	Dishwasher - Common	Dishwasher (CA Kitchen)		1	232.00	Each	N/A			20
Interiors-Dwelling Units	Appliances	Range, cook top, wall oven	Range (Unit, Existing)		31	250.00	Each	N/A			19
Interiors-Common Areas	Millwork (doors, trim, cabir	Cabinets & vanities - Common	Cabinets & Tops (CA Kitchen)		1	3,398.00	Each	N/A			19
Interiors-Common Areas	Appliances	Microwave - Common	Microwave (CA Kitchen)		1	116.00	Each	N/A			20
Interiors-Dwelling Units	Finished walls, ceilings, flo	Resilient tile or sheet floor (vinyl, lin	VCT (Unit Floors)		30	260.00	Each	N/A			20
Interiors-Dwelling Units	Finished walls, ceilings, flo	Carpet	Carpet (Units)		50	729.00	Each	N/A			20
Interiors-Common Areas	Finished walls, ceilings, flo	Carpet - Common	Carpet (CA)		845	13.55	SF	N/A			20
Interiors-Common Areas	Finished walls, ceilings, flo	Resilient tile or sheet floor (vinyl, lin	VCT (CA)		4303	2.00	SF	N/A			20
Site Systems	Paving, Curbing and Parking	Concrete Pavement	Concrete Pad 2008	There are three total pads. Only the one instal	700	1.59	SF	N/A			20
Site Systems	Landscaping and Appurtena	Storage sheds	Storage Shed (Existing)		1	1,920.00	Each	N/A			19

Figure 7 - Worksheet View of the Components Form

**NOTE:** Entering data in the worksheets, as opposed to entering data in the forms, is considered a technique for experienced users only, due to the possibility of creating errors within the tool. If you are new to the tool, you should enter data in the forms instead.

## TIPS FOR WORKING WITH WORKSHEETS

The below tips apply to data entry using worksheets.

## No. Tip

No.	Tip
1.	<p><b>Maintain data integrity.</b> It is important that you:</p> <ul style="list-style-type: none"> <li>a. Do not change the order of columns.</li> <li>b. Do not cut and paste information. Copying and pasting is fine, but not cutting and pasting.</li> </ul>
2.	<p><b>Do not leave any blank rows.</b> Blank rows can cause the calculated fields to fail.</p>
3.	<p><b>Do not enter invalid values.</b> For example, do not enter “N/A,” “NA” or “Not Applicable” unless a drop down list in the form version of the field includes this option. If you have no value to enter, leave the cell blank or enter “0,” depending on the value the form expects.</p>
4.	<p><b>Use the proper technique for deleting rows.</b> If you wish to delete a row, be sure the entire row is deleted. Deleting values in single cells or a selected range of cells can cause errors.</p>
5.	<p><b>Make backup copies of your CNA Assessment tool file.</b> You can use the Save As feature to save a copy as you work.</p>

## MANAGING DATA LOAD ERRORS

Entering data incorrectly into the worksheets can result in an error known as a “Data Load Error.” These errors appear as a pop-up message that prompts you when you attempt to access a form. The image below provides an example.

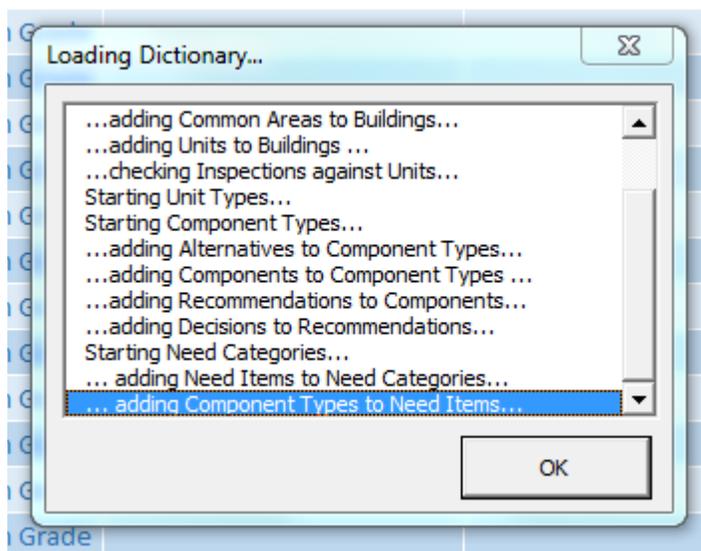


Figure 8 - Example Data Load Error Message

If you receive this message, select *OK* and a further error message will appear explaining where the error occurred. In the image below, the error occurred on the Alternatives worksheet.

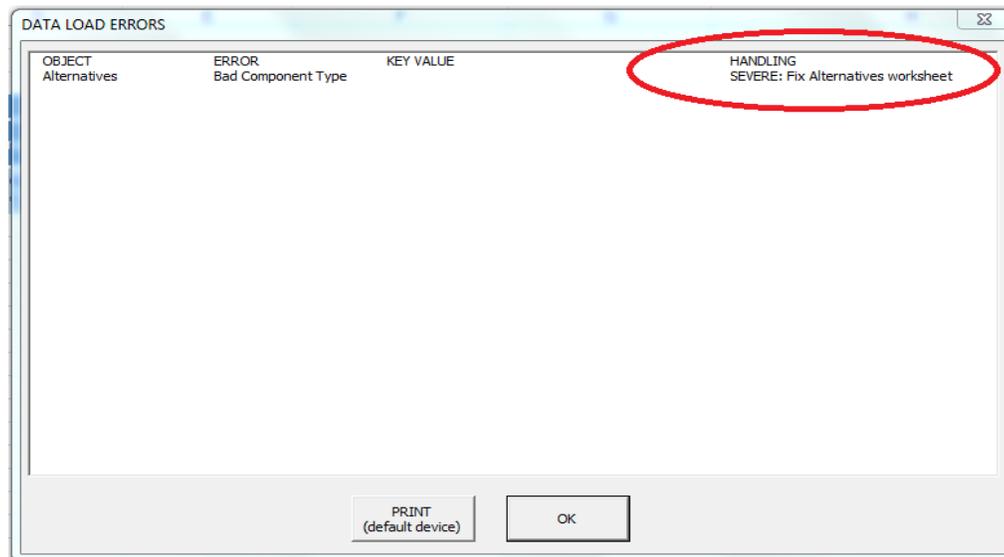


Figure 9 - Example Data Load Error Message, Second Screen

Below are instructions on how to locate the source of this error and correct it.

1. When this error is displayed, note the worksheet referenced in the error message, then select *OK*. The corresponding form will open.
2. Close the form and go to the referenced worksheet.
3. Identify the row that is incomplete or contains an invalid value.
4. Delete the entire row of the record.
5. Open the form and recreate the record in the form.

## FORM-BY-FORM DEFINITIONS AND HELP

This section of the Instruction Guide contains detailed help regarding each form in the CNA Assessment Tool. Below are some tips on using this section of the guide.

- For forms with multiple tabs, there is a separate section for each tab.
- Field names marked with an asterisk (\*) indicate fields that will trigger a Severe flag (preventing progression to the Submission phase) if they are left null (empty).

## PRE-SITE FORMS

### BEFORE YOU BEGIN: UNDERSTANDING RELATIONSHIPS

This section briefly introduces some of the major concepts that define the relationships between sites, buildings, and unit types that are maintained in this section of the CNA Assessment Tool.

#### RELATIONSHIP BETWEEN PROPERTIES, SITES, AND BUILDINGS

---

There is a hierarchal relationship between properties, sites, and buildings:

1. There is only one property per CNA.
  - A property contains one or more sites.
    - A site usually contains one or more buildings. However, occasionally an Owner may have acquired a site for ancillary purposes, such as parking.

Most CNAs will have only one site. However, there are rare situations where this is not the case. The CNA Assessment Tool is capable of processing multiple sites with multiple buildings within a single CNA.

The image below illustrates a relationship where there are two sites, each with two buildings.

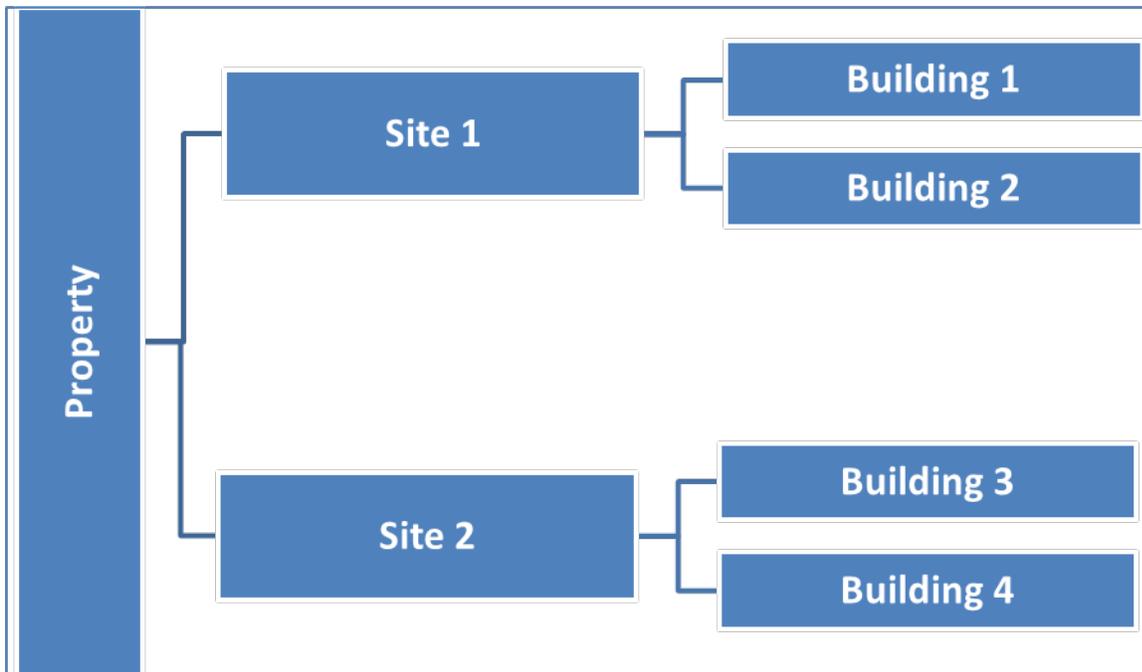


Figure 10 - Illustration of Relationship Properties, Sites, and Buildings

**NOTE:** This relationship is especially important to understand for users who choose to edit worksheets, as opposed to working with forms. A building without a link to a site, or a site without a link to a property, will create a database error. This is why new users are highly encouraged to use forms for editing, because forms will enforce this relationship.

#### RELATIONSHIP BETWEEN BUILDINGS AND UNIT TYPES

Most multifamily buildings contain units that have similar characteristics with many other units in the building. For example, it is common for apartment buildings to use the same floor plan for most of the units in the building.

In the CNA Assessment Tool, these similarities are described as “unit types.” A “unit type” for these purposes is specifically defined as a unique combination of:

- Square footage
- Number of bedrooms
- Number of bathrooms

The image below demonstrates a situation where there are three unit types: A, B, and C, each with a varying number of square feet, bedrooms, and bathrooms. In the case of this building, there are five instances of unit type A, two of unit type B, and one of unit type C in the building.

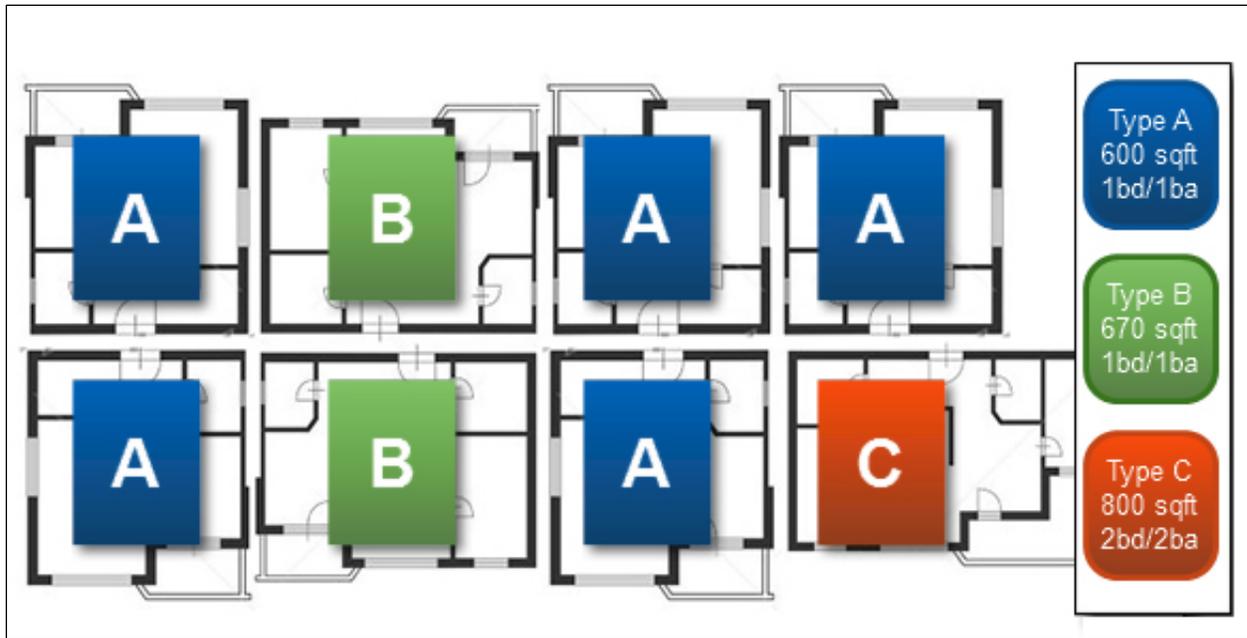


Figure 11 - A Building with Three Unit Types: A, B and C

If the Assessor were evaluating the building above, he or she would implement the following process to create the unit types and assign them. Note that the Assessor would need to visit multiple forms and tabs in order to complete the process.

1. Define three unit types (“A,” “B,” and “C”) along with their square footage and number of bedrooms and bathrooms. ([Unit Type Definition Form](#))
2. Assign all three unit types to the building (indicating that at least one of this unit type is present in the building). ([Building Information: Assign Unit Types Tab](#))
3. Indicate that there are five instances of unit type A, two of unit type B, and one of unit type C in the building. ([Units and Common Spaces: Units Tab](#))

**NOTE:** If you choose to edit worksheets, make note that deleting a unit type definition without removing it from a building will cause an error.

## PARTICIPANT INFORMATION FORM

The screenshot shows a software window titled "Capital Needs Assessment" with a "Participant Information" form. On the left is a navigation menu with options like "Participant Information", "Property Information", "Site Information", etc. The main form area is titled "Participant Information" and contains the following fields and controls:

- Firm Name: Assessor Associates
- Contact Name: Assessor
- Phone: 123-34-3456
- Email: Assessor@gmail.com
- Street Address: 123 Main Street
- City: Reston
- State: VA
- Zip: 22034
- Participant Role (most applicable): Needs Assessor

On the right side of the form, there is a list box titled "Assessor Associates" containing "Assessor Associates" and "Owner". Below the list box is a "Delete" button. To the right of the form are three buttons: "Add", "Update", and "Clear". At the bottom right of the window is a "Close" button.

Figure 12 – Participant Information Form

### OVERVIEW

Use the Participant Information form to enter information about all participants in the CNA process.

This form is normally completed by the  Assessor during the Pre-Site phase.

This list of participants should include the contact names of persons physically present at the site for the purpose of completing the site visit (e.g., the Assessor, on-site property manager, contractors, maintenance supervisors). Also enter the contact information for Borrowers, Property Managers, Owners, Lenders, Assessors, and others involved but not present at the site inspection.

## PERFORMING BASIC TASKS

---

### TO ADD A NEW PARTICIPANT

1. Select **Clear** to clear all fields (if not already blank).
2. Type information in the fields in the *Participant Information* section on the left side of the form.
3. Select **Add**.

### TO ADD A NEW A PARTICIPANT BASED ON AN EXISTING PARTICIPANT

1. Select the participant you wish to copy from the list on the right. Information for that participant will populate the *Participant Information* section on the left.
2. Edit any values you wish to change in the fields in the *Participant Information* section on the left.
3. Select **Add**.

### TO UPDATE AN EXISTING PARTICIPANT

1. Select the participant you wish to edit from the list on the right. Information for that participant will populate the *Participant Information* section on the left.
2. Edit the information in the *Participant Information* section.
3. Select **Update**.

### TO DELETE AN EXISTING PARTICIPANT

1. Select the participant you wish to delete from the list on the right. Information for that participant will populate the *Participant Information* section on the left.
2. Select **Delete**.

## FIELD DEFINITIONS

---

\* Indicates a required field that must not be left empty or null.

Item	How to Complete
<b>Firm Name</b>	Enter the name of the company or firm. If there is no company name or firm because the participant is acting as a sole proprietor, then a personal name or “doing business as” name may be entered.

Item	How to Complete
<b>Contact Name*</b>	Enter the name of the contact person at the firm. <b><i>(Field size limit: 100 characters)</i></b> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">  <b>NOTE:</b> If the <i>Firm Name</i> is a person, then the <i>Firm Name</i> and <i>Contact Name</i> may be the same.           </div>
<b>Phone</b>	Enter the phone number of the participant. <b><i>(Field size limit: 100 characters)</i></b>
<b>Email</b>	Enter an email address that can be used to contact the participant. <b><i>(Field size limit: 100 characters)</i></b>
<b>Street Address</b>	Enter the U.S. Postal Service street address of the participant.
<b>City</b>	Enter the city of the address of the participant. <b><i>(Field size limit: 100 characters)</i></b>
<b>State</b>	Enter the state of the address of the participant, which should be the standard two-letter U.S. Postal Service abbreviation for a state or territory of the United States.
<b>Zip</b>	Enter the U.S. Postal Service ZIP code for the address of the participant.

Item	How to Complete
Participant Role (most applicable)	<p>Select the most applicable participant role from the drop-down list.</p> <div data-bbox="618 338 1518 485" style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE:</b> You <b>must</b> create at least one of each of the entries below that are marked with an asterisk (*) in order for the assessment to successfully validate.</p> </div> <ul style="list-style-type: none"> <li>• “Architect”</li> <li>• “Borrower”</li> <li>• “Construction/Trades Contractor”</li> <li>• “Consulting Engineer”</li> <li>• <b>“Current Owner*”</b></li> <li>• “Developer”</li> <li>• “Energy Auditor”</li> <li>• “Lender – Originator”</li> <li>• “Lender – Servicer”</li> <li>• <b>“Needs Assessor*”</b></li> <li>• “Other”</li> <li>• “Property Manager”</li> </ul>

**PROPERTY INFORMATION FORM**

Use the Property Information form to enter global information about a property. This form includes three tabs. The Enter Property tab is pictured below.

Capital Needs Assessment

Participants

**Property**

Sites

Unit Type Definition

Buildings

Units and Common Spaces

Utility Type Usage

Inspection Samples

Components

Alternatives

Repair Replace Recommendation

Narrative

Financial Factors

Repair Replace Decision

LoV Admin

**Property Information**

Enter Property | Assessment Scope | Property Summary

Name: Rococo Arms

Street Address: 123 Main Street

City: Anytown

State: XX Zip: 12345

Approving Agency: HUD Associated Agency: [ ]

HUD iREMS #: 8000xxxx

USDA AMAS #: [ ]

FHA #: 123-45-6789

MSA/Non-MSA: MSA

Family/Elderly Indicator: Elderly Federally Assisted Indicator: YES

Seismic - SXS: 1.000

Seismic - SX1: 1.000

Add/Update

Close

Figure 13 – Property Information Form

**SEE ALSO:**

- [Enter Property Tab](#)
- [Assessment Scope Tab](#)
- [Property Summary Tab](#)

## PROPERTY INFORMATION: ENTER PROPERTY TAB

Capital Needs Assessment

Participants

Property

Sites

Unit Type Definition

Buildings

Units and Common Spaces

Utility Type Usage

Inspection Samples

Components

Alternatives

Repair Replace Recommendation

Narrative

Financial Factors

Repair Replace Decision

LoV Admin

**Property Information**

Enter Property | Assessment Scope | Property Summary

Name: Rococo Arms

Street Address: 123 Main Street

City: Anytown

State: XX Zip: 12345

Approving Agency: HUD Associated Agency: [Dropdown]

HUD IREMS #: 8000xxxx

USDA AMAS #: [Empty]

FHA #: 123-45-6789

MSA/Non-MSA: MSA

Family/Elderly Indicator: Elderly Federally Assisted Indicator: YES

Seismic - SXS: 1.000

Seismic - SX1: 1.000

Add/Update

Close

Figure 14 – Enter Property Tab

### OVERVIEW

Use the Enter Property tab to enter the property’s address and key information, such as its name and address, the name of the agency for which the CNA is being prepared, the project numbers that agency may use to identify the property, whether the property is federally assisted, whether it is family or elderly, and so on.

### PERFORMING BASIC TASKS

#### TO ENTER OR UPDATE PROPERTY INFORMATION

1. Select the Enter Property tab.
2. Enter or Update the information.
3. Select **Add/Update**.

### FIELD DEFINITIONS

\* Indicates a required field that must not be left empty or null.

Item	How to Complete
<b>Name*</b>	<p>Enter the name commonly associated with the property, usually consistent with the name of the mortgagor or owner entity, but sometimes only a “doing business as” name.</p> <p><b><i>(Field size limit: 100 characters)</i></b></p>
<b>Street Address*</b>	<p>Enter the U.S. Postal Service street address for the property.</p> <p><b><i>(Field size limit: 100 characters)</i></b></p>
<b>City*</b>	<p>Enter the name of the city (or county or parish, when applicable) that would be a part of, or associated with, the U.S. Postal Service address for the property.</p>
<b>State*</b>	<p>Enter the two-letter U.S. Postal Service abbreviation for the name of the state or territory where the property is located.</p> <p><b><i>(Field size limit: 30 characters)</i></b></p>
<b>Zip*</b>	<p>Enter the U.S. Postal Service ZIP code for the address of the property.</p>
<b>Approving Agency*</b>	<p>Enter the agency or entity that will approve the assessment. Select from the drop-down list, which includes:</p> <ul style="list-style-type: none"> <li>• “HUD”</li> <li>• “USDA”</li> <li>• “Other”</li> </ul>

Item	How to Complete
<b>Associated Agency</b>	<p>When applicable, enter the agency or entity with a regulatory or program oversight role for the property when another agency is the approving agency. The choices are:</p> <ul style="list-style-type: none"> <li>• “HUD”</li> <li>• “USDA”</li> <li>• “Other”</li> </ul> <p>Examples of this situation include:</p> <ul style="list-style-type: none"> <li>• USDA may be the approving agency in a preservation transaction for a Section 515 property, which also has a Housing Assistance Payments (HAP) contract supervised by HUD, and so HUD would be the <i>Associated Agency</i>.</li> <li>• A Mark-to-Market (M2M) recapitalization application to HUD may be financed with an uninsured loan (e.g., state agency, government sponsored enterprise (GSE), commercial bank) in which event the <i>Associated Agency</i> would be “Other” and the <i>Approving Agency</i> would be “HUD.”</li> </ul>
<b>HUD iREMS #</b>	<p>If HUD is the <i>Approving Agency</i> or <i>Associated Agency</i>, enter the iREMS Property ID number (i.e., the number assigned by HUD’s asset management system to each asset in the portfolio). If the property is not already insured or assisted by HUD, there will be no iREMS #.</p> <p><b>(Field size limit: 30 characters)</b></p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p> <b>NOTE:</b> The iREMS number is used by the Web Portal to track assessment submissions. You cannot submit an assessment with an identical iREMS number while another is being processed.</p> </div>
<b>USDA AMAS #</b>	<p>If USDA is selected in either the <i>Approving Agency</i> or the <i>Associated Agency</i> fields, enter the Asset Management ID # (AMAS ID) for the property.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p> <b>NOTE:</b> The AMAS number is used by the Web Portal to track assessment submissions. You cannot submit an assessment with an identical AMAS number while another is being processed.</p> </div>
<b>FHA #</b>	<p>Enter the FHA loan application number, if applicable.</p>

Item	How to Complete
<b>MSA/Non-MSA*</b>	Select either “MSA” or “Non-MSA” from the drop-down list. <ul style="list-style-type: none"> <li>• “MSA” means that the property is located in a Metropolitan Statistical Area, as defined by the U.S. Census Bureau.</li> </ul>
<b>Family/Elderly Indicator</b>	If 50% or more of the units are restricted to occupancy by persons ages 55+ or disabled adults, select “Elderly.” Otherwise, select “Family.” <p><b>SEE ALSO:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Considerations of the Family or Elderly Indicator</a></li> </ul>
<b>Federally Assisted Indicator*</b>	Section 504 of the Rehabilitation Act of 1973 applies to recipients of “federal financial assistance.” Determine whether the property is federally assisted and select “YES” or “NO.” <p><b>SEE ALSO:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Considerations of Federally Assisted Indicator</a></li> </ul>
<b>Seismic – S<sub>Xs</sub> and S<sub>X1</sub></b>	Enter values obtained from a Design Maps Summary Report obtained from the U.S. Geological Survey. <p><b>SEE ALSO:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Obtaining and Entering Seismic Data</a></li> </ul>

## ADDITIONAL TOPICS

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### CONSIDERATIONS FOR THE FAMILY OR ELDERLY INDICATOR

The purpose of this field is to indicate whether the CNA should use the Elderly EUL table (in which items such as carpets and appliances have longer useful lives) versus the Family EUL table. The indicator states whether the property is designated or restricted for occupancy by age (“Elderly”) or not restricted (“Family”).

### CONSIDERATIONS OF FEDERALLY ASSISTED INDICATOR

If “YES” is selected for the *Federally Assisted Indicator*, it indicates that:

- The property is or was a recipient of “federal financial assistance,” and
- The property is subject to Section 504.

- **NOTE:** Be aware that the phrase “federal financial assistance” is used in these materials as a technical term. HUD and USDA each have published specific definitions of this term. Each time this term is used below, it refers to the specific definition the agency has published.

Note that if the property ever received “federal financial assistance” (in any amount, for any unit) you will select “YES,” even if the assistance was provided long ago, and even if the property no longer has the loan or subsidy or grant that was originally attached to the “federal financial assistance.”

### **Key Requirements for HUD Properties**

HUD’s regulations implementing Section 504 for properties receiving “federal financial assistance” became effective on July 11, 1988. Any property that received “federal financial assistance” (which is distinct from being built) after that date must fully comply with UFAS and provide a set-aside of 5% of units that are accessible for mobility impaired persons, and 2% of units that are accessible for sensory impaired persons. A single unit may not count for both set-asides.

Properties that received “federal financial assistance” before that date were obligated to create and implement a transition plan to achieve compliance as and when repairs, replacements, and alterations were made.

Given the number of years since the regulation went into effect, HUD now assumes all assisted properties should be in full compliance, barring proof that compliance could not be achieved without removing or altering a structural bearing wall or imposing an undue financial or administrative burden on the owner.

See the 2016 MAP Guide, Appendix 5B for a complete discussion of HUD’s accessibility requirements for insured multifamily properties.

### **HUD Programs that Constitute “Federal Financial Assistance”**

The following is not an all-inclusive list. See 24 CFR Part 8 for the full text of HUD’s regulations implementing Section 504 for HUD programs.

- Project-based Section 8.
- Other project-based rental assistance such as project-based vouchers, project-based certificates, Rental Assistance Program (RAP), Rent Supplement, Mod Rehab, PAC and PRAC.
- Section 202 development funding.
- Section 811 development funding.

- Section 221(d)(3) Below Market Interest Rate (BMIR) financing.
- Section 236 financing.
- Community Development Block Grant (CDBG) funding.
- Home Investment Partnerships (HOME) Program funding.
- Housing Opportunities for Persons with AIDS (HOPWA) funding.
- Any contribution of federal land or services.
- Any funding from HUD under the American Recovery and Reinvestment Act (ARRA) such as the Green Retrofit Program.

### **USDA Programs That Constitute “Federal Financial Assistance”**

The following is not an all-inclusive list. See 7 CFR Part 15(b) for the full text of USDA’s regulations implementing Section 504 for USDA programs.

- Section 514 Farm Labor Housing funding.
- Section 515 Rental Housing funding.
- Section 516 Farm Labor Housing funding.
- Section 521 Rental Assistance.
- Any contribution of federal land or services.
- Any funding from USDA under the American Recovery and Reinvestment Act (ARRA).

### **Federal Programs That Do Not Constitute “Federal Financial Assistance”**

The following programs do **not** constitute “federal financial assistance.”

- The Low Income Housing Tax Credit (LIHTC) program, except for the TCAP and Exchange programs, which **do** constitute “federal financial assistance.”
- The Historic Preservation Tax Credit program.
- The New Markets Tax Credit program.
- FHA mortgage insurance, unless an interest subsidy was provided.
- The USDA Section 538 loan guarantee program, unless an interest subsidy was provided.
- There is a difference between HUD and USDA rules on timing and the particulars of applying UFAS standards to any assisted housing.

### **OBTAINING AND ENTERING SEISMIC DATA**

To improve seismic safety in older buildings and to preserve existing housing, Assessors must determine whether seismic risks exceed prescribed thresholds in accordance with the relevant standards published by the American Society of Civil Engineers (ASCE) and its affiliate, the Structural Engineering Institute (ASCE/SEI). The thresholds are values for indicators called “S<sub>x</sub>”

and “ $S_{X1}$ .” If thresholds are exceeded, then further research is required in accordance with the standard.

### **Standards and Exemptions**

The relevant standard is ASCE 41-13, Seismic Evaluation and Retrofit of Existing Buildings. Many buildings are exempt from the seismic hazard and building performance analysis required by ASCE 41-13. The intent of the two seismic indicators is to assist Assessors in identifying properties that are exempt.

Exemptions include:

- Any single-story, wood, or steel-frame building with a total building area equal to or less than 3,000 square feet.
- Any single-story accessory building (i.e., no dwellings in the structure).
- Any detached or semi-detached dwelling structure where the Design Earthquake Spectral Response Acceleration Parameter  $S_{XS}$ , BSE-1N is less than .400 g.
- Any building with both Design Earthquake Spectral Response Acceleration Parameters.
  - $S_{XS}$ , BSE-1N less than .330 g.
  - $S_{X1}$ , BSE-1N less than .133 g.

### **Finding the Values for $S_{XS}$ and $S_{X1}$**

The values for  $S_{XS}$  and  $S_{X1}$  may be seen as provided output from a Design Maps Summary Report obtained from the U.S. Geological Survey at

<http://earthquake.usgs.gov/designmaps/us/application.php>

## U.S. Seismic Design Maps

For occasional announcements about this web tool, please visit our [U.S. Seismic Design Maps wiki](#).

**Application** **Batch Mode** **Help**

**Design Code Reference Document**  
Consult your local design official if you need help selecting this.

**Earthquake Hazard Level**  
The particular analysis procedure to use.

**Report Title (Optional)**  
This will appear at the top of the generated report.

**Site Soil Classification**  
This is not automatically selected based on site location.

**Site Latitude**  
Decimal degrees for the site location.

**Site Longitude**  
Decimal degrees for the site location.



Figure 15 – Screenshot of U.S. Seismic Design Maps Website

You must use the following values on this screen:

- **Design Code Reference Document** must be entered as “2013 ASCE-41.”
- **Earthquake Hazard Level** must be entered as “BSE-1N.”
- **Report title** should be the name of the property (so that it prints on the report).
- **Site Soil Classification** should be entered as one of the five International Building Code-defined possibilities. If not known, this may be obtained from local building code officials.
  - “1– Hard rock”
  - “2– Rock”
  - “3– Very dense soil and soft rock”
  - “4– Stiff soil”
  - “5– Soft clay”
- **Latitude and Longitude** may be entered directly or will populate automatically when the user specifies an address in the adjacent mapping tool.

After completing these queries, select *Compute Values*. The website will generate a Design Maps Summary Report as a PDF file.

The values that need to be input into the CNA Assessment Tool are found in the report under the heading *USGS-Provided Output*. Enter the indicated values for  $S_{X5}$  and  $S_{X1}$  into the CNA Assessment Tool on the Property Form.

#### “BENCHMARK BUILDINGS” DO NOT REQUIRE SEISMIC HAZARD ANALYSIS

Buildings that are not exempt require a seismic hazard analysis prepared in accordance with ASCE 41-13 or a determination that the building is a *benchmark building* as defined by ASCE 41-13.

A *benchmark building* is an existing building originally built to or later retrofitted to an identified design code that equals or exceeds the standards defined by ASCE 41-13. The determination that the building is a benchmark building or, if not, the preparation of a seismic hazard analysis should be by a civil or structural engineer familiar with lateral force design.

#### CONTENTS OF HAZARD ANALYSIS

The hazard analysis should include an examination of the structure for continuity, ductility, and resistance to lateral forces. The analysis shall assume a building performance objective of *life safety* as defined by ASCE 41-13.

#### MITIGATION OF SEISMIC HAZARDS

Mitigation shall be required to meet minimum life safety requirements, meaning, in general, that for a design earthquake (i.e., a measure of the anticipated event), the building may be expected to avoid partial or total structural collapse, or damage to nonstructural components that is life threatening (e.g., damage leading to fire, blocked egress, release of hazardous materials).

## PROPERTY INFORMATION: ASSESSMENT SCOPE TAB

Capital Needs Assessment

Participants

Property

Sites

Unit Type Definition

Buildings

Units and Common Spaces

Utility Type Usage

Inspection Samples

Components

Alternatives

Repair Replace Recommendation

Narrative

Financial Factors

Repair Replace Decision

LoV Admin

**Property Information**

Enter Property | Assessment Scope | Property Summary

**HUD/USDA CNA Type & Program**

HUD		USDA	
Type	Asset Management	Type	
Relevant Program	Section 202 - Loan Prepayment	User's CNA ID Number	

**General CNA Factors**

# Vacant Units	2	Date of Site Visit	01/01/2014
Minimum Sample %	20		
ASHRAE Energy Audit?	YES		
ASHRAE Auditor Name/Credentials	Quals		
Additional Tests?	NO		
Additional Test(s) Comments			

Add/Update

Close

Figure 16 – Assessment Scope Tab

### OVERVIEW

The Assessment Scope tab is one of three tabs on the Property Information tab. Use this tab to enter the following:

- Which agency purpose or program triggers the need for this CNA (CNA type)
- Date of site visits
- Number of vacant units at the property and the minimum percentage of units that must be inspected
- Whether an ASHRAE Level II Energy Audit has been completed and, if so, by whom
- Whether any additional testing or inspection was completed or is recommended, and an explanation

On this tab, the  Assessor also notes whether the CNA includes an energy audit, and whether the CNA includes additional exhibits such as a sewer scoping report or asbestos baseline survey.

**FIELD DEFINITIONS**

\* Indicates a required field that must not be left empty or null.

Item	How to Complete
<p><b>HUD Type</b></p>	<p><b>Only applies when HUD is the <i>Approving Agency</i>.</b> Indicate the type of CNA from the drop-down list. If uncertain, ask the Lender or Owner about the purpose of the CNA. The choices are:</p> <ul style="list-style-type: none"> <li>• <b><i>“Application Development.”</i></b> A HUD-approved Lender has retained the Assessor to provide the assessment in support of an application for a HUD FHA-insured mortgage.</li> <li>• <b><i>“Asset Management.”</i></b> A HUD-approved servicing Lender or Owner has retained the Assessor to complete the assessment as a required update or an assessment in support of a Mortgage Modification, a Transfer of Physical Assets, a Partial Payment of Claim, or other Asset Management requirement.</li> <li>• <b><i>“M2M.”</i></b> A CNA prepared for a Participating Administrative Entity (PAE) in support of a Mark-to-Market (M2M) transaction through the Office of Recapitalization.</li> <li>• <b><i>“RAD.”</i></b> Rental Assistance Demonstration. Select when converting existing public housing to private ownership or recapitalizing certain assisted housing projects. Select <b><i>“RAD”</i></b> even if the transaction may involve HUD FHA-insured financing.</li> </ul>
<p><b>HUD Relevant Program</b></p>	<p><b>Only applies when HUD is the <i>Approving Agency</i>.</b> Enter the name of the program (or, when appropriate, the section of the National Housing Act) for which the application is being made.</p> <p>If the application is for recapitalization under the Mark-to-Market (M2M) program or for conversion of existing public housing to private ownership (RAD), enter a section of the Act only if an application will be filed for insured financing or for modification of an existing loan insured under that section of the Act.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p> <b>NOTE:</b> If HUD is the <i>Approving Agency</i>, and the CNA type is <i>“Asset Management,”</i> then no entry is needed in this field.</p> </div>
<p><b>USDA Type</b></p>	<p><b>Only applies when USDA is the <i>Approving Agency</i>.</b> Select a <i>“CNA Type”</i> from the items in the drop-down list.</p> <ul style="list-style-type: none"> <li>• <b><i>“As – Is”</i></b></li> <li>• <b><i>“As – Improved”</i></b></li> <li>• <b><i>“Post Rehab”</i></b></li> <li>• <b><i>“Construction ”</i></b></li> </ul>

Item	How to Complete
<b>User's CNA ID #</b>	<p>Enter the user's CNA number, if applicable. This is a custom ID that may be assigned by Assessors, Lenders, or other non-Agency Reviewers to reflect any internal task or document tracking system used by their institution.</p> <p>If none, leave blank.</p> <div data-bbox="508 491 1430 640" style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE:</b> This entry is not a HUD or USDA requirement and has no impact on HUD or USDA tracking, disposition, or retention of assessment data.</p> </div>
<b># Vacant Units</b>	<p>Determine, on the basis of the best available evidence, the number of units at the property that are vacant at the time of the initial site visit. A vacant unit is one that no tenant is lawfully and currently occupying. The reason for the vacancy does not matter; if there is no current tenant, the unit counts as vacant for the purposes of the Assessment Tool. A rented or leased unit where the tenant is not physically present due to a vacation, hospital stay, or a move-in or -out date not concurrent with the lease date is an occupied unit.</p> <div data-bbox="566 995 1442 1392" style="border: 1px solid black; padding: 10px;"> <p> <b>Did You Know? Number of Vacant Units</b></p> <p>The best available evidence may include a rent roll for the current month, or the informed testimony of on-site management present on the day of the site visit.</p> <p>The Assessor is not responsible for, or obligated to confirm or certify, the accuracy of any rent roll or management testimony concerning vacancy, but should comment on any physical evidence that suggests that vacancy is not as reported.</p> </div>

Item	How to Complete
<b>Minimum Sample %</b>	<p>Enter the percentage of units at the property that must be inspected. This value is based on the guidance published by the approving agency for the relevant CNA type and relevant agency program.</p> <div data-bbox="565 394 1442 1136" style="border: 1px solid black; padding: 10px;"> <p><b>🔗 Did You Know? Minimum Sample %</b></p> <p>Where the published guidance specifies conditions or a sliding scale (such as a percentage that varies depending on the total number of units), calculate the required sample as a percentage of total units and enter that percentage.</p> <p>When guidance specifies a sampling percentage plus all units with a certain status (e.g., all vacant units), enter only the required sampling percentage. Do not add a vacancy rate to the sampling percentage.</p> <p>The number of vacant units and the number of inspected units that are vacant are separately reported and may be compared to determine whether vacant units have been inspected when guidance requires inspection of some or all vacant units.</p> <p>Other terms sometimes used to identify a subset of vacant units (e.g., “Down” or “Not Ready” units) are not recognized by the CNA e-Tool. “Down” or “Not Ready” units are “<i>Vacant.</i>”</p> </div>
<b>Date of Site Visit*</b>	<p>Enter the date of the Assessor’s visit to the property to perform the assessment.</p> <div data-bbox="506 1255 1430 1404" style="border: 1px solid black; padding: 5px;"> <p><b>📌 NOTE:</b> If the Assessor made multiple visits to the site, use the date on which the Assessor provided observations and opinions that are deemed true and correct.</p> </div>
<b>ASHRAE Energy Audit?</b>	<p>Select “YES” or “NO” to indicate whether an ASHRAE Level 2 Energy Audit was performed as part of this assessment.</p> <p>An ASHRAE Level 2 Energy Audit is required for some programs. Consult agency guidance to determine whether the approving agency requires an ASHRAE Level 2 Energy Audit for this assessment.</p>
<b>ASHRAE Auditor Name/Credentials</b>	<p><b>Only applies when an ASHRAE Level 2 Energy Audit is performed.</b> If an ASHRAE Level 2 Energy Audit is completed, enter the name and credentials of the energy auditor.</p>
<b>Additional Test(s) Comments</b>	<p>Select “YES” or “NO” to indicate whether additional testing or examination is needed or was completed.</p>

Item	How to Complete
<p><b>Additional Tests?</b></p>	<p>Enter a comment describing additional testing or research that you recommended or which has been completed.</p> <p>Examples of additional tests could include any report already prepared or yet to be prepared that is outside the scope of ASTM 2018-08 and that the Assessor believes is necessary to describe the property (e.g., a seismic report or a Wood Destroying Insect report). It also includes any report that is needed to meet the requirements of a funder’s program (e.g., some programs may require an ASHRAE Level 2 Energy Audit or an asbestos baseline survey). It also includes any report that will be separately attached. It does not include intrusive testing that the Assessor carried out and that is described in the body of the report (however, if the same forensic testing were discussed in a separate report, then it would be an additional test).</p>

**PROPERTY INFORMATION: PROPERTY SUMMARY TAB**

Figure 17 – Property Summary Tab

## OVERVIEW

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Use the Property Summary tab to review totals for site, building, and unit data entered elsewhere in the CNA Assessment Tool. No entries should be made here, as all of these fields are auto-calculated and intended to provide a running count of data entered. It is updated each time new data is entered or existing data updated on a worksheet. However, remember that even though new or updated data entered in worksheets is counted on the Property Summary tab, if you close the Assessment Tool Worksheet without saving, that newly entered or updated data will be lost. Upon re-opening the Worksheet, only the saved data will appear in the Property Summary totals. To make form and worksheet entries permanent, you must save the Worksheet.

 **NOTE:** You do not need to enter any data on this form. All of the fields on this form are auto-calculated.

## FIELD DEFINITIONS

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*\* Indicates a required field that must not be left empty or null.*

Field	Definition
<b>Year Built</b>	<b>Read-only.</b> Displays the year or range of years (earliest to most recent) indicating the year or years when the buildings composing the property were first constructed.
<b>Year of Rehab</b>	<b>Read-only.</b> Displays the year or range of years in which buildings in the property were rehabilitated, if rehabilitation was undertaken.
<b>Replacement Cost – New</b>	<b>Read-only.</b> Displays the sum of the estimated replacement cost of all buildings on the property.
<b>Section 504 of Rehabilitation Act/UFAS Applies</b>	<b>Read-only.</b> Displays “YES” or “NO,” indicating whether Section 504 of the Rehabilitation Act of 1973 applies to the assessed property.
<b>Number of Sites</b>	<b>Read-only.</b> Displays the number of sites that make up a property.
<b>Total Number of Buildings</b>	<b>Read-only.</b> Displays the sum of the total number of buildings that compose the property, including both buildings with units and “ <i>accessory buildings.</i> ”

Field	Definition
<b>Total Units</b>	<b>Read-only.</b> Displays the sum of all of the units assigned to, and counted in, buildings of the property.
<b>Total Building Square Footage</b>	<b>Read-only.</b> Displays the sum of all of the square footage reported for all common spaces and units identified in each building of a property.

## SITE INFORMATION FORM

The screenshot shows the 'Site Information' form within the 'Capital Needs Assessment' application. On the left is a navigation menu with options like 'Participants', 'Property', 'Sites', 'Unit Type Definition', 'Buildings', 'Units and Common Spaces', 'Utility Type Usage', 'Inspection Samples', 'Components', 'Alternatives', 'Repair Replace Recommendation', 'Narrative', 'Financial Factors', 'Repair Replace Decision', and 'LoV Admin'. The 'Sites' menu item is selected.

The main area is titled 'Site Information' and contains a list of sites. The 'Main Site' is highlighted. To the right of the list is a 'Delete Site' button. Below the list is a detailed form for the selected site, 'Main Site'. The form includes the following fields and values:

Site ID	Main Site		
Street Address	123 Main Street		
City	Anytown		
State	XX	Zip	12345
Total Site Square Feet	90,000	Total Buildings	1
Surface Parking Spaces	25	Accessible Surface Parking	2
Covered Surface Parking Spaces	0	Accessible Covered Parking	0
Improved Vehicular Surface Area	15,870		
Total Garage Parking Spaces	0	Total Accessible Garage Spaces	0
Total Parking Spaces	25	Total Accessible Parking Spaces	2

Buttons for 'Update Site', 'Add Site', and 'Close' are located at the bottom right of the form.

Figure 18 – Site Information Form

## OVERVIEW

Use the Site Information form to add, edit, or delete sites associated with the property.

This form is normally completed by the  Assessor during the Pre-Site phase.

Parking spaces (surface and covered, but not garages), improved vehicular surface area, and site square footage are entered and recorded for each site included in the property.

### TO ADD A NEW SITE

1. Type information in the fields in the *Site Information* section on the bottom half of the form including a name for the site in the *Site ID* box.
2. Select **Add Site**.
3. The newly added *Site ID* (or name) should now appear in the list box at the top.

 **NOTE:** Each site you create must be given a unique *Site ID*. If the property contains only a single site, it is helpful to enter “Single Site” as the name. Otherwise, this is an address, but sometimes a name with an address, or (if the site is adjacent and lacking an address separate from the property address) an alphanumerical or directional label such as north or south.

### TO ADD A NEW SITE BASED ON AN EXISTING SITE

1. Select the site you wish to copy from the list box on top. Information for that site will populate the *Site Information* section on the bottom.
2. Edit any values you wish to change in the fields in the *Site Information* section.
3. Select **Add Site**.

### TO UPDATE AN EXISTING SITE

1. Select the site you wish to edit from the list box on top. Information for that site will populate the *Site Information* section below.
2. Edit the information in the *Site Information* section.
3. Select **Update Site**.

### TO DELETE AN EXISTING SITE

1. Select the site you wish to delete from the list box on top. Information for that site will populate the *Site Information* section below.
2. Select **Delete Site**.

 **CAUTION:** If you delete a site, any buildings or other objects attached to the site are also deleted.

## FIELD DEFINITIONS

\* Indicates a required field that must not be left empty or null.

Form Data Field	Definition
<b>Site ID*</b>	Enter a descriptive name or identifying label for the site. If the property has multiple, separately addressed sites, then a street address may be used as the Site ID.
<b>Street Address</b>	Enter a street address, if available and different from the property address.
<b>City</b>	Enter if a street address is provided.
<b>State</b>	Enter if a street address is provided. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p> <b>NOTE:</b> It is extremely unlikely that any approving agency would consider a multi-site property with sites located in different states. If this circumstance arises, the Assessor should stop work on the assignment and consult the Owner or Lender, who can contact the approving agency to confirm that the assignment should proceed for sites located in different states.</p> </div>
<b>Zip</b>	Enter if a street address is provided.
<b>Total Site Square Feet*</b>	Enter the number of square feet for the land area of the site. This may be calculated, or obtained from the most reliable sources available. Such sources may include the land and tax records of the local jurisdiction or a land survey by a registered land surveyor. The survey need not be current, provided there is no evidence that the boundaries of the site have been altered since the date of the survey, and inquiry is made to the Owner to verify this finding.
<b>Total Buildings</b>	<b>Read-only.</b> Displays the total number of buildings located on this site.

Form Data Field	Definition
<b>Surface Parking Spaces</b>	<p>Enter the number of standard (i.e., non-accessible) surface parking spaces on this site.</p> <p>Surface parking is defined as parking that is completely exposed, with no carport or similar sheltering.</p> <div data-bbox="496 470 1477 579" style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE:</b> Accessible surface parking spaces are counted separately and not included in this entry.</p> </div>
<b>Accessible Surface Parking</b>	<p>Enter the number of surface parking spaces that are accessible.</p> <div data-bbox="496 667 1477 777" style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE:</b> Do not confuse this field with the <i>Surface Parking Spaces</i> field.</p> </div>
<b>Covered Surface Parking Spaces</b>	<p>Enter the number of non-accessible covered parking spaces on this site.</p> <p>Covered parking is defined as surface parking (not in a building or garage) that is covered or partially protected by means of a carport structure or similar constructed shelter or shed and has no door.</p> <div data-bbox="496 1003 1477 1113" style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE:</b> Do not confuse this field with the <i>Accessible Covered Parking</i> field.</p> </div> <div data-bbox="496 1159 1477 1306" style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE:</b> Exposed parking located underneath a structure erected on piers (not a basement or enclosed garage) is considered covered parking.</p> </div>
<b>Accessible Covered Parking</b>	<p>Enter the number of accessible covered surface parking spaces.</p> <div data-bbox="496 1398 1477 1507" style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE:</b> Do not confuse this field with the <i>Covered Surface Parking Spaces</i> field.</p> </div>

Form Data Field	Definition
<b>Improved Vehicular Surface Area</b>	<p>Estimate the number of square feet of improved or paved vehicular traffic ways, lanes, and parking. This estimate should not include any public right of way for which the property has no maintenance responsibility.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p> <b>NOTE:</b> When the costs of vehicular traffic ways, lanes, or parking are “shared” with another property because of a “common use and access easement,” do not subtract area from the estimate. Instead, state in <i>Comments</i> that estimated repair and replacement costs are adjusted because of the easement and state the basis or percentage of the adjustment.</p> </div>
<b>Total Garage Parking Spaces</b>	<b>Read-only.</b> Displays the total number of non-accessible garage parking spaces in all of the buildings on this site.
<b>Total Accessible Garages Spaces</b>	<b>Read-only.</b> Displays the total number of accessible garage parking spaces, which is the sum of all accessible garage parking for all of the buildings on this site.
<b>Total Parking Spaces</b>	<b>Read-only.</b> Displays the total number of non-accessible parking spaces (surface + covered + garage) on this site.
<b>Total Accessible Parking Spaces</b>	<b>Read-only.</b> Displays the total number of accessible parking spaces of all kinds (surface + covered + garage) on this site.

#### ADDITIONAL TOPICS

---

#### ENTERING PARKING DATA

Parking information is entered in four separate places:

- **Surface parking (i.e., parking open to rain/sunlight)**—enter counts on the Sites form
- **Covered surface parking**—enter counts on the Sites form
- **Parking, integral part of the unit**—enter counts on the Units and Common Spaces form, Units tab
- **Garage-part of an apartment building or a free standing parking structure (e.g., Building ID = “Garage Building 3”)**—enter counts in the Units and Common Spaces form, Common Spaces tab

The Assessment Tool asks for two counts for parking: the number of parking spaces that are accessible, and all other parking spaces. That is, *Surface Parking Spaces* means “surface parking spaces other than the accessible spaces.”

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**Unit Type Definition**

1BR 1BA

2BR 1BA

Add

Update

Delete

Unit Type ID 1BR 1BA

Bedrooms 1 Faucets/Hookups 2

Bathrooms 1 Toilets 1

Shower Heads 1 Square Feet 490

Close

Figure 19 – Unit Type Definition Form

## OVERVIEW

Use the Unit Type Definition form to add, edit, and delete unit types.

Unit types define the types of units that can be assigned to buildings. A unit type is a unique combination of at least three characteristics: number of bedrooms, number of baths, and unit size (square footage). Additional distinctions may also be noted in the Unit Type ID if useful to the assessment, such as design (e.g., townhouse versus flat).

This form is normally completed by the  Assessor during the Pre-Site phase.

 **NOTE:** This screen is only used for creating and maintaining defined unit types that exist at a property. The minimum set of parameters defining a unit type is number of bedrooms, number of baths, and number of square feet in the unit. Each combination of these parameters defines a different unit type. Except in rare cases (such as a property composed of numerous scattered site single-family homes and/or unique small buildings), unit size in square feet should not be averaged among units with a like number of bedrooms and/or baths. The number of showerheads, faucets/hookups, and toilets should be counted for each unit type.

 **NOTE:** The square footage of units may be calculated using the perimeter of the units without adjustment for interior partitions. However, common areas should never be included in, or allocated to, unit square footage. Only enclosed space should be included, not porches, balconies, or patios.

## PERFORMING BASIC TASKS

---

### TO ADD A NEW UNIT TYPE

1. Select **Clear** to clear all fields (if not already blank).
2. Type information in the fields in the *Unit Type Information* section below the list box.
3. Select **Add**.
4. The newly entered Unit Type ID (name) should now appear in the list box at the top.

### TO ADD A NEW UNIT TYPE BASED ON AN EXISTING UNIT TYPE

1. Select the unit type you wish to copy from the list box on top. Information for that unit type will populate the *Unit Type Information* section below.
2. Edit any values you wish to change in the fields in the *Unit Type Information* section.
3. Select **Add**.

### TO UPDATE AN EXISTING UNIT TYPE

1. Select the unit type you wish to edit from the list box on top. Information for that unit type will populate the *Unit Type Information* section below.
2. Edit the information in the *Unit Type Information* section.
3. Select **Update**.

## TO DELETE AN EXISTING UNIT TYPE

1. Select the unit type you wish to delete from the list box on top. Information for that unit type will populate the *Unit Type Information* section below.
2. Select **Delete**.

## FIELD DEFINITIONS

---

\* Indicates a required field that must not be left empty or null.

Form Data Field	Definition
<b>Unit Type ID*</b>	<p>Enter a unique name for the unit. This name will appear in drop-down lists elsewhere in the tool where identifying units is required. <b>You must enter a unique name in this field.</b></p> <div style="border: 1px solid orange; padding: 5px;"><p> <b>Example:</b> A one-bedroom, one-bath 575-sq. ft. unit that is called a “Penfold” for marketing purposes, and that is the only type of one-bedroom, one-bath unit in the property might be named “1Br 1Ba” or “1/1” or “1/1 575” or “1/1 Penfold” in the Assessment Tool. Note that if there are two types of one-bedroom, one-bath units, different <i>Unit Type IDs</i> are required for each (e.g. “1/1 575” and “1/1 650”). This would help you and other users recall the characteristics of this unit type at a glance.</p></div>
<b>Bedrooms*</b>	Enter the number of bedrooms in this unit type.

Form Data Field	Definition
<b>Faucets/Hookups*</b>	<p>Enter the total number of kitchen faucets, bathroom faucets, and laundry hookups in this unit type.</p> <div data-bbox="521 375 1487 527" style="border: 1px solid orange; padding: 5px;"> <p> <b>Example:</b> A three-bedroom unit that has one kitchen faucet, two bathroom faucets, and one laundry hookup has a total of four faucets.</p> </div> <div data-bbox="521 541 1487 961" style="border: 1px solid blue; padding: 5px;"> <p> <b>NOTE:</b> The intent is to count hot and cold water at a sink or lavatory as a single faucet, no matter whether the style of the fixture is unilever or dual valves. Similarly, the hot and cold water at a laundry hookup is a single “hookup.” That is, each of the following counts as one “faucet or hookup” no matter what type of plumbing hardware is in place: a kitchen sink, a bathroom sink, a laundry hookup, or a laundry tub. A bathtub with no showerhead is a faucet, but a bathtub with a showerhead is a showerhead. (The premise is that both faucet and showerhead are not used simultaneously and that the showerhead is more commonly used.)</p> </div>
<b>Bathrooms*</b>	<p>Enter the number of bathrooms in this unit type.</p>
<b>Toilets*</b>	<p>Enter the total number of toilets in this unit type.</p>
<b>Showerheads*</b>	<p>Enter the total number of showerheads in this unit type.</p>
<b>Square Feet*</b>	<p>Enter the number of square feet of living space in this unit type.</p> <div data-bbox="521 1272 1487 1419" style="border: 1px solid blue; padding: 5px;"> <p> <b>NOTE:</b> This figure should be based on dimensions from exterior (or demising) wall to exterior (or demising) wall. Do not attempt to extract space for interior partitions, plenums, and so forth.</p> </div>

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### Building Information

**Sites**

Site
------

**Buildings**

123 Main Street
-----------------

Delete Building

Copy Building

**Replacement Cost of Building** \$8,061,375.

Accessory Building	NO
<b>Total Building SQ FT</b>	46,065
Total Faucets/Hookups	108
Total Toilets	52
Total Showerheads	50
<b>Total Residential SQ FT</b>	24,765

Building Information | Assign Unit Types

Building ID Name/Address: 123 Main Street

Year Built: 1999    Occupancy Permit Date:    Building Permit Date:    Fair Housing Act Applies: YES    Year of Rehab:

Building Types: 2-5 Story Elevator    Number of Stories above Grade: 3    Number of Stories Below Grade: 0    Number of Elevators:

Foundation: Slab on Grade    Basement Floor:    Foundation Comments:

Construction Type: Wood Frame    Floor System: Wood Trusses

Replacement Cost of Building per SQ: \$175.00    Source of Replacement Cost Data: Source    Construction Type Comments:

Update Building    Add Building

Close

Figure 20 – Building Information Form

### OVERVIEW

The Building Information form has two tabs or subforms.

The first of these is the Building Information tab that displays by default when the Building Information form is opened. The second is the Assign Unit Types tab that opens a subform used to identify which of the Unit Type IDs are present in this building. The user selects either of these by selecting the tabs. The tabs are located below the Sites list box. Data entry for each subform is described in following sections.

In the upper right corner of the form, there are seven read only data items. These report facts and counts for the selected building based on entries you have made including any units and common spaces you have added to the building. Do not enter data in these fields.

### TO ADD A NEW BUILDING

1. Select the site to which to add a building.
2. Type information in the fields in the *Building Information* section on the bottom.
3. Select **Add Building**.
4. The name of the added building will appear in the Buildings list box

### TO ADD A BUILDING BASED ON AN EXISTING BUILDING

1. Select the building you wish to copy from the list on top. Information for that building will populate the *Building Information* section on the bottom.
2. Edit any values you wish to change in the fields in the *Building Information* section on the bottom.
3. Select **New Building**.

### TO EDIT AN EXISTING BUILDING

1. Select the site on which the building is located.
2. Type information in the fields in the *Building Information* section on the bottom.
3. Select **Update**.

### TO DELETE A BUILDING

1. Select the site from which to delete the building.
2. Select **Delete**.

 **NOTE:** The *Totals* fields in the upper right of this form are auto-calculated, running totals of data for this building entered on this screen or elsewhere. They should not be changed.

## FIELD DEFINITIONS

---

\* Indicates a required field that must not be left empty or null.

Form Data Field	Definition
<b>Replacement Cost of Building</b>	<b>Read-only.</b> Displays the total dollar amount of the replacement cost of the building (not including land or site improvements).  This value is calculated using the total building square feet and the Assessor's estimate of the replacement cost per square foot of the building as if new. The sum is material to estimates of required insurance coverage per building and other underwriting considerations.
<b>Accessory Building</b>	<b>Read-only.</b> Indicates "YES" (the building includes zero units) or "NO" (the building includes one or more units).
<b>Building Square Footage</b>	<b>Read-only.</b> Displays the sum of the number of square feet of all of the spaces (units and common spaces) identified in the building.
<b>Total Sinks/ Faucets</b>	<b>Read-only.</b> Displays the number of faucets (e.g., sinks, lavatories, tubs) and laundry hookups in all units and common spaces in this building.
<b>Total Toilets</b>	<b>Read-only.</b> Displays the total number of toilets in all units and common spaces in this building.
<b>Total Showerheads</b>	<b>Read-only.</b> Displays the total number of showerheads in all units and common spaces in this building.
<b>Total Residential Square Footage</b>	<b>Read-only.</b> Displays the total square footage of all units in this building.

### SEE ALSO:

- [Building Information Tab](#)
- [Assign Unit Type Tab](#)

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### Building Information

Sites	Buildings	
Site	123 Main Street	Delete Building
		Copy Building

Replacement Cost of Building \$8,061,375.

Accessory Building NO

Total Building SQ FT 46,065

Total Faucets/Hookups 108

Total Toilets 52

Total Showerheads 50

Total Residential SQ FT 24,765

Building Information | Assign Unit Types

Building ID Name/Address 123 Main Street

Year Built 1999 Occupancy Permit Date Building Permit Date Fair Housing Act Applies YES Year of Rehab

Building Types 2-5 Story Elevator Number of Stories above Grade 3 Number of Stories Below Grade 0 Number of Elevators

Foundation Slab on Grade Basement Floor Foundation Comments

Construction Type Wood Frame Floor System Wood Trusses

Replacement Cost of Building per SQ \$175.00 Source of Replacement Cost Data Source Construction Type Comments

Update Building Add Building

Close

Figure 21 – Building Information Tab

## OVERVIEW

Use the Building Information tab to:

- Add buildings to a site;
- Edit the characteristics of a building already added;
- Copy a building. with or without units and/or common spaces included;
- Modify or edit a copied building before making additional copies when a site has multiple copies of similar but distinct building designs;
- Describe for each building information such as the year built, occupancy and building permit dates, and physical characteristics.

This form is normally completed by the  Assessor during the Pre-Site phase.

A best practice is to create a building, then assign units to the building, and then add units and common areas to that building, to fully describe the building, before creating additional

buildings. This supports optimum use of the “copy building” feature and use of the read only reference data in the upper right corner of the form.

 **NOTE:** The *Totals* fields in the upper right of this form are auto-calculated, running totals of data for this building entered on this screen or elsewhere. Use this information for reference. Do not enter data in these fields.

## PERFORMING BASIC TASKS

---

### TO ADD A NEW BUILDING

1. In the Sites list box on top, select the site on which the building is located. If the correct site is not listed in the Sites list box, you must first return to the Sites form and create the site.
2. Type information in the fields in the *Building Information* section on the bottom.
3. Select **New Building**.
4. The newly created building name/address should appear in the Buildings list box located right of the Sites list box.

### TO ADD A BUILDING BASED ON AN EXISTING BUILDING

1. Select the site where the building is located from the Sites list box. Then select the building you wish to copy from the Buildings list box. Information for that building will populate the *Building Information* section on the bottom.
2. Edit any values you wish to change in the fields in the *Building Information* section on the bottom.
3. Select **New Building**.
4. The newly created building name/address should appear in the Buildings list box.

### TO EDIT/UPDATE AN EXISTING BUILDING

1. In the sites list box select the site on which the building is located.
2. Select the building you wish to edit in the Buildings list box
3. Type information in the fields in the *Building Information* section on the bottom.
4. Select **Update**.

### TO DELETE A BUILDING

1. In the sites list box select the site from which to delete the building.
2. Select the building you wish to delete from the Buildings list box.

3. Select **Delete**.
4. The building name/address should disappear from the Buildings list box.
5. Any units or common areas added to the deleted building will also be deleted.

#### TO COPY A BUILDING MULTIPLE TIMES

Use this feature when a site has multiples of a standard building or combinations of several standard buildings.

1. In the *Sites* list box, select the appropriate site.
2. Select the building to copy from the *Buildings* list on top.
3. Be sure the selected building has all the all the units and common areas added (or deleted) matching the standard building you wish to duplicate.
4. Select **Copy Building**.
5. The newly created building will be added to the Buildings list box with a name which is the name of the copied building followed by the word “copy” and the number of the copy (e.g. “1”) indicating how many copies have been created of that building (for example, the first copy of building “A” will show as “Acopy1.”
6. Select the newly created building and edit the Building Name to its actual number or address (e.g. change “Acopy1” to “F”). Select **Update**.
7. Repeat the copy building process as many times as needed to replicate the number of buildings of that design on the site.
8. If applicable, update each copied building for year built, building or occupancy permit date, or other data items on the Building Information form and edit the Units and Commons areas for variables such as the number of units that are accessible for mobility or sensory impaired persons.

 **NOTE:** In most cases, you should assign units and common spaces to a building prior to copying it. Otherwise, you will have to manually add units and common spaces to each copy.

## FIELD DEFINITIONS

\* Indicates a required field that must not be left empty or null.

Form Data Field	Definition
<b>Building ID Name/Address*</b>	Enter a descriptive name for the building. <b>(Field size: 100 characters)</b>
<b>Year Built*</b>	<p>Enter the year in which the building was constructed. Generally, this should be the year in which construction was completed.</p> <div style="border: 1px solid black; padding: 10px; background-color: #e6e6fa;"> <p><b>NOTE:</b> In general, <i>Year Built</i> may be described simply as a calendar year in which construction either began or ended. However, such a loose definition <b>is not</b> acceptable when the <i>Year Built</i> is proximate to the effective date of the design and construction requirements of the Fair Housing Act.</p> <p>24 CFR 100.205 defines a transition rule for buildings that may have been in some stage of construction proximate to the March 13, 1991, effective date. It reads "... [a] dwelling shall be deemed to be designed and constructed for first occupancy on or before March 13, 1991, if the dwelling is occupied by that date, or if the last building permit or renewal thereof for the dwelling is issued ... on or before June 15, 1990."</p> <p>Accordingly, if the year built is 1990, 1991, or 1992, the Assessor must enter the dates of the building and occupancy permits for the building. If occupancy is after March 13, 1991, and the building permit is after June 15, 1990, then the unit or building must meet the design and construction requirements.</p> </div>
<b>Building Permit Date</b>	<b>Applicable if <i>Year Built</i> is 1990, 1991, or 1992.</b> Enter the building permit date.
<b>Occupancy Permit Date</b>	<b>Applicable if <i>Year Built</i> is 1990, 1991, or 1992.</b> Enter the occupancy permit date.
<b>Fair Housing Act Applies</b>	<b>Read-only.</b> Indicates whether the Design and Construction Requirements of the Fair Housing Amendments Act of 1988 and 24 CFR 100.205 apply (occupied after March 13, 1991 and building permit after June 15, 1990 = "YES"). Year built < 1990 defaults to "NO," >1992 defaults to "YES".

Form Data Field	Definition
<b>Year of Rehab</b>	<p><b>Optional.</b> Report the year in which any significant, building-wide rehabilitation occurred.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>NOTE:</b> The level of effort that may be considered rehabilitation is subjective, and the actual level of effort may be difficult to verify. For this assessment, assume that <i>rehabilitation</i> means “a level of effort that would have reset the remaining useful life of most of the components now existing in the building.”</p> </div>
<b>Building Types*</b>	<p>Select a value from the drop-down list that best describes this building. The choices are:</p> <ul style="list-style-type: none"> <li>• “Detached”</li> <li>• “Semi-detached”</li> <li>• “Rowhouse/Townhouse”</li> <li>• “Walkup”</li> <li>• “2-5 story elevator”</li> <li>• “Highrise”</li> </ul> <p>See also: <a href="#">Definitions of HUD Building Types</a></p>
<b>Number of Stories Above Grade</b>	<p>Enter the number of floors in this building at or above grade. Basements are counted as a story below grade. The count of floors should not include crawl spaces or plenum spaces between floors.</p>
<b>Number of Stories Below Grade</b>	<p>When a building contains basement space, enter the number of stories that are below ground.</p> <p><b>SEE ALSO:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Calculating Number of Stories Below Grade</a></li> </ul>
<b>Number of Elevators</b>	<p>When the building is an elevator-serviced building, enter the number of elevators, including any that are described as service elevators.</p>
<b>Foundation*</b>	<p>Enter a choice from the drop-down list that best describes the type of foundation on which the building is erected. The choices are:</p> <ul style="list-style-type: none"> <li>• “Crawl Space”</li> <li>• “Slab on Grade”</li> <li>• “Partial Basement”</li> <li>• “Full Basement”</li> <li>• “Other “</li> </ul>

Form Data Field	Definition
<b>Basement Floor</b>	<p>If this building has a basement, select the description that best describes its basement construction. The choices are:</p> <ul style="list-style-type: none"> <li>• “Structural Slab”</li> <li>• “Slab on Grade “</li> <li>• “N/A”</li> </ul>
<b>Foundation Comments</b>	<p>Enter comments to identify other foundation types or to explain a mixed or unusual condition. A typical “Other” might be a building constructed on wooden or concrete piers extending above a mean flood elevation in order to raise the finished floor elevation or to leave open space or parking below the building.</p>
<b>Construction Type*</b>	<p>Identify the <i>Construction Type</i> (i.e., the nature of its structural frame). The choices that appear in the drop-down list are:</p> <ul style="list-style-type: none"> <li>• “Wood Frame”</li> <li>• “Masonry/CMU “</li> <li>• “Steel Frame”</li> <li>• “Concrete Frame”</li> <li>• “Other”</li> </ul> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p> <b>NOTE:</b> Masonry or concrete masonry unit (CMU) veneer is not a structural frame. The references to masonry as a structural element indicates that the masonry is load bearing. Solid masonry is not reinforced or supported by a frame, metal, or concrete members and is now obsolete, but is still found in old low-rise buildings and some structures that may be converted to multifamily use, such as old warehouse buildings.</p> </div>
<b>Floor System</b>	<p>Select from the drop-down list the choice which best describes the floor frame system used in the construction of the building. The choices are:</p> <ul style="list-style-type: none"> <li>• “Steel Frame”</li> <li>• “Reinforced Concrete”</li> <li>• “Wood Frame”</li> <li>• “Wood Trusses”</li> <li>• “Steel Trusses”</li> <li>• “Other”</li> </ul>

Form Data Field	Definition
<b>Replacement Cost of Building per S.F.</b>	<p>Estimate the replacement cost per square foot of the existing building (not including land or site improvements). This estimate should be based on the building and construction type and quality, and should reflect current construction cost averages for the locality or region in which the building is located. This is not an estimate of construction cost comparable to that prepared in support of a bid on a contract for construction based on detailed drawings and specifications. However, the user should consult current information from industry-recognized, publicly available construction cost indices. Assessors may also maintain construction cost data, using HUD or USDA construction cost data from recently completed projects and similar sources to identify a dollar cost per square foot representing a reasonable and realistic figure that would be required to reconstruct the building as of the year of the assessment.</p> <p>The estimate should assume all costs that would be included on HUD Form 2328, Mortgagor’s Cost Estimate, excluding land improvements but including general requirements and the building contractor’s allowance for overhead and profit, as though the contractor were an independent third-party unrelated to the Owner.</p> <p>HUD Form 2328 may be found at <a href="http://portal.hud.gov/hudportal/documents/huddoc?id=2328.pdf">http://portal.hud.gov/hudportal/documents/huddoc?id=2328.pdf</a></p> <div style="border: 1px solid black; padding: 5px; background-color: #e0e0e0;">  <b>NOTE:</b> This field is required only by HUD properties. </div>
<b>Source of Replacement Cost Data</b>	<p>Identify and explain the sources of information, cost indices, and methods used to estimate the replacement cost per square foot of the building.</p>
<b>Construction Type Comments</b>	<p>Describe mixed or “Other” construction types with a text description in this field. Comments concerning the floor frame and other construction-related comments may be entered here as needed.</p>

#### ADDITIONAL TOPICS

#### CALCULATING NUMBER OF STORIES BELOW GRADE

The *Number of Stories Below Grade* entry is intended to count simple basements, as well as the below-ground levels of parking, utility spaces, leased space, or other spaces that may be found typically in an urban, high-density environment.

Note that this does not refer to floors that are partially underground due to sloping terrain, but have a full front elevation with direct access to ground at grade. That is, a “daylight basement” or “terrace units” or “terrace level ” would not be “below grade” for purposes of this entry. However, a basement with access via an exterior stairwell up to grade *would be* “below grade” for the purposes of this entry.

If you have to go down stairs to get to the floor elevation and there is no primary entry door at-grade, then it is below grade. This does not apply to units on terraced sites where there may be an external set of steps from one terrace ground level to another, all outside the building, and not part of the building, and not an English basement sidewalk access.

**NOTE:** If the basement is entirely below grade (no windows), but can be accessed from grade via external stairs (i.e., you do not have to go through the interior of the floor above in order to access the basement), the floor is below grade. A basement does not cease to be a basement just because it has exterior stairs. Likewise, a unit at grade does not cease to be a unit at grade just because the grade outside the unit changes rapidly (i.e., at short intervals of distance) and requires some terracing or steps to get from the building to another building or parking, etc.

#### DEFINITIONS OF HUD BUILDING TYPES

The following building types are those used on HUD forms 92013 and 92264, the application for mortgage insurance and the summary multifamily appraisal report, respectively. The definitions are mutually exclusive (i.e., only one is correct). The definitions are:

**Detached.** A dwelling structure containing one living unit, surrounded by permanent open spaces.

**Semi-detached.** A dwelling structure containing two contiguous living units separated by a vertical division termed a *common, party, or lot line wall*.

**Rowhouse or Townhouse.** A non-elevator structure containing three or more contiguous living units separated by a vertical division termed *common, party, or lot line walls*. Row/Townhouse units may not be enclosed on more than two sides by party or lot line walls and must have permanent open space contiguous to no fewer than two sides. Units will usually have a private entrance and private interior stairs.

**Walkup.** A multilevel structure of two or more living units that does not contain an elevator, with the units separated horizontally by floor and/or ceiling structural elements. Does not include detached, semi-detached (e.g., duplex), or rowhouse/townhouse.

**NOTE:** A note in the HUD 92013 instructions indicates that any non-elevator building that is not a detached, semi-detached, or row/townhouse is a *Walkup*. A “one up, one down” duplex is a *Walkup*. A single-story 3-plex or 4-plex (back-to-back duplex) is a *Row-Townhouse* building.

Elevator Buildings are defined as follows:

- **Two to five story elevator** (any elevator building of two to five stories)
- **Highrise** (any elevator building of six or more stories)

### BUILDING INFORMATION: ASSIGN UNIT TYPES TAB

The screenshot displays the 'Assign Unit Types' tab within the 'Building Information' section of the Capital Needs Assessment tool. On the left is a sidebar with various assessment categories, with 'Buildings' selected. The main area is divided into several sections:

- Building Information:** Contains a 'Sites' list (empty) and a 'Buildings' list with '123 Main Street' selected. Buttons for 'Delete Building' and 'Copy Building' are present.
- Replacement Cost of Building:** A table showing values for 'Accessory Building' (NO), 'Total Building SQ FT' (46,065), 'Total Faucets/Hookups' (108), 'Total Toilets' (52), 'Total Showerheads' (50), and 'Total Residential SQ FT' (24,765).
- Assign Unit Types:** The main area for this tab, showing 'Site' (123 Main Street) and two lists: 'Available Unit Types' (empty) and 'Assigned to Building' (containing '1BR 1BA' and '2BR 1BA'). Buttons for 'Assign -->' and '<-- Remove' are located between the lists.

A 'Close' button is located at the bottom right of the window.

Figure 22 – Assign Unit Types Tab

### OVERVIEW

Use the Assign Unit Types tab to indicate that a unit type is present in a particular building.

**NOTE:** Neither unit types nor buildings can be created on this screen. They must be created on the Unit Type Definition form in order to appear in the list of *Available Unit Types* here.

**NOTE:** This screen merely creates the relationship between the building and the unit type. It does not allow you to determine the number of unit types in the building. Instead, that is done on the Units and Common Spaces Form after assignment is performed here.

## PERFORMING BASIC TASKS

### TO ASSIGN A UNIT TYPE TO A BUILDING

The screenshot displays the 'Capital Needs Assessment' application window. On the left is a sidebar with a list of navigation options: Participants, Property, Sites, Unit Type Definition, Buildings (highlighted), Units and Common Spaces, Utility Type Usage, Inspection Samples, Components, Alternatives, Repair Replace Recommendation, Narrative, Financial Factors, Repair Replace Decision, and LoV Admin. The main content area is titled 'Building Information' and contains two tabs: 'Building Information' and 'Assign Unit Types' (which is active). Under the 'Assign Unit Types' tab, there are two list boxes: 'Available Unit Types' containing '2BR 1BA' and 'Assigned to Building' containing '1BR 1BA'. Between these boxes are 'Assign -->' and '<-- Remove' buttons. Above the list boxes, the site is identified as '123 Main Street'. To the right of the main area is a 'Replacement Cost of Building' table:

Replacement Cost of Building	\$8,061,375.
Accessory Building	NO
<b>Total Building SQ FT</b>	<b>46,065</b>
Total Faucets/Hookups	108
Total Toilets	52
Total Showerheads	50
<b>Total Residential SQ FT</b>	<b>24,765</b>

A 'Close' button is located at the bottom right of the window.

Figure 23 - Building Information Form, Assign Unit Types Tab with Partial Selection

1. Select the appropriate site from the *Sites* list box on top.
2. Select the appropriate building from the *Buildings* list box on top.
3. Select the unit type to be assigned from the list of *Available Unit Types*.

4. Select **Assign -->**.
5. The selected *Unit Type ID* should be transferred from the Available Unit Types list box to the Assigned to Building list box.

#### TO REMOVE A UNIT TYPE FROM A BUILDING

1. Select the appropriate site from the *Sites* list box.
2. Select the appropriate building from the *Buildings* list box.
3. Select the unit type to remove from the list of unit types in the *Assigned to Building* list.
4. Select **<-- Remove**.
5. The selected *Unit Type ID* should be transferred from the Assigned to Building list box to the Available Unit Types list box.

#### UNITS AND COMMON SPACES FORM

Use the Units and Common Spaces form to add a count of units to a building, and to name and characterize common areas assigned to each building.

This form has two tabs: the Units tab and the Common Spaces tab.

This form is normally completed by the  Assessor during the Pre-Site phase.

#### SEE ALSO:

- [Units Tab](#)
- [Common Spaces Tab](#)

## UNITS AND COMMON SPACES: UNITS TAB

The screenshot shows the 'Units and Common Spaces' form in the 'Units' tab. The sidebar on the left contains the following navigation options: Participants, Property, Sites, Unit Type Definition, Buildings, Units and Common Spaces (selected), Utility Type Usage, Inspection Samples, Components, Alternatives, Repair Replace Recommendation, Narrative, Financial Factors, Repair Replace Decision, and LoV Admin.

The main area is titled 'Units and Common Spaces'. It features two dropdown menus: 'Site' (Main Site) and 'Building' (123 Main Street). Below these is a 'Units' section with a 'Common Areas' tab. The 'Unit Type ID' list shows '1BR 1BA' selected and '2BR 1BA' below it.

The 'Unit Type ID' selected is '1BR 1BA'. The following characteristics are displayed:

Number of Units	49	Bedrooms	1
Total Mobility Impaired Units	3	Bathrooms	1.00
Total Sensory Impaired Units	1	Shower Heads	1
In-Unit Garage Parking Spaces		Toilets	1
In-Unit Accessible Parking Spaces		Faucets/Hookups	2
Total Unit Square Footage	24,010	Square Feet	490

An 'Update' button is located below the characteristics. A 'Close' button is located at the bottom right of the form.

Figure 24 – Units Tab

### OVERVIEW

Use the Units tab of the Units and Common Spaces form to specify the number or count of units that exist in a building. This tab is also used to indicate the number of each unit type reported to be accessible for persons with mobility or sensory impairment.

In addition, if garages are included in the units, the count of such garage parking spaces can be entered. (Detached, semi-detached, and row or townhouse units sometimes have garages in units for use only by the tenant of that unit [i.e., not common space].) The user selects a site from the list box at the top and then a building from the list box for buildings at that site, and then the unit types assigned to that building appear in the list box of *Unit Type IDs* at the lower left.

The values displayed at the lower right of the Units tab are read only and remind the user of the specific characteristics of the Unit Type ID selected.

 **NOTE:** The square footage of an “in unit” garage should be included in the definition of a unit with in an “in unit” garage on the Unit Types form. When there are units present on a site that have “in unit” garages the *Unit Type ID* and the unit square footage should reflect this fact, e.g. a 3 bedroom, 2 bath townhouse with a garage would be named “3/2 TH Garage.”

 **NOTE:** When using the copy building feature, variability in the distribution of UFAS accessible units for mobility or sensory impaired persons will require editing and updating unit counts in some or all copies of buildings.

## PERFORMING BASIC TASKS

---

### TO ENTER THE COUNT OF UNITS BY TYPE WITHIN A BUILDING

1. Select the appropriate site from the *Site* list box on top.
2. Select the appropriate building from the *Building* list box on top.
3. Select the *Unit Type ID* from the *Unit Type ID* list box.
4. Enter the count of units of this type, the number, if any, that are accessible for the mobility or sensory impaired (per Section 504 and UFAS), and the number of in-unit garage parking spaces, if any.
5. Select **Update**.
6. The total square footage of this count of units should display in the Total Unit Square Footage read only box at the bottom center of the form.

### TO EDIT COUNTS OF UNITS WITHIN A BUILDING

1. Select the appropriate site from the *Sites* list box.
2. Select the appropriate building from the *Buildings* list box.
3. Select the *Unit Type ID*.
4. Edit the counts as required.
5. Select **Update**.
6. The recomputed total square footage of this amended count of units should display in the Total Unit Square Footage read only box.

## FIELD DEFINITIONS

\* Indicates a required field that must not be left empty or null.

Form Data Field	Definition
<b>Number of Units*</b>	Enter the number of units of this unit type that are present in this building.
<b>Total Mobility Impaired Units*</b>	Enter the number of units of this unit type located in this building that are reported to be accessible for persons with mobility impairments.
<b>Total Sensory Impaired Units</b>	<p>Enter the number of units of this unit type located in this building that are reported to be accessible for persons with sensory impairments. If the CNA is being prepared for HUD, and if property is subject to Section 504 accessibility requirements, this field cannot be left empty (null).</p> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p> <b>Did You Know? Section 504 of the Rehabilitation Act of 1973</b></p> <p>HUD and USDA rules implementing Section 504 of the Rehabilitation Act of 1973 vary on key particulars. Some notable differences include dates when compliance was required, the timing and extent of UFAS compliance, and whether units must be set aside specifically for sensory impaired persons. See also: <a href="#">Considerations for the Federally Assisted Indicator</a></p> </div>
<b>In-Unit Garage Parking Spaces</b>	Enter the total number of parking spaces of this unit type that are non-accessible.
<b>In-Unit Accessible Parking Spaces</b>	Enter the total number of parking spaces of this unit type that are accessible.
<b>Total Unit Square Footage</b>	<b>Read-only.</b> Displays the total square footage of the units of this type that the Assessor has identified at this building.
<b>Bedrooms</b>	<b>Read-only.</b> Displays the number of bedrooms for each unit of this type within the currently selected building.
<b>Bathrooms</b>	<b>Read-only.</b> Displays the number of bathrooms for each unit of this type within the currently selected building.
<b>Showerheads</b>	<b>Read-only.</b> Displays the number of showerheads for each unit of this type within the currently selected building.
<b>Toilets</b>	<b>Read-only.</b> Displays the number of toilets for each unit of this type within the currently selected building.

Form Data Field	Definition
<b>Faucets/Hookups</b>	<b>Read-only.</b> Displays the number of faucets or laundry hookups for each unit of this type within the currently selected building.
<b>Square Feet</b>	<b>Read-only.</b> Displays the square feet of living space in this unit type.

BACK TO:

- [Units and Common Spaces Form](#)

**UNITS AND COMMON SPACES: COMMON SPACES TAB**

The screenshot displays the 'Units and Common Spaces' tab within the 'Capital Needs Assessment' application. On the left is a vertical sidebar with navigation buttons for 'Participants', 'Property', 'Sites', 'Unit Type Definition', 'Buildings', 'Units and Common Spaces' (which is highlighted), 'Utility Type Usage', 'Inspection Samples', 'Components', 'Alternatives', 'Repair Replace Recommendation', 'Narrative', 'Financial Factors', 'Repair Replace Decision', and 'LoV Admin'. The main window title is 'Units and Common Spaces'. At the top, there are two dropdown menus: 'Site' set to 'Main Site' and 'Building' set to '123 Main Street'. Below these are two tabs: 'Units' and 'Common Areas', with 'Common Areas' being the active tab. The form contains several input fields and dropdowns: 'Type of Common Space' (Mechanical/Utility), 'Common Space ID' (Mech Room 2nd + 3rd Floors), 'Square Footage' (300), 'Comments' (empty text area), 'Commercial/Public Accommodation' (NO), 'Compliance Required' (FALSE), and 'Compliance Exists' (NO). To the right of the 'Comments' field are three input boxes for 'Number of Faucets/Hookups', 'Number of Toilets', and 'Number of Showerheads', each with a '0' value. Further right is a 'Common Area IDs' list with items like 'Mech Room 2nd + 3rd Floors', 'Community Kitchen', 'Leasing Office', 'Common Hallways', 'Lobby', 'Community Room', 'Laundry Room (2nd floor)', 'Lounges (2nd and 3rd floors)', and 'Craft Room (2nd floor)'. At the bottom right of the form are 'Add', 'Delete', and 'Update' buttons. A 'Close' button is located at the bottom right of the entire window.

Figure 25 – Common Spaces Tab

## OVERVIEW

Use the Units and Common Spaces tab to name and describe the common areas within a building. Examples of common areas include community rooms, offices, maintenance shops, storage rooms, laundry rooms, recreational areas, and so forth.

For purposes of the CNA Assessment Tool, every space within a building—other than units—is a common area.

Note that the total building square feet has implications for computation of replacement cost as well as for ENERGY STAR® scores. Accordingly, it is necessary to indicate the square footage for every common area in the building when preparing a CNA for a HUD property.

## PERFORMING BASIC TASKS

---

### TO ADD A NEW COMMON AREA

1. Select the appropriate site from the *Site* list box on top.
2. Select the appropriate building from the *Building* list box on top.
3. Select the type of common space from the drop-down list.
4. Name the common space. Each *Common Space ID* must be unique within each building.
5. Enter data in the fields describing the common space.
6. Select **Add**.
7. The newly created *Common Space ID* appears in the *Common Space ID* list box on the right.

 **NOTE:** If there are multiples of a type of common area within the same building (e.g., hallways or corridors on separate floors), those that are identical in all respects (including size, accessibility requirements and compliance, and plumbing fixtures) may be grouped together under a single *Common Space ID*, (e.g. “Corridors flrs 1-10”) and the aggregate of square footage, plumbing fixtures, etc. However, if the space or groups of spaces vary in characteristics, then use descriptive text in the *Common Space ID* field to distinguish among them (e.g., “Hallway 1st Fl.,” “Hallway 2nd Fl.,” or “Hallways Flrs 1-5” and “Hallways Flrs 6-10”) and enter the square footage and characteristics for each hallway or grouping of hallways. Similarly, if one hallway is a public accommodation (e.g. on the ground floor and providing access to the leasing office) and others are not, this dissimilarity prevents including all hallways in a single group. For example, laundry rooms of different size and numbers of hookups would be separately named and characterized.

 **NOTE:** When using the copy building feature, variability of common spaces among otherwise identical buildings will require editing and updating such spaces in some or all copies of a building.

 **NOTE:** When the CNA Assessment Tool calculates the number of residential square feet, only the square footage of the units is included. Total building square footage includes both units and common areas. Any space that is not in a unit is considered a common area (e.g., management offices, community rooms, parking garages).

#### TO UPDATE AN EXISTING COMMON AREA

1. Select the appropriate site from the *Site* list box on top.
2. Select the appropriate building from the *Building* list box on top.
3. Select the *Common Space ID* you wish to edit from the list box on the right. Information for that common area will populate elsewhere on the tab.
4. Edit the information about the common area as needed.
5. Select **Update**.

#### TO DELETE AN EXISTING COMMON AREA

1. Select the *Common Space ID* you wish to delete from the list on the right. Information for that common area will populate the *Common Area Information* section on the left.
2. Select **Delete**.
3. The *Common Space ID* deleted from the list box

#### FIELD DEFINITIONS

---

\* Indicates a required field that must not be left empty or null.

Form Data Field	Definition
<b>Type of Common Space*</b>	<p>Select the type that most closely describes the common space from the drop-down list.</p> <ul style="list-style-type: none"> <li>• <i>“Amenity/Recreation”</i></li> <li>• <i>“Balcony – Common”</i></li> <li>• <i>“Breezeway – Common”</i></li> <li>• <i>“Hallway – Common”</i></li> <li>• <i>“Laundry – Common”</i></li> <li>• <i>“Garage Parking”</i></li> <li>• <i>“Leasing/Marketing”</i></li> <li>• <i>“Lobby”</i></li> <li>• <i>“Mechanical/Utility”</i></li> <li>• <i>“Rentable Commercial Space”</i></li> <li>• <i>“Tenant Storage”</i></li> <li>• <i>“Other – Management/Maintenance”</i></li> <li>• <i>“Other”</i></li> </ul>
<b>Common Space ID*</b>	<p>Enter a unique label that helps to identify the common space.</p> <p>If there are multiples of the same type in the same building, only group those that are identical in all characteristics, otherwise the name should distinguish this space from others of the same type in the same building. For example, if there is a lobby and a hallway on each of several floors, the <i>Common Space ID</i> might be <i>“2nd floor lobby.”</i></p> <p><b>(Field size limit: 100 characters)</b></p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p> <b>NOTE:</b> Each common space that you create must have a unique <i>Common Space ID</i>.</p> </div>
<b>Square Footage*</b>	<p>Calculate and enter the square footage of the identified common space, which should be based on dimensions from exterior (or demising) to exterior (or demising) walls, with no attempt to extract space for interior partitions, plenums, and so forth.</p>
<b>Comments</b>	<p>Enter comments when needed to clarify any description of a common space.</p> <p><b>(Field size limit: 2000 characters)</b></p>

Form Data Field	Definition
<b>Commercial/Public Accommodation*</b>	<p>Select “YES” or “NO” to indicate whether the identified space is a public accommodation.</p> <p>Typically, a leasing office or marketing center in a clubhouse is a public accommodation. A laundry room or exercise facility for the use of tenants is not a public accommodation.</p> <div data-bbox="521 506 1487 737" style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE:</b> The <i>Commercial/Public Accommodation</i> field indicates whether this <i>Common Space ID</i> is subject to the Americans with Disabilities Act (ADA) requirements for accessibility of “public accommodations” (e.g., the rental office is open to the public and thus is subject to the ADA).</p> </div> <p><b>SEE ALSO:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Title III OF the ADA for HUD</a></li> </ul>
<b>Compliance Required</b>	<p><b>Read-only.</b> This is an auto-calculated indicator that is “YES” if compliance with the ADA is required, or “NO” if compliance is not required. For any space identified as a public accommodation, this indicator will be “YES.”</p>
<b>Compliance Exists</b>	<p>When the <i>Compliance Required</i> indicator is “YES,” determine that the space complies with the accessibility requirements of Title III of the ADA.</p> <p>The regulations implementing Title III of the ADA are found at 28 CFR Part 36. Regulatory and technical assistance is available at <a href="http://www.ada.gov">http://www.ada.gov</a> or by calling 1-800-514-0301 (voice) or 1-800-514-0383 (TTY).</p>
<b>Number of Faucets/Hookups*</b>	<p>Enter the number of faucets or hookups in the common space. If zero, enter “0.”</p>
<b>Number of Toilets*</b>	<p>Enter the number of toilets in the identified common space. If zero, enter “0.”</p>
<b>Number of Showerheads*</b>	<p>Enter the number of showerheads in the common space. If zero, enter “0.”</p>

Form Data Field	Definition
<b>Common Garage Spaces</b>	<p>When the common space is garage parking, enter the count of the number of garage parking spaces in this common area. This count should not include any garage parking spaces that are accessible.</p> <p>The count of accessible garage parking spaces for this common space is separately reported. Garage parking may be one of several or many common spaces in a single building or may be the only use of space in a building. However, if a number of parking spaces is entered in this field, then the <i>Common Space Type</i> should be “Garage Parking.”</p> <div data-bbox="521 625 1485 968" style="border: 1px solid black; padding: 5px;"> <p><b>NOTE:</b> Parking spaces that are not in common space garages and not “in unit” garages should be classified as surface parking and reported as part of site information on the Site Information form. The fact that a common garage may have a space or spaces assigned or rented to individual tenants does not change their characterization as common garage spaces because any tenant is able to rent the space or have such a space assigned. “In-unit” garage spaces are reported on the <a href="#">Units tab</a>.</p> </div>
<b>Accessible Common Parking Spaces</b>	<p>If the common space offers garage parking, enter the number of accessible common garage spaces.</p> <div data-bbox="521 1098 1485 1323" style="border: 1px solid black; padding: 5px;"> <p><b>NOTE:</b> The count of accessible common garage spaces entered in this field is independent of the count of common (i.e., non-accessible) garage spaces entered elsewhere in the tool. Accessible and non-accessible common garage parking spaces are separate, mutually exclusive counts.</p> </div>

**BACK TO:**

- [Units and Common Spaces Form](#)

**ADDITIONAL TOPICS**

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TITLE III OF THE ADA FOR HUD

HUD Mortgage Letter 2012-25, Appendix 4, states: Title III of the ADA applies to any portion of a property that is a public accommodation, i.e., a portion intended for use by, and open to, the general public. This includes any leasing office or facility together with public restrooms and

public lobbies. Common areas available only for use by tenants or the guests of tenants are not subject to the ADA [but are subject to the Fair Housing Act and/or Section 504].

Any commercial uses included in an insured multifamily property are also covered by the ADA. This includes any retail, office, hotel, or special-purpose facility, such as a daycare center, senior center, and so forth.

### UTILITY TYPE USAGE FORM

**Capital Needs Assessment**

Participants  
Property  
Sites  
Unit Type Definition  
Buildings  
Units and Common Spaces  
**Utility Type Usage**  
Inspection Samples  
Components  
Alternatives  
Repair Replace Recommendation  
Narrative  
Financial Factors  
Repair Replace Decision  
LoV Admin

**Utility Type Usage**

Utility Paid By: Owner  
Utility Type: Electricity  
Consumption Unit: KWH  
Utility Rate per Unit: \$0.14  
As of Date: 01/01/2014  
Utility Provider Name: Mid State Power  
Comments:   
Update

**Utility & Usage Entries**

- Tenant Electricity
- Tenant Fuel Oil
- Tenant Natural Gas
- Tenant Propane
- Tenant Kerosene
- Tenant Water
- Tenant Sewer
- Tenant Water and Sewer
- Tenant Other
- Common Electricity**
- Common Fuel Oil
- Common Natural Gas
- Common Propane
- Common Kerosene
- Common Water
- Common Sewer
- Common Water and Sewer
- Common Other

Close

Figure 26 – Utility Type Usage Form

## OVERVIEW

Use the Utility Type Usage form to enter data about the utilities used by the property. You can input data for each individual utility type.

**NOTE:** Utility types are pre-defined. The box on the right side of the form contains all of the possible combinations of utility type and tenant-paid/owner-paid that are supported by the software. In the names, *Tenant* means tenant-paid, *Common* means owner-paid.

**NOTE:** Utility types are global for the entire property (all sites and all buildings). The CNA Assessment Tool is not currently capable of accommodating utility rates that differ for buildings located on scattered sites, where there may be different rates for the same resource.

**NOTE:** The Assessment Tool does not support the multi-tiered rate schemes that exist in some localities (e.g., peak and off-peak rates, or deregulated markets where consumers choose from multiple suppliers and pay separately for transmission infrastructure costs). If you encounter this circumstance, then weighted average or estimated average rates should be calculated and used.

## PERFORMING BASIC TASKS

### TO UPDATE A UTILITY TYPE

1. Select an option in the *Utility & Usage Entries* list on the right.
2. Complete the *Consumption Unit, Utility Rate per Unit, As of Date, Utility Provider Name,* and *Comments* information about the selected utility type.
3. Select **Update**.

## FIELD DEFINITIONS

\* Indicates a required field that must not be left empty or null.

Form Data Field	Definition
<b>Utility Paid by*</b>	<b>Read-only.</b> Displays the Assessor's selection of a utility resource and payer combination from the <i>Utility &amp; Usage Entries</i> field. The entry will be "Tenant," "Owner," or "N/A" for not applicable.
<b>Utility Type*</b>	<b>Read-only.</b> Displays the Assessor's selection of a utility resource and payer combination from the <i>Utility &amp; Usage Entries</i> field. The entry will be the name of the utility resource used (e.g., gas, electric).  <b>(Field size limit: 200 characters)</b>

Form Data Field	Definition
<b>Consumption Unit*</b>	Select the unit of measure in which the consumption of the identified utility resource is measured and billed to the consumer.
<b>Utility Rate per Unit*</b>	Enter the rate in dollars (to the nearest mill, or \$0.000) charged by the utility provider per unit of measure identified for this utility resource (e.g., kWh of electricity).  <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">  <b>NOTE:</b> Remember to take into account taxes, fees, surcharges, and other features of the utility company's rate structure. </div>
<b>As of Date*</b>	Enter the date as of which the utility rate information is true.
<b>Utility Provider Name*</b>	Enter the name of the company or firm that provides the identified utility resource to the property.  <i>(Field size limit: 100 characters)</i>
<b>Comments</b>	Enter comments on any aspect of the configuration of utilities available and used at the property and the rates payable for these utilities.  <i>(Field size limit: 2,000 characters)</i>

## ON-SITE FORMS

### BEFORE YOU BEGIN: UNDERSTANDING RELATIONSHIPS

This section briefly introduces some of the major concepts that define the relationships that are maintained in this section of the CNA Assessment Tool.

#### RELATIONSHIP BETWEEN COMPONENTS, ALTERNATIVES, RECOMMENDATIONS, AND DECISIONS

Components, alternatives, recommendations, and decisions form a hierarchy, which is described below.

- A **component** is a building or site improvement system. For example, an existing refrigerator.
  - An **alternative** is an optional replacement for the component. There must be at least one alternative per component, and often there should be more than one. For example, two alternatives for a refrigerator component might be an existing refrigerator of the same model versus an ENERGY STAR® model.

- A **recommendation** is the alternative that the Assessor recommends. Along with selecting a particular alternative, the recommendation also includes details on when the alternative is needed (for example, “*Now*” versus “*End of Cycle.*”). For an example involving the refrigerator, the Assessor might recommend replacing the refrigerator with the same model right now.
  - The Lender may override a recommendation with a **decision**. For example, the Lender may decide to override the Assessor’s recommendation for the refrigerator, replacing the refrigerator with an ENERGY STAR® model at the end of the cycle.

The chart below illustrates the relationship.

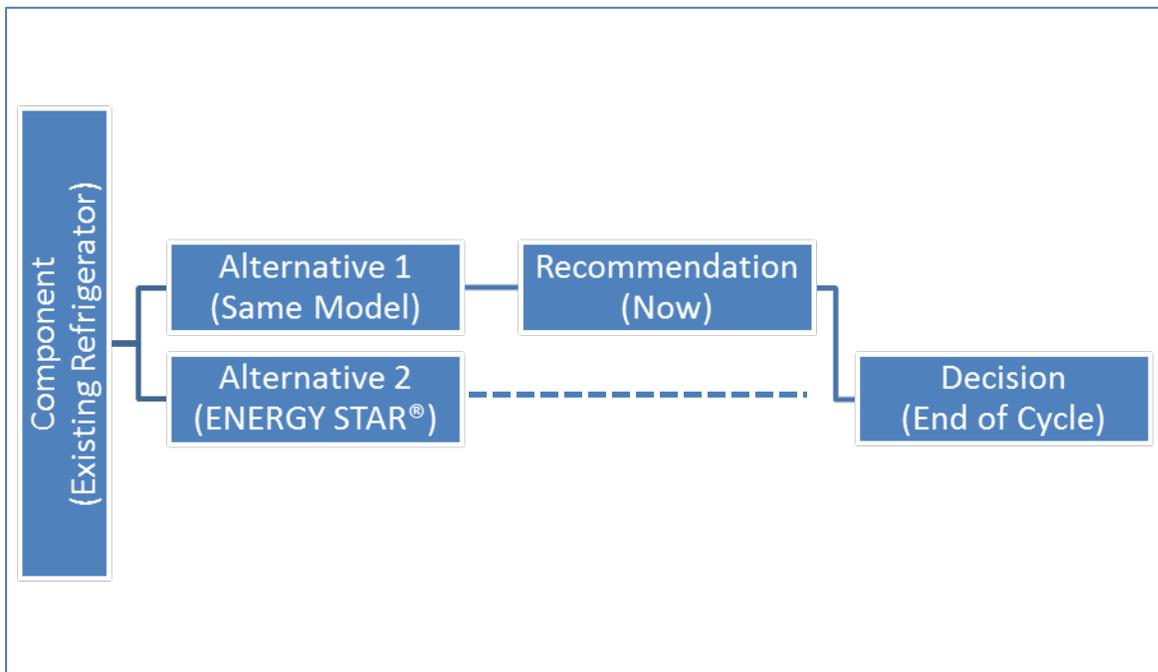


Figure 27 - Chart Illustrating Relationship between Components, Alternatives, Recommendations, and Decisions

**NOTE:** If you edit worksheets directly instead of using forms, as you edit you must maintain the logical sequence described above. For example, if you delete from the Alternative worksheet an alternative used in a recommendation, you will create a “Data Loading” error. Similarly, if you delete from the Recommendation worksheet a recommendation that has an associated decision, you will encounter an error.

**However,** if you edit or delete worksheet entries by using the form associated with that worksheet, the form will advise you if the change has downstream consequences and will execute corresponding downstream edits or deletions after you select Update or Delete and close the form.

#### MORE ABOUT COMPONENTS

A **component** is a building or site improvement system or physical part of a property. A simple example would be an existing refrigerator.

When defining a component, the Assessor selects the appropriate, predefined *Component Type* (for example, “*Unit Refrigerator*”) and then creates a unique *Component ID* (for example, “*15 CF Frostfree 2008*”) describing the actual object seen at the site. The hierarchy of component classifications (Need Category, Need Item, Component Type) exists only: to provide a common nomenclature; to aid users in locating the Component Type most appropriate for classifying the object seen at the site; and to establish a baseline Estimated Useful Life for components.

HUD and USDA chose to use the standard outline for CNAs published in ASTM standard 2018-08 to create a Standard Table of Estimated Useful Life. This table assigns a Standard Estimated Useful Life for Family properties, and a Standard Estimated Useful Life for Elderly properties, for each *Component Type*.

**NOTE:** The list of *Component Types* is fixed. The Assessor creates each *Component ID*. When creating a *Component ID*, the Assessor must take care to create the *Component ID* within the appropriate *Component Type* so that the Assessment Tool will assign the correct Standard Estimated Useful Life.

When defining a *Component ID*, the Assessor may specify the component’s Assessed Remaining Useful Life (RUL) when s/he judges the actual observed condition or durability of the item to be different from the result obtained when the chronological age of the item is subtracted from the Standard EUL of the Component Type to which the item belongs, (i.e. the Standard RUL)

#### SEE ALSO:

- [Selecting Need Category/Need Item ID/Component Type](#)

## MORE ABOUT ALTERNATIVES

An **alternative** is a potential repair to or a replacement for one or more components.

An alternative entry includes a thumbnail specification which is the **Alternative Name** (for example “15 CF EnergyStar”) and describes cost, Estimated Useful Life, and (for alternatives that consume utilities) both Utility Type and consumption expressed in the same unit of measure as described for the Utility Type. Alternatives are entered on the Alternatives form.

The Assessor must specify at least one alternative for every component. Often, the Assessor will describe more than one. Each alternative identifies a possible option for one or more *Component IDs*.

Sometimes multiple *Component IDs* of the same *Component Type* will need a single alternative (e.g. multiple ages and or kinds of roofing may all be replaced [at different times] with a single new kind of roof). Conversely, a single *Component ID* may require multiple alternatives (e.g., remodeling of a single kitchen design originally present in all units into graded solutions for different groups of units may require multiple appliance alternatives). Sometimes there will be multiple *Component IDs* of the same *Component Type* with multiple alternatives applicable to some or all of the *Component IDs*. (An example is original windows, some in tenant spaces with a *Utility Type* = Tenant XXX, and some in common areas with a *Utility Type* = Common XXX, with several grades/styles of energy saving replacements where the utility payer of each grade/style of the alternative [tenant or common] must match that of the component it is intended to replace.)

The Assessor may specify more than one alternative in order to compare different options (e.g., a traditional refrigerator and a more efficient ENERGY STAR refrigerator).

 **NOTE:** While the Assessment Tool does not require more than one alternative, Assessors will often find multiple alternatives necessary as price/quality options to address components or groups of components distinguished by variations in age, condition, size, fit, and finish. In addition, some Agency programs require specification of more efficient (“sustainable,” in Assessment Tool terminology) alternatives.

## MORE ABOUT RECOMMENDATIONS

The Assessor must make a **recommendation** for each *Component ID* by selecting one (and only one) *Alternative Name* paired with that *Component ID*. Recommendations are entered on the Repair, Replace, Add New Recommendation form.

As part of a recommendation, the Assessor will also indicate timing (i.e., when the recommendation should be implemented). In the Assessment Tool, timing is either “Now” for

immediate repairs (Critical Repairs and Non-Critical Repairs) or “*End of Cycle*” (for Future Repairs).

A recommendation must have one (and only one) “action.” An action can be replacement, one-time repair (not to be repeated in the future), repair (which may be a periodic repair to be repeated at intervals [the EUL of the repair] defined by the Assessor), or “add new” (such as the addition of an appliance not previously present).

#### IMPLICATIONS FOR ASSESSOR’S DESCRIPTION OF COMPONENTS

The Assessment Tool’s unique or singular logical connection of Component ID to Alternative to Recommendation has implications for how assessors plan their work when naming and describing components. Noted above is the fact that the Utility Type payer of an alternative must match the Utility Type payer of the Component ID for which it is intended. Another consideration arises from the fact that each Recommendation has only a single action but sometimes a single item needs more than one action, e.g. when an item needs a one-time repair and/or a periodic repair as well as a later replacement. Even though the item seen at the site may be the same, for purposes of the Assessment Tool, a separate *Component ID* must be created as the object for each needed action. The name of the Component ID should distinguish the required action. For example, some windows (of many that will need future replacement) have broken window panes needing immediate, one-time repair. Meanwhile, the replacements may be one of several specified energy efficient upgrades requiring *Component IDs* for common area windows (Common utility payer) and tenant windows (Tenant payer) while the windows with broken panes would be another *Component ID* named broken window panes in which case an entry in the location box in the Components form would be essential. Similarly, Recommendations are implemented at a specific time (“now” or “end of cycle”). Accordingly, different Component IDs may be needed to distinguish groups of like components by age and condition or to match an owner’s past remodeling or planned future remodeling.

 **NOTE:** The Assessor can recommend an “add new” item (e.g., adding air conditioning to a building that is not currently air-conditioned) by identifying the item on the Components form and entering an assessed RUL of zero and then defining the appropriate alternative (describing the item to be added), and then recommending the alternative with an action of “add new.” The Assessor must specify a recommendation for *each* component, even if the component will not require any repair or replacement during the estimate period.

## MORE ABOUT DECISIONS

The term **decision** refers to a choice by the Lender to override some aspect of a recommendation. Most commonly, the Lender will want to change only a single aspect of the Recommendation such as “when” (“now” or “end of cycle”) or “cost” based on a recently obtained bid. But occasionally, the Lender may want or need to select a different alternative altogether. In that case, the Lender will also need to specify a new set of parameters, (when, duration, location, cost, life safety, accessibility, scope, etc). However, the Lender cannot specify an alternative unless the Assessor first created it. So if the Lender concludes that additional alternatives are needed, the CNA should be returned to the Assessor with appropriate instructions.

### ILLUSTRATED EXAMPLE

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The example below walks through the full process of components, alternatives, recommendations, and decisions. In the CNA Assessment Tool, this process establishes a chain of logic linking *Need Category*, *Need Item*, *Component Type*, and *Component ID* on the Component worksheet, and also linking *Component Type*, *Component ID*, *Alternative Name*, *Recommendation*, and *Decision* as the user’s entries in each successive form add further links to this chain of logic.

Each row of a worksheet establishes such a set of logical relationships. Improper copying, pasting, sorting or deleting parts of a row or rows or entering invalid values (e.g. a Component Type name not found in the EUL Table) will break this chain of logic and result in a “Data Loading” error.

#### SEE ALSO:

- [Managing Data Load Errors](#)

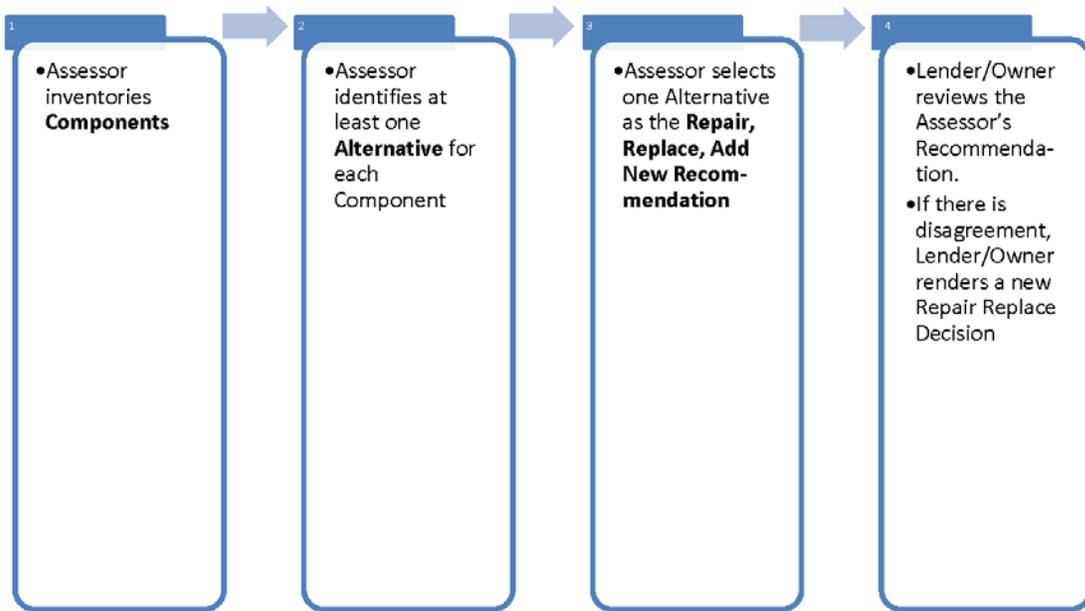


Figure 28 – Component, Alternative, Recommendation, Decision Process Flow

## INSPECTION SAMPLE FORM

Capital Needs Assessment

Participants

Property

Sites

Unit Type Definition

Buildings

Units and Common Spaces

Utility Type Usage

**Inspection Samples**

Components

Alternatives

Repair Replace Recommendation

Narrative

Financial Factors

Repair Replace Decision

LoV Admin

### Inspection Sample

Site	123 Main Street	1BR 1BA	101
Site	123 Main Street	2BR 1BA	301
Site	123 Main Street	1BR 1BA	410
Site	123 Main Street	1BR 1BA	419
Site	123 Main Street	1BR 1BA	422
Site	123 Main Street	2BR 1BA	501
Site	123 Main Street	1BR 1BA	503
Site	123 Main Street	1BR 1BA	103
Site	123 Main Street	1BR 1BA	118
Site	123 Main Street	1BR 1BA	122
Site	123 Main Street	1BR 1BA	201
Site	123 Main Street	1BR 1BA	204
Site	123 Main Street	1BR 1BA	206
Site	123 Main Street	1BR 1BA	210

Site:

Building Inspected:

Unit Type:

Unit Number:

Inspection Status:

Unit Status:

Unit Floor:

Ground Floor Indicator:

### Accessibility Compliance

Fair Hsg Act Covered Unit:

Fair Hsg Act Compliant:

Accessible Path Needed:

Accessible Path Exists:

504/UFAS Compliance:

Comments:

Add New

Update

Delete

Close

Figure 29 – Inspection Sample Form

## OVERVIEW

Use the Inspection Sample form to input data about inspections or attempted inspections.

An inspection sample is defined by a combination of:

- Site
- Building
- Unit Type
- Unit Number or Address

An inspection sample can be created only after all sites, unit types and buildings in the property have been created, including assignment of unit types to buildings and the count of units added to each building.

## PERFORMING BASIC TASKS

---

### TO ADD A UNIT TO THE INSPECTION SAMPLE

1. Select a site, building, and unit type in the *Site, Building Inspected,* and *Unit Type* fields.
2. Enter the number or address of the sample unit.
3. Select **Add New**.
4. The unit selected for inspection should appear in the *Inspection Sample* list box at the top of the form.

### TO ENTER INSPECTION RESULTS FOR A SAMPLE UNIT

1. Select the inspection sample unit you wish to edit from the list box on top. Enter inspection results for the sample unit in the appropriate fields.
2. Select **Update**.

### TO DELETE A UNIT FROM THE INSPECTION SAMPLE

1. Select the inspection sample unit you wish to delete from the list box on top. Information for that inspection sample, if any has been entered, will populate the *Inspection Sample Information* section on the bottom.
2. Select **Delete**.
3. The selected unit should disappear from the *Inspection Sample* list box

### TO EDIT INSPECTION RESULTS FOR AN INSPECTED UNIT

1. Select the inspection sample unit you wish to edit from the list box on top. All information previously entered for that inspected unit will populate the *Inspection Sample* information fields in the lower half of the form.
2. Edit the information concerning the inspection results as needed.
3. Select **Update**.

## FIELD DEFINITIONS

---

\* Indicates a required field that must not be left empty or null.

Form Data Field	Definition
Site*	Select the site where the building is located.
Building Inspected*	Select the building where the inspected unit or unit to be inspected is located.

Form Data Field	Definition
<b>Unit Type*</b>	Select the unit type of the unit that was or will be inspected.
<b>Unit Number</b>	Identify the specific unit that was or will be inspected. Typically, this would be the address of the unit (i.e., the identifier that a tenant would use to describe his/her address, usually one or more alphanumeric characters).
<b>Inspection Status*</b>	<p>This is the Assessor’s determination, chosen from a drop-down list, of the status of the inspection. The choices are:</p> <ul style="list-style-type: none"> <li>• <b>“Inspected.”</b> The unit was selected as part of the sample. The Assessor was able to enter, and completed the inspection.</li> <li>• <b>“Unable to Enter.”</b> The unit was selected for inspection and the Assessor attempted to inspect the unit but was not able to enter or otherwise was unable to complete an inspection.</li> <li>• <b>“Prescribed.”</b> The Assessor was required by guidance or directed by the agency to inspect this particular unit, and did so, (e.g. complying with a requirement to inspect all or a fixed portion of vacant units).</li> </ul> <p>Brief explanations for inspections not completed should be entered in the <i>Comments</i> field.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p> <b>NOTE:</b> In many cases, it is possible to pre-select a list of units that will be inspected and enter much of the information required for this form prior to the site visit. However, if the pre-selected units cannot be inspected (e.g., because the tenant is home sick, not to be disturbed), an additional or substitute unit may be needed. In this case, the original unit would be marked as <i>“Unable to Enter”</i> in the <i>Inspection Status</i> field, and a new unit would be added to the list of inspected units.</p> </div>
<b>Unit Status</b>	<p>Select the <i>Unit Status</i> from the drop-down list.</p> <ul style="list-style-type: none"> <li>• <i>“Vacant”</i></li> <li>• <i>“Occupied”</i></li> </ul> <p>No other terms can be used, and there should be no distinction between <i>“Vacant”</i> and other common descriptions such as <i>“down”</i> or <i>“not ready.”</i> Conditions that render a vacant unit <i>“down”</i> or <i>“not ready”</i> should be identified in the Assessor’s description of the components and conditions.</p>

Form Data Field	Definition
<b>Unit Floor*</b>	<p>Identify the floor of the building in which the inspection sample took place. The available selections are “<i>Below Ground</i>” (for any floor that is below grade, “1” (the first floor that is at grade), and “2 through 26.”</p> <div data-bbox="521 415 1485 527" style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p> <b>NOTE:</b> The main entrance to a building is not necessarily located on floor #1.</p> </div> <div data-bbox="521 569 1485 716" style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p> <b>NOTE:</b> The first floor of a building erected on piers (such as coastal waterfront buildings) is floor #1, not floor #2 because of its elevation above grade.</p> </div> <div data-bbox="521 758 1485 905" style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE:</b> “<i>Below Ground</i>” indicates a true basement, not a floor partially in ground to accommodate sloping terrain. The Assessor should comment on egress for any unit located “<i>Below Ground</i>.”</p> </div>
<b>Ground Floor Indicator</b>	<p>Indicate whether the unit is located on a ground floor. There may be more than one ground floor in a building. A ground floor is any floor with an entry door accessible at grade, even if access is by means of a ramp, from a point of arrival to the building.</p> <p>All ground floor units in a building first occupied after March 13, 1991, are “covered units” and must meet the design and construction requirements of the Fair Housing Act, including an accessible path.</p>
<b>Fair Housing Compliance</b>	<p>When the inspected unit is a “covered unit,” the Assessor must indicate “YES” or “NO” regarding whether the unit was built so that it meets the design and construction requirements of the Fair Housing Amendments Act of 1988, as defined at 24 CFR 100.205, and further detailed in the <i>Fair Housing Act Design Manual</i>, published March 6, 1991.</p>
<b>Fair Housing Act Covered</b>	<p><b>Read-only.</b> This is an auto-calculated field that indicates “YES” if the inspected unit is a <i>covered unit</i> as defined by the Fair Housing Amendments Act of 1988 and its implementing regulation at 24 CFR 100.201. If it is not a covered unit, this indicator is “NO.”</p>
<b>Accessible Path</b>	<p><b>Read-only.</b> This indicates whether an accessible path is required. The next field indicates whether an accessible path is present.</p> <p><b>SEE ALSO:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Definition of Accessible Path</a></li> </ul>

Form Data Field	Definition
<b>Accessible Path Exists*</b>	If the <i>Accessible Path</i> indicator is “YES,” then you are required to examine the path to the unit and determine whether it meets the definition of an accessible path. The choices are either “YES” or “NO.”
<b>504/UFAS Compliance</b>	<p>When the property is federally assisted, Section 504 of the Rehabilitation Act of 1973 and 24 CFR Part 8 (HUD) or 7 CFR 15b (USDA) apply. In this event, you must indicate whether the inspected unit is an accessible unit as defined by 24 CFR Part 8 (HUD) or 7 CFR 15b (USDA). There are three choices in the drop-down list:</p> <ul style="list-style-type: none"> <li>• <b>“Mobility.”</b> The unit complies fully with the requirements for a unit accessible to a person with mobility impairment.</li> <li>• <b>“Sensory.”</b> HUD only. The unit is not counted as a mobility unit and complies fully with the requirements for a unit accessible to a person with sensory (e.g., vision, hearing) impairments.</li> <li>• <b>“None.”</b> The unit does not comply fully with the standard.</li> </ul> <p>Partial compliance may be noted in <i>Comments</i>.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p> <b>NOTE:</b> For HUD properties, compliance with both mobility and sensory requirements in a single unit may be noted in <i>Comments</i>, but only one form of compliance may be recognized. This is because the HUD regulation does not permit a single unit to be counted toward both the required 5% mobility set-aside and the 2% sensory set-aside.</p> </div>
<b>Comments</b>	<p>Enter comments concerning the conditions observed in the unit and when accessibility requirements are applicable and are not met.</p> <p><b>(Field size limit: 2,000 characters)</b></p>

## ADDITIONAL TOPICS

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### DEFINITION OF ACCESSIBLE PATH

The *Accessible Path* field is an auto-calculated indicator that will show “YES” if the inspected unit is a “covered unit,” or when the unit is a fully accessible mobility or sensory impaired unit. It is a reminder to the user that an accessible path to the unit must exist.

### HUD Definitions of Accessible Paths

HUD's Mortgagee Letter 2012-25, Appendix 5, states: For the purposes of the Fair Housing Act, an "accessible route" is defined as a "continuous unobstructed path connecting accessible elements and spaces in a building or within a site" negotiable by a person with a severe disability using a wheelchair and that is also safe and usable by persons with other disabilities (24 CFR 100.201). Any route that complies with American National Standards Institute (ANSI) A117.1-1986 or a comparable standard is an accessible route.

For Section 504, 24 CFR 8.3 defines an "accessible route" as a continuous unobstructed path connecting accessible elements and spaces in a building or facility that complies with the space and reach requirements of applicable standards prescribed by 24 CFR 8.32. Currently, UFAS is the standard under 24 CFR 8.32.

### **USDA Definitions of Accessible Path**

Currently, UFAS is USDA's standard under 7 CFR 15b.19. Per Rural Development's regulations, projects ready for occupancy on or before March 13, 1991, are required to meet UFAS requirements of at least one accessible route connecting accessible buildings, facilities, and spaces elements (including parking and passenger loading) on the same site (UFAS 4.1.1.(1) & (2)). Projects ready for occupancy after March 13, 1991, are required to meet the Fair Housing Act (24 CFR 100.201). Any route that complies with ANSI A117.1-1986, or comparable standards, is an accessible route.

## COMPONENTS FORM

Capital Needs Assessment

**Components**

**Choose Component**

Need Category: Interiors-Dwelling Units | Need Item ID: Appliances

Component Type: Refrigerator/freezer

Added Components: Existing Unit Refrigerators

**Enter/Modify Component Detail**

Component ID: Existing Unit Refrigerators

Notes: [Empty]

Unit Cost: \$400.00 | Unit of Measure: Each | Quantity: 51

Type of Utility: Common Electricity | Usage / Year: 624.00

Year Installed: 1999 | Current Age: 17

Standard Estimated Useful Life: 15 | Standard Remaining Useful Life: -2 | Percent Standard Remaining Useful Life: -13.3300

Assessed Remaining Useful Life: 0 | Percent Recommended Remaining Useful Life: 0.0000

Remaining Useful Life Comments: Comment

TCO per Year: \$110.89 | Location: [Empty]

Buttons: Add, Update, Close

Figure 30 – Components Form

## OVERVIEW

Use the Components form to identify components at the property.

The components created and edited on this form have two important classifications:

- **Need Category**, **Need Item ID**, and **Component Type** cascade down to a generic description for a relatively narrow class of components. The Standard EUL is associated with the **Component Type**.
- **Component ID** is a unique label for each actual component seen at the site. When opened, the Components form will display in the Added Component list box all the **Component IDs**, if any, named by the Assessor. No **Need Category**, **Need Item**, or **Component Type** will be selected. When a **Need Category**, **Need Item**, and **Component Type** are selected, the Component Added list box will display only those **Component IDs** of the selected **Component Type**, if any.

See the [Selecting Need Category/Need Item ID/Component Type](#) topic for more information.

### TO ADD A NEW COMPONENT

1. Select the appropriate *Need Category*.
2. Select the appropriate *Need Item ID*.
3. Select the appropriate *Component Type*. This is the type of component, as listed on the Standard Table of Estimated Useful Life.
4. In the *Component ID* field, add a unique descriptive label for this component.
5. Type the information in the data fields under Enter/Modify Component Detail.
6. Select **Add**.
7. The newly created Component ID will appear in the *Added Component IDs* list box below any others already named for the selected Component Type, which list may become lengthy. Use the scroll bar to see the last entry to a long list.

 **NOTE:** The difference between *Component Type* and *Component ID* is that the *Type* is an entry in the EUL table, while the *ID* is a unique, user-created label. Multiple *Component IDs* may point to a single *Component Type*.

 **NOTE:** In later forms where components are used (such as for designating alternatives and recommendations), only the *Component ID* will be visible in the form, not additional characteristics such as *Year Installed*. For this reason, each *Component ID* should be descriptive enough to make it distinctive from similar *Component IDs*. For example, if you create three different refrigerator components, the *Component ID* for each should contain enough information to distinguish one from another. In addition, the user may switch worksheets beneath open forms in order to view information not present on the form.

### TO UPDATE AN EXISTING COMPONENT

1. Locate the Component ID in the *Added Component IDs* box by scrolling through the list. Select the Component ID, or alternatively:
  - a. Select the *Need Category*.
  - b. Select the *Need Item ID*.
  - c. Select the *Component Type*. All the *Component IDs* for the selected *Component Type* will appear in the Added Component list box.
2. In the *Added Components* box, select the component you wish to edit.
3. Modify the data fields under Enter/Modify Component Detail.
4. Select **Update**.

## TO DELETE AN EXISTING COMPONENT

1. Locate the *Component ID* in the Added Components box by scrolling through the list. Select the *Component ID*, or alternatively:
  - a. Select the *Need Category*.
  - b. Select the *Need Item ID*.
  - c. Select the *Component Type*.
2. In the *Added Components* list, select the component you wish to delete.
3. Select **Delete Component**.
4. The selected *Component ID* should disappear from the Added Components list box

 **NOTE:** The three tiers are described below for *Need Category*, *Need Item*, and *Component Type Name*. These components have also been mapped to a Standard EUL table. Users may search for the most detailed components by starting with the broadest category of description, which is *Need Category*.

## FIELD DEFINITIONS

\* Indicates a required field that must not be left empty or null.

Form Data Field	Definition
<b>Need Category*</b>	Select a category of needed item. The value selected in this field controls the selections available in the <i>Need Item ID</i> field.
<b>Need Item ID*</b>	Select an ID for the needed item. The value selected in this field controls the selections available in the <i>Component Type</i> field.
<b>Component Type*</b>	Select from the drop-down list to associate the component with the correct Standard Estimated Useful Life. <div data-bbox="521 1457 1487 1604"><p> <b>NOTE:</b> <i>Component Type</i> differs from <i>Component ID</i>. <i>Component Type</i> is a pre-generated list of standard types of components, whereas <i>Component ID</i> is a custom value.</p></div>

Form Data Field	Definition
<b>Component ID*</b>	<p>Enter a unique label for this component.</p> <p>Use words that describe the item as precisely as necessary to inform and delimit the description of both an alternative and an action, and if utility cost savings are relevant, the payer of the utility used by the component.</p> <p>The description may be as specific as brand name, color, size or capacity, age, specific location, or any adjectives that the Assessor deems necessary to describe this particular component, or multiples of the same items, and to distinguish it or them from others of the same <i>Component Type</i>. Each of the values or inputs defined below refers to a named <i>Component ID</i>.</p> <p><b>SEE ALSO:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Selecting Component ID Names</a></li> </ul> <p><b>(Field size limit: 200 characters)</b></p>
<b>Notes</b>	<p>Enter any notes you may have about the existing component.</p> <p><b>(Field size limit: 2,000 characters)</b></p>
<b>Unit Cost*</b>	<p>Enter the estimated original cost in dollars of the existing component based on the unit of measure.</p> <p>This figure is used to estimate the value of any unused RUL for the cost-benefit analysis of alternatives.</p> <p>The significance of this field for older components with a short RUL is marginal. For such components, a “best guess” is sufficient. Do not enter “0,” as this will distort the life cycle cost analysis.</p>
<b>Unit of Measure*</b>	<p>Select the option that indicates how the existing component is measured for pricing purposes. See the <a href="#">Units of Measure</a> section for a list of values.</p>
<b>Quantity*</b>	<p>Enter the number of items with this Component ID, measured in the selected <i>Unit of Measure</i>.</p>

Form Data Field	Definition
<b>Type of Utility*</b>	<p>When the <i>Component ID</i> consumes a utility, select the resource or utility consumed (e.g., water, gas, electricity) and who (tenant or owner [i.e., “common”]) is paying for the resource (e.g., Tenant – Water). Only the utility options the user identified on the Utility Types Usage form will appear in the drop-down list for selection. If Agency guidance does not require reporting of utility consumption, or if there is no utility used by this <i>Component ID</i> and it has no impact on utility consumption, then select “N/A” for “not applicable.” If the <i>Component ID</i> is not a utility user but does impact utility consumption when utility conservation measures are proposed (e.g. high performance windows, doors, insulation, cool roofs, etc, or water savers, like low flow aerators) then the appropriate Utility Type should be selected and usage entered as “0”. Later, when the alternative(s) for the Component ID are specified, the same utility payer should be identified and the estimated reduction in usage per item should be entered as a negative number on the Alternatives form.</p>
<b>Usage/Year*</b>	<p>If “N/A” is entered in the <i>Type of Utility</i> box you should leave this field blank. If a value was entered in the <i>Type of Utility</i> box, you must enter a value in <i>Usage/Year</i>:</p> <ul style="list-style-type: none"> <li>• “0” if the component is a “net zero” utility user;</li> <li>• “0” if the component is not a utility user but does impact utility consumption and conservation measures will be proposed as alternatives.</li> <li>• A positive number in order to report the actual or estimated usage of a utility in the indicated unit of measure.</li> </ul>
<b>Year Installed*</b>	<p>Enter the year (estimated or actual) when the existing <i>Component ID</i>, or multiples of the same <i>Component ID</i>, were installed.</p> <p>For example, sets of buildings, with roofs installed at different intervals, may be expressed as different <i>Component IDs</i> with different years of installation (e.g., 1990, 1998, 2005) and, if material, a different description of location (e.g., Bldgs. 1–4, 4–7, 8–12).</p>
<b>Current Age</b>	<p><b>Read-only.</b> Displays the current age in years of the existing component. This is calculated by subtracting the year of installation from the current year.</p>
<b>Standard Estimated Useful Life*</b>	<p><b>Read-only.</b> Displays the EUL for this type of component, as determined by the Standard EUL table published as part of the USDA HUD CNA e-Tool. This value is auto-filled based on the <i>Component Type</i>.</p>

Form Data Field	Definition
<b>Standard Remaining Useful Life</b>	<b>Read-only.</b> Displays the RUL based on the Standard EUL less the current age of the component. This is an auto-filled field.
<b>Percent Standard Remaining Useful Life</b>	<b>Read-only.</b> Displays the auto-calculated percentage of the Standard EUL that remains (i.e., the RUL) based only on the <i>Component Type</i> and the actual or estimated year installed, notwithstanding the actual observed condition.
<b>Assessed Remaining Useful Life</b>	<p>This is the Assessor’s best professional judgment of the actual RUL of the Component ID based on observed conditions that may not agree with the auto-populated value in the <i>Standard Remaining Useful Life</i> field.</p> <div data-bbox="521 674 1485 825" style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE:</b> If the Assessed RUL differs from the Standard RUL, you must justify or explain the variance by entering an explanatory comment in the <i>Remaining Useful Life Comments</i> field.</p> </div>
<b>Percent Recommended Remaining Useful Life</b>	<p><b>Read-only.</b> This displays the percentage obtained by dividing the Assessed RUL by the Standard EUL, that is: Assessed RUL/Standard EUL.</p> <div data-bbox="521 953 1485 1064" style="border: 1px solid black; padding: 5px;"> <p> <b>Example:</b> A refrigerator with a Standard EUL of 15 years, and an Assessed RUL of 5 years, would be calculated as <math>5/15 = 33\%</math>.</p> </div>
<b>Remaining Useful Life Comments</b>	<p>If you entered a value in the <i>Remaining Useful Life</i> field that differs from the standard, use this field to enter a comment justifying or explaining the difference</p> <p><b>(Field size limit: 2,000 characters)</b></p>
<b>TCO per Year</b>	<p><b>Read-only.</b> Total Cost of Ownership (TCO) displays the average annual cost of ownership, including amortized annual cost of acquisition plus the yearly utilities, over the estimated life of the component.</p> <p><b>SEE ALSO:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Calculation of TCO Per Year</a></li> </ul>

Form Data Field	Definition
<b>Location</b>	<p>Enter the location, if necessary, to distinguish the <i>Component ID</i>. Note that because this information will not be visible on the Alternative form or on the Repair, Replace, Add New Recommendation form, the Component worksheet should be opened underneath these respective forms and referred to when location or other values are needed for reference. Assessors may also find it useful to specify the location or other critical distinctions in the <i>Component ID</i> itself.</p> <p><b>(Field size limit: 200 characters)</b></p> <div style="border: 1px solid orange; padding: 5px; margin-top: 10px;"> <p> <b>Example:</b> For a replacement now of damaged siding observed at a particular location, the <i>Component ID</i> might be “Bad siding 200 sf 1st story, north end wall, Building 20.”</p> </div>

## ADDITIONAL TOPICS

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### TIPS ON WORKING WITH COMPONENTS

The tips below provide additional background that may be helpful for working with components.

- Use the *Additional Considerations* Need Category to locate items such as environmental remediation or commercial tenant improvements that do not fall under other categories. When no Component Type seems appropriate for an item seen on a site, select the Component Type most closely resembling the item and report the item to [CNAeTool@hud.gov](mailto:CNAeTool@hud.gov) to support future revisions to the Standard Table of Estimated Useful Life.
- For each *Component ID*, you must later recommend an alternative
- The Assessor must create a *Component ID* before any alternative that can be paired with it, and no recommendation can be made without an alternative.
- Accordingly, to add a component that does not exist at the property, the Assessor must identify the proposed component on the Components form as though it did exist. But the Assessor gives the component an assessed RUL of “0” if it is to be installed immediately, or if to be installed later, then the number of the Relative Year in which installation is proposed. On the Alternatives form, the Assessor specifies the new component, including an appropriate EUL and pairs the alternative with the Component ID. On the Recommendations form, the Assessor recommends the alternative with the action “Add New.”

- *Assessed Remaining Useful Life* differs from *Standard Remaining Useful Life* in that it is determined by the Assessor rather than auto-calculated (standard EUL less age of component in years), and is only entered when the Assessor disagrees with the standard value. When Assessors complete this field, they must add a comment to the *Remaining Useful Life Comments* field.

#### SELECTING NEED CATEGORY/NEED ITEM ID/COMPONENT TYPE

Before entering a component, it is necessary to select the appropriate *Need Category*, *Need Item ID*, and *Component Type*. This is necessary for three reasons:

- To find the right *Component Type* for the item observed onsite. The *Component Type* drop-down list is not live unless a *Need Item ID* is selected. The *Need Item ID* drop-down list is not live unless a *Need Item* is selected.
- To associate the component with the appropriate section of the ASTM 2018-08 standard table of contents for CNAs. Among other things, this association allows users to sort recommendations reported by the Validation Engine as Non-Critical repairs in accordance with the numbering system corresponding to the ASTM outline. The result is a workable trade breakdown of immediate repairs.
- To associate the component with the correct Standard EUL.

#### SELECTING COMPONENT ID NAMES

In many cases, Assessors will need to specify multiple *Component IDs*.

For example, for unit refrigerators, the property may have 15 CF refrigerators in some units and 18 CF refrigerators in other units. Similarly, the existing refrigerators may have been installed at different times. In this situation, typically you would specify multiple *Component IDs*: one for each combination of refrigerator size and year of installation. For example, “*Unit Refrigerator 15 CF 2002.*”

It is useful to think ahead to your eventual alternatives and recommendations as well. Continuing the previous example, you would need to think about whether you will be recommending replacement with the existing size of refrigerators (some units with 15 CF and some with 18 CF refrigerators). Typically, you would evaluate two alternatives for each size of refrigerator: a sustainable component (such as an ENERGY STAR-rated refrigerator) and a traditional (less efficient but less expensive) component. You might recommend replacement of all existing refrigerators at once, or you might recommend staggered replacement as each vintage of existing refrigerator reaches its end of cycle. These types of decisions might affect how you specify the *Component IDs* for the existing refrigerators.

Continuing the example, if you recommend replacement of **all** of the unit refrigerators **at the same time** using **the same alternative**, it would be workable to specify a single *Component ID* (perhaps named “*All Existing Unit Refrigerators*”). However, this approach would not be ideal for two reasons: (1) if you (or the Lender or Owner) later decided on staggered replacement, or on continuing the use of refrigerators of two different sizes, you would need to re-specify the *Component IDs* for the existing refrigerators (specifying the existing refrigerators according to the year of installation and size) in order to be able to enter the appropriate recommendations on the Repair, Replace, Add New Recommendation screen; and (2) the existing refrigerators probably use different amounts of electricity annually, so the Total Cost of Operations computation would be inaccurate if you specified a single *Component ID*.

Similar considerations apply when utility conservation measures are proposed. Component IDs and Alternatives must have matching utility payers in order for the CNA e Tool to calculate savings for owners as distinct from those for tenants. This consideration usually would not apply to appliances because the EUL table already segregates interior components between common areas and tenant units. But it would apply to windows, doors, water savers and similar components where utility conservation measures may save energy. So, if some of these components were located in common space and others in tenant spaces, separate Component IDs would be needed to separate common space items from tenant items.

Likewise, if a few refrigerators needed immediate one-time repairs even while included in a group of refrigerators scheduled for later replacement, a separate Component ID would be needed to identify and locate the specific, broken refrigerators. The paired Alternative would describe the repair, and the Recommendation “action” would be for a “one-time repair.

#### CALCULATION OF TCO PER YEAR

The software auto-calculates the *TCO per Year* value for each *Component ID* and for each Alternative. This is the sum of:

- *Unit Cost* divided by *Standard EUL*
- plus
- *Utility Usage Per Year* times *Utility Cost per unit of measure*

 **Example:** A refrigerator costs \$450. If it has a Standard EUL of 15 years,  $\$450/15 = \$30$ .

If the refrigerator uses 725 kWh per year, at a cost of 16 cents per kWh, the cost is  $725 \text{ kWh} \times \$0.16 = \$116$ .

$\$30 + \$116 = \$146$

The software compares TCO of each Component ID to each Alternative with which it is paired in order to identify the most cost effective alternative, and to estimate utility cost savings (or increases in costs) for each recommendation. For this reason, it is important to enter a *Unit Cost*, a *Type of Utility*, and a *Usage/Year* for each component that consumes utilities or has an impact on utility consumption.

TCO is also calculated for *Component IDs* that do not consume energy and in that case, measures the relative value of replacing an old item with some remaining life with alternatives that are new, more durable, longer lasting products.

#### UNDERSTANDING COMMON SPACES VERSUS UNIT INTERIORS

Note that the ASTM numbering system places interior components in different sections according to whether they are used in common areas or in unit interiors. For example, common area refrigerators fall within ASTM 3.7.1.3 (*Component Type* is “Refrigerator/Freezer – Common Area”), whereas unit refrigerators fall within ASTM 3.7.2.3 (*Component Type* is “Unit Refrigerator/Freezer”).

## POST-SITE FORMS

### ALTERNATIVES FORM

Capital Needs Assessment

Participants

Property

Sites

Unit Type Definition

Buildings

Units and Common Spaces

Utility Type Usage

Inspection Samples

Components

**Alternatives**

Repair Replace Recommendation

Narrative

Financial Factors

Repair Replace Decision

**Alternatives**

**Existing Alternatives**

**Choose Component Type**

Building wraps & moisture resistant barriers  
Loose fill, fiber glass, cellulose, mineral wool  
Batts, blankets, rolls, fiber glass or mineral wool  
Vinyl Siding  
Asphalt Shingle  
Slab, reinforced concrete  
Railings, metal  
Wood, timbers, dimensioned lumber, laminated beams, trusses  
Wood frame and board or plywood sheathing

**Existing Component IDs**

**Manage Alternatives**

**Existing Alternatives**

**Component ID & Alternative Pairs**

Delete Create Pair

Alternative Name Sustainable Alternative Indicator

Notes

Unit Cost Unit of Measure

Type of Utility Usage per Year Update

EUL Owner Proposed Indicator

TCO Add

Close

Figure 31 – Alternatives Form

### OVERVIEW

Use the Alternatives form to create one or more alternatives to repair, “one-time repair”, replace or “add new” a *Component ID*.

**NOTE:** For reference purposes, most users will find it helpful to keep the Alternatives form open while moving among the underlying worksheets (e.g. Alternatives worksheet to Components worksheet, and vice versa) so that all details on existing *Component IDs* and *Alternative Names* can be observed as needed when describing additional alternatives.

 **NOTE:** Use this form to create a list of possible alternatives and link them to one or more *Component IDs*. Each linked *Component ID* and *Alternative Name* is called a pair. The Assessor should list appropriate alternatives for consideration. However, the selection of a particular alternative is not made on this form. An alternative is selected on the [Repair, Replace, Add New Recommendation](#) form, and (potentially) by the Lender on the [Repair Replace Decision](#) form. A single alternative may be paired with multiple *Component IDs* (if more than one) identified under a *Component Type*. Often, multiple alternatives should be identified for a single *Component ID* to describe possible qualitative, utility conservation, or sustainable options.

This form is normally completed by the  Assessor during the Post-Site phase.

During the site visit, the Assessor will need to consider alternatives and recommendations (e.g., to ensure that there is sufficient room in the mechanical areas to accommodate the selected alternatives and that there is sufficient space in the kitchen to accommodate the selected alternatives for appliances).

Keep in mind the following:

- **Every Component ID must be paired with one or more Alternatives.**
- **Every Alternative must be paired with one or more Component IDs**
- **Identifying an alternative does not necessarily mean suggesting a more energy-efficient or sustainable item.** The item does not necessarily need to be different in any way from the currently existing component. Some differences in quality or size may have no energy or sustainability consequences. However, assessors should specify and estimate alternatives that are likely to achieve meaningful improvements in utility consumption, sustainability, or durability. The Assessment Tool will auto-calculate an estimated annual *Total Cost of Operation* (TCO) for each component ID and for each alternative. The Assessment Tool will compare the TCO for each component ID with the TCO of each alternative with which it is paired. When a component is paired with more than one alternative, the Tool will indicate the most cost beneficial.
- **In the next step (on the Repair, Replace, Add New Recommendation form), one, and only one, of the alternatives paired with a Component ID must be recommended.** This means that for any component where more than one action is needed (e.g. a repair and then a replace or add new) the user must create two Component IDs one replaced or added new and the other which is a repair. For example, vinyl siding will need to be replaced at the end of its remaining useful life but in the meantime should be pressure

washed periodically. The component IDs might be named “Vinyl siding (of a certain kind or description)” and “Clean Vinyl Siding.”

- **EUL.** This entry is the Assessor’s EUL. It will prepopulate with the Standard EUL for the *Component Type*, but can be changed by the Assessor. Any change from the Standard EUL requires an explanation in the *Notes* field. When alternatives are upgrades from the existing, one of the more likely product features is greater durability, i.e., longer EUL.
- **Sustainable Alternatives Indicator.** “YES” means that this alternative has a notably longer-than-typical useful life, and/or is energy or resource efficient.

 **Example:** The alternative for an existing three-tab shingle roof may be a new three-tab shingle roof. A second alternative also may be identified (e.g., a “cool” asphalt shingle roof, or a very long life, recyclable metal roof). The *Sustainable Alternative Indicator* field is the Assessor’s judgment regarding whether this alternative is a green (sustainable) alternative.

## PERFORMING BASIC TASKS

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### TO ADD A NEW ALTERNATIVE

1. Select a *Component Type* from the list box on top. The *Choose Component Type* field will prepopulate with each component type for which a *Component ID* has been named. Upon selection of a *Component Type* all of the Component IDs for that Type will be displayed in the Existing Component IDs list box.
2. Select a *Component ID* by highlighting it.
3. Create an alternative to be paired with the selected *Component ID* by entering an *Alternative Name* descriptive of the alternative and complete the additional entries in the fields on the bottom.
4. Select **Add**.
5. The newly created *Alternative Name* will appear in the Existing Alternatives list box, and a *Component ID-Alternative* pair will appear in the *Component ID & Alternative Pairs* list box.

 **NOTE:** When you enter a new alternative, the *EUL* field is prepopulated with the Standard EUL for the *Component Type*. The Assessor can modify the EUL. If you modify the EUL, include an explanation in the *Notes* field.

### TO UPDATE AN EXISTING ALTERNATIVE

1. Select the *Component Type* from the list box on top. Existing *Component IDs* and *Alternative Names* for that *Component Type* will appear in the respective list boxes

2. Select (highlight) the alternative you wish to edit from the *Existing Alternatives* list box.
3. The details describing the alternative should populate below.
4. Edit the information in the fields on the bottom.
5. Select **Update**.
6. The description of the alternative is updated for each *Component ID & Alternative Pair* in which the selected alternative is used.

#### TO DELETE AN EXISTING ALTERNATIVE

1. Select the *Component Type* from the list box on top. Existing *Component IDs* and *Alternative Names* for that *Component Type* will appear in the respective list boxes.
2. In the Existing Alternatives list box, select the alternative you wish to delete.
3. Select **Delete**.
4. A dialogue box will appear indicating that all *Component ID & Alternative Pairs* with the selected alternative will be deleted as well as any Recommendations and Decisions in which the alternative is used. Select “OK” if you wish to proceed, or “cancel” if not.
5. If “ok” is clicked, the selected alternative and any *Component ID & Alternative Pairs* using the selected alternative will disappear from the respective list boxes. Any recommendations or decisions using the alternative will also be deleted.

#### TO PAIR AN EXISTING ALTERNATIVE WITH AN ADDITIONAL COMPONENT ID

1. Select the *Component Type* from the list box on top. Existing *Component IDs* and *Alternative Names* for that *Component Type* will appear in the respective list boxes.
2. Select the *Component ID* from the *Existing Component IDs* list box.
3. Select an alternative from the *Existing Alternatives* list box.
4. Select the **Create Pair** button. The newly created pair will be added to the *Component ID & Alternative Pairs* list box.

#### TO DELETE AN EXISTING COMPONENT ID & ALTERNATIVE PAIR

When, and only when, an existing alternative is used in multiple pairs, any one of the pairs may be deleted.

1. Select the *Component Type* from the list box on top. Existing *Component IDs* and *Alternative Names* for that *Component Type* will appear in the respective list boxes.
2. Select either the Component ID or the Existing Alternative used in the pair to be deleted. Selecting a Component ID will populate the *Component ID & Alternative Pairs* list box with all the pairs for the selected Component ID. Selecting an Existing Alternative will populate the *Component ID & Alternative Pairs* list box with all the pairs using the selected alternative.

3. Highlight the Component ID-Alternative pair to be deleted.
4. Click **Delete**
5. A dialogue box will appear indicating that the selected *Component ID & Alternative Pair* will be deleted as well as any Recommendations and Decisions in which the pair is used. Select “OK” if you wish to proceed, or “cancel” if not.
6. If “ok” is clicked, the selected *Component ID & Alternative Pair* will disappear from the list box. Any recommendations or decisions using the pair will also be deleted.

## FIELD DEFINITIONS

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\* Indicates a required field that must not be left empty or null.

Form Data Field	Definition
<b>Alternative Name*</b>	Enter the name of the alternative for the selected <i>Component ID</i> , which may be generic or may be a specific brand, make, size, color, or similarly specific description. Alternatives for anticipated immediate repairs and replacements must be specific since the resulting list of immediate repairs must be inspectable. Future repairs (included in the RfR schedule) may be generic since timing and exact location are likely uncertain.  <b>(Field size: 200 characters)</b>
<b>Sustainable Alternative Indicator</b>	Select “YES” or “NO” to indicate whether you consider the proposed alternative a sustainable (sometimes called “green”) product.
<b>Notes</b>	Enter any comments on the proposed alternative, which may include further specification not provided in the <i>Alternative Name</i> , such as color or style, or any other clarifying or descriptive notes.  <b>(Field size limit: 2,000 characters)</b>
<b>Unit Cost*</b>	Enter the estimated cost in dollars per unit of measure of the alternative.
<b>Unit of Measure*</b>	Select the unit of measure in which the quantity of the alternative is measured. See the <a href="#">Units of Measure</a> section for a list of values.

Form Data Field	Definition
<b>Type of Utility*</b>	<p>When the <i>Alternative</i> consumes a utility, or reduces the usage of a utility by comparison with the selected <i>Component ID</i>, select the resource or utility consumed (e.g., water, gas, electricity) and who (tenant or owner [i.e., “common”]) is paying for the resource (e.g., Tenant – Water). Only the utility options that the user identified on the Utility Types Usage form will appear in the drop-down list for selection. If there is no utility consumption or if existing consumption is not reduced for this <i>Component ID</i>, then select “N/A” for “not applicable.”</p>
<b>Usage per Year</b>	<p>If N/A is not entered in the <i>Type of Utility</i> box then you must enter the estimated annual utility resource consumption expressed as the total number of units of the resource (e.g., gas, electric) for the selected unit of measure (e.g., kWh, gallons).</p> <p>A negative number, based on the details of an ASHRAE Level II Energy Audit should be entered for an alternative that is not a utility user but rather is a utility saver, e.g. higher efficiency windows, or additional insulation.</p> <p>Note that this may be complicated if the “utility saver” alternative(s) reduces use of more than one utility, e.g. gas used for heat and electric for cooling. The CNA e Tool is not well equipped to describe this scenario. A work around is to express usage for the relevant HVAC components as well as the “utility savers” as BTUs. Then the Assessor would need to create distinct Component IDs (e.g for windows) dividing the number of windows to be replaced proportionately consistent with BTUs used for cooling (electric) vs the BTUs used for heating (gas) so that the pricing differences (electric vs gas) could be captured. The alternatives for each Component ID would use the same Utility Type and the reduced usage in BTUs per window would be entered as “Usage Per Year” for the alternatives. Please contact <a href="mailto:CNAeTool@hud.gov">CNAeTool@hud.gov</a> if you encounter this scenario.</p>
<b>EUL</b>	<p>Enter the EUL measured in years for the proposed alternative.</p> <div data-bbox="521 1482 1485 1633" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p> <b>NOTE:</b> This value will auto-populate the field based on the selected alternative. You can change this value based on the quality of product specified as the alternative.</p> </div>
<b>TCO</b>	<p><b>Read-only.</b> This is the total operating cost per year. See notes regarding the calculation of TCO on the <a href="#">Components</a> form.</p>

Form Data Field	Definition
<b>Owner-Proposed Indicator</b>	<p>Select “YES” or “NO” to indicate whether the proposed alternative was specified or requested by the Owner.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>NOTE:</b> If the program for which you are preparing the CNA tracks owner-proposed repairs separately from other repairs, indicate “YES” for this field.</p> </div>

### REPAIR, REPLACE, ADD NEW RECOMMENDATION FORM

This form has two tabs that the Assessor uses to recommend/select an alternative for each *Component ID* that s/he has identified. The first tab will be used for most tasks; the second tab must be used when deleting an existing recommendation and can be used to view all recommendations.

This form is normally completed by the  Assessor during the Post-Site phase.

## OVERVIEW

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Use the Add/Modify by Component Type tab to recommend an alternative for a *Component ID*.

The list of *Component Types* the Assessor identified at the property will populate the Component Types list box at the upper left. When first recommending alternatives, the Assessor should select the first Component ID listed. All the Alternatives paired with the selected Component ID then populate the Alternative Names list box. The “preferred” or most cost effective alternative will have a “+” sign at the end of its name. If the text for any item is not entirely visible use the horizontal scroll bar to view the entire text. The Assessor highlights the Alternative Name he intends to recommend and the selected Alternative Name is entered in the selected Alternative Name box below. The Assessor then completes the other entries for the Recommendation, i.e., “When”, “Duration”, “Action” etc.

“When” is either “now” or at “end of cycle.” If “end of cycle” is selected the user may distribute the cost of the action over a period of years by using the *Duration* entry. Selecting “Now” will result in an immediate repair, either a Critical Repair or a Non-Critical Repair. Selecting “End of Cycle” will result in a Future Repair.

Critical repairs must be one of two categories (not both), Life Safety or Accessibility. A Life Safety repair may address an accessibility problem, but if the item is a remedy for a life threatening condition it must be classified as a Life Safety Critical Repair.

- Selecting “Now” in the *When* field, combined with “YES” in the *Life Safety Indicator* field, will result in a Life Safety Critical Repair. These require a detailed entry in the *Location* field plus a detailed description of the recommended action in the *Comments* field.
- Selecting “Now” in the *When* field, combined with “YES” in the *Accessibility Indicator* field, will result in an Accessibility Critical Repair. These require the same detailed *Location* and *Comments* entries as Life Safety Critical Repairs, but Accessibility Critical Repairs also require entries in the, *Time to Complete*, *Accessibility Statute*, *Scope of Accessibility Compliance*, and *Scope of Required Replace/Refurbishment* fields.
- Selecting “Now” in the *When* field, while selecting “NO” for both the *Life Safety Indicator* and *Accessibility Indicator* fields, will result in a Non-Critical Repair. A month-to-month schedule for completion of non-critical repairs may be completed by entering a number of months for each recommended alternative in the *Time to Complete* box.
- Selecting “End of Cycle” in the *When* field will result in a Future Repair. The Assessor may spread the cost of a Future Repair over multiple years by using the *Duration* field.

Next, identify the action: *Repair*, *Replace*, *One-time Repair*, or *Add New*. A *One-time Repair* occurs usually “Now” and does not re-occur. Instead it restores the repaired component to its

otherwise established RUL. A *Repair* first occurs at the scheduled time based on an assessed RUL described by the Assessor on the Components form and then repeats at end of cycle based on the EUL the assessor attached to this periodic repair on the alternatives form.

Enter any comments supporting the recommendation. For any action where the *When* field shows the “*Now*” value, identify the specific location of the action. The Assessor may use the *Scope* entries to better define the work.

 **NOTE:** Of the four kinds of actions, “*Repair*” and “*One-time Repair*” require at least two *Component ID/Alternative* pairs, one to define the repair and the other to define a replacement at end of cycle. One-time repairs fix an item and return it to its normal or assessed RUL. For example: assume a group of windows is identified as a *Component ID* with standard EUL and with an Alternative named as the replacement for this group of windows in the future (end of cycle). However, two of these windows have broken sash that must be repaired now and once the repairs are complete, the windows will last through a normal useful life. The user specifies the “two broken sash” as a *Component ID* and their repair as an additional alternative with an estimated cost. On the Recommendations form, the Assessor identifies the exact location(s) of the broken sash, enters an action of “one-time repair” and completes the remaining fields

## PERFORMING BASIC TASKS

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### TO RECOMMEND AN ALTERNATIVE

1. Select the *Component Type*.
2. Select the *Component ID*.
3. Select the *Alternative Name to recommend*.

 **NOTE:** The alternative with the best (lowest) TCO per Year will display a plus (+) sign in the *Alternative Name* list.

4. Complete the remaining fields describing when, duration, time to complete, whether the item is a life safety or accessibility remedy, etc.
5. Select **Add**.

### TO EDIT AN EXISTING RECOMMENDATION

1. Select the *Component Type*.

2. Select the Component ID (name) . The recommended alternative name will be highlighted and the fields below will auto-populate for the recommendation.
3. Modify field entries below as needed
4. Select **Update**.
5. If the user intends to switch the recommendation to a different alternative name, this “update” procedure cannot be used. Instead the existing recommendation must be deleted using the View/Delete Existing Entries tab and a new recommendation made.

#### TO VIEW AND/OR DELETE A RECOMMENDATION

1. On the Repair, Replace, Add New Recommendation form select the View/Delete Existing Entries tab.
2. Select the Recommendation to view or delete. The recommendation is a row combining a Component Type, a Component ID, and an Alternative Name. (This form is for viewing or deleting only. The recommendation cannot be edited here.
3. Select **Delete** to delete the highlighted Recommendation.
4. The highlighted row (Recommendation) disappears from the list of recommendations.

Capital Needs Assessment

**Repair, Replace, Add New Recommendation**

Add/Modify by Component Type | View/Delete Existing Entries

Component Types	Component IDs	Alternative Names
Wood, (dbl, sgl hung,	Originals in Bldgs E, F	Vinyl Clad Wood 1 over 1 dbl hung, triple insulated, solar shield
Wood, (dbl, sgl hung,	Originals in Club House	Vinyl Clad Wood 4 over 4 dbl hung, dbl insulated, solar shield
Wood, (dbl, sgl hung,	Originals in Bldgs O, R	Vinyl Clad Wood 1 over 1 dbl hung, dbl insulated, solar shield
Wood, (dbl, sgl hung,	Originals in Bldgs O, P	Vinyl Clad Wood 1 over 1 dbl hung, dbl insulated, solar shield
Wood, (dbl, sgl hung,	Originals in Bldgs M,N	Vinyl Clad Wood 1 over 1 dbl hung, dbl insulated, solar shield
Wood, (dbl, sgl hung,	Broken Sash-Bldg M	Repair broken sash
Vinyl Siding	Vinyl -Pressure Wash	Pressure wash-JoMax

Delete

Recommendations

Component Type: Wood, (dbl, sgl hung, casement, ar

Component ID: Originals in Bldgs Q, R

Alternative Name: Vinyl Clad Wood 1 over 1

When: End of Cycle

Life Safety Indicator: NO

Duration:

Accessibility Indicator: NO

Action: Replace

Accessibility Statute:

Location:

Scope of Accessibility Compliance:

Cost: \$37,600.00

Scope of Required Replacement/ Refurbishment: Remove existing, install

Time to Complete:

Comments:

TCO Savings: \$11.26

TCO per Year: (\$9.36)

Indicated Alternative: Vinyl Clad Wood 1 over 1 dbl hung, dbl insulated, solar shield

Close

Figure 33 - Repair, Replace, Add New Recommendation Form

## FIELD DEFINITIONS

\* Indicates a required field that must not be left empty or null.

Form Data Field	Definition
<b>Component Types</b>	This will be prepopulated on the Repair, Replace, Add New Recommendation form and is the list of <i>Component Types</i> identified at the site by the Assessor and for which the Assessor has described one or more <i>Component IDs</i> and Alternatives.
<b>Component ID</b>	Displays the Component IDs (at least one) associated with the selected <i>Component Type</i> .
<b>Alternative Name*</b>	Displays the name(s) of the Alternative(s) previously identified by the Assessor for the selected <i>Component ID</i> .
<b>When</b>	<p>Indicate when the recommended action should take place:</p> <ul style="list-style-type: none"> <li>• <b>Now.</b> “Now” means “the immediate future”; the specific timing may vary according to approving agency guidance for the program(s) for which the CNA is being prepared. It is not the Assessor’s responsibility to determine the adequacy of funding; no adjustment of time when an action is recommended should be made by the Assessor based on financing or funding considerations. <ul style="list-style-type: none"> <li>○ “Now” plus a <i>Life Safety Indicator</i> of “YES” creates a Life Safety Critical Repair.</li> <li>○ “Now” plus an <i>Accessibility Indicator</i> of “YES” creates an Accessibility Critical Repair. Accessibility Critical Repairs are required to be completed as expeditiously as possible and require an entry in the <i>Time to Complete</i> field (the Assessor uses this field to describe what “as expeditiously as possible” means in the context of this particular Accessibility Critical Repair).</li> <li>○ “Now” while selecting “NO” for both the <i>Life Safety Indicator</i> and <i>Accessibility Indicator</i> fields creates a Non-Critical Repair.</li> </ul> </li> <li>• <b>End of Cycle.</b> The recommended action should occur at the projected end of the RUL of the existing component. If “End of Cycle” is the recommended time, then the Assessor may also want to distribute the cost of the action(s) over a period of years rather than a single year in which the RUL of the existing component(s) expires. For this purpose, see <i>Duration</i> of action. Selecting “End of Cycle” results in a Future Repair.</li> </ul>

Form Data Field	Definition
<b>Duration*</b>	<p>Enter the number of years before and after the last year of RUL for a component's replacement costs to be distributed. This value is used to populate the <i>Financial Schedule</i> by spreading the cost of the repair or replacement over multiple years. Use of duration is most appropriate for spreading the cost of multiple items of the same age with the same RUL when the actual frequency of replacement will vary. E.g. Not every appliance will last exactly the number of years of its EUL. Some will fail earlier and some will last longer than expected.</p> <p>Duration can also be used to describe situations where an established average number of items is replaced annually on a rotating basis. So if a regular number of unit carpets or floor coverings, or appliances are replaced annually, then the total number of such items can be described with an assessed RUL of half the Standard EUL and duration set to spread costs equally across the EUL period. This results in an equal number of items scheduled annually with annual costs also equal.</p> <p>If no distribution of cost across years is intended, the Assessor should leave this field blank. This means the cost of the replacement will all occur in the single year when the component's RUL expires, i.e., end of cycle.</p> <p><b>SEE ALSO:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Duration of Action Example</a></li> </ul>
<b>Action</b>	<p>Identify the type of action recommended.</p> <ul style="list-style-type: none"> <li>• <b>"Add New."</b> Install a component that did not previously exist. See the instructions for the Components form on how to create a component name that enables the Assessor to identify an alternative that will be added new.</li> <li>• <b>"Repair."</b> An existing component is resurfaced, refinished, or is an item of a type where periodic overhaul and replacement of subcomponents is customary (e.g., elevators, boilers). A Repair re-occurs at its own end of cycle for an EUL the Assessor defines.</li> <li>• <b>"Replace."</b> Replace with a new component performing the same or augmented function.</li> <li>• <b>"One-time Repair."</b> A One-time Repair is the same as a Repair except that it <i>has no recurring cycle and usually is an immediate repair, i.e. something is broken and needs fixing now.</i></li> </ul>

Form Data Field	Definition
<b>Location</b>	<p>Enter a description of the location for the recommended action. If the answer to <i>When</i> is “Now” then this description must be precise, allowing a follow-on inspector to locate the component.</p> <p><b>(Field size limit: 200 characters)</b></p> <p>SEE ALSO:</p> <ul style="list-style-type: none"> <li>• <a href="#">The Location Field</a></li> </ul>
<b>Cost</b>	<p><b>Read-only.</b> This is a calculated and prepopulated sum of the cost of the recommended alternative based on the Assessor’s prior estimate of cost per unit of measure entered on the Alternatives form and the quantity or count of items entered for the Component ID on the Components form.</p>
<b>Time to Complete</b>	<p>If <i>When</i> equals “Now” and/or if the <i>Accessibility Indicator</i> is “YES,” provide an estimated number of months that represent the minimum elapsed time from start of any work to completion of this recommendation. The standard for time of completion of accessibility remedies is as soon as possible.</p> <div data-bbox="467 995 1409 1104" style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE:</b> This field is required for the accessibility Corrective Action Plan.</p> </div>
<b>TCO Savings</b>	<p><b>Read-only.</b> Displays the difference (savings) between the annual cost of ownership (including amortized acquisition cost and utilities) of the proposed alternative when compared to the existing component.</p>
<b>TCO per Year</b>	<p><b>Read-only.</b> Displays the auto-calculated Total Cost of Ownership (TCO), including amortized cost of acquisition plus estimated yearly utilities for the proposed alternative.</p>
<b>Indicated Alternative</b>	<p><b>Read-only.</b> The auto-selected alternative that the e-Tool recommends is based only on the cost-benefit analysis.</p>

Form Data Field	Definition
<b>Life Safety Indicator*</b>	<p>Select “YES” or “NO” to indicate whether the recommendation is intended to address a life safety issue. This is defined as an issue that is an immediate risk to health and safety that requires immediate attention by the Owner.</p> <p>“YES” places this recommendation on the list of critical life safety repairs that the Lender and Owner must address in accordance with agency guidance, typically before the closing of a transaction or within a fixed, short-term period acceptable to the approving agency.</p> <div data-bbox="467 625 1414 737" style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE:</b> If this field is marked “YES,” you must enter a precise description of the location of the work in the <i>Location</i> field.</p> </div>
<b>Accessibility Indicator*</b>	<p>Select “YES” or “NO” to indicate whether the recommendation is intended to address an accessibility deficiency.</p> <p>“YES” identifies the Assessor’s recommended repair or replacement as a remedy for a deficiency identified by the Assessor when analyzing whether a unit, building, or site conforms to the applicable accessibility statutes and regulations. Selecting “YES” designates this particular repair, replace, or add new action as part of a Corrective Action Plan to address identified accessibility deficiencies.</p> <div data-bbox="467 1115 1414 1304" style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE:</b> If this field is marked “YES,” you must enter data in the <i>Location</i> field. In addition, if the CNA is being prepared for HUD, you must enter data in the <i>Accessibility Statute</i>, <i>Scope of Accessibility Compliance</i>, and <i>Time to Complete</i> fields.</p> </div>

Form Data Field	Definition
<b>Accessibility Statute*</b>	<p>When the Assessor identifies a recommended repair, replacement, or add new action as a remedy for an identified accessibility deficiency (i.e., the Accessibility Indicator is “YES”), then the Assessor must also identify which of the principal statutes or regulations defines the deficiency. This answers the question of which statute, regulation, or standard was violated or requirement is unmet. The choices are selected from the drop-down list and are UFAS, indicating Section 504 of the Rehabilitation Act of 1973 and 24 CFR Part 8, Subpart C (HUD) or 7 CFR 15b (USDA); Fair Housing Act, indicating the design and construction requirements of the Fair Housing Amendments Act of 1988 as implemented by 24 CFR 100.205 and the <i>Fair Housing Act Design Manual</i>; or the Americans with Disabilities Act (ADA), indicating Title III of that Act and implementing regulations at 28 CFR Part 36.</p> <div data-bbox="467 804 1409 1024" style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE:</b> This field is required in HUD’s CNAs for the Corrective Action Plan. USDA Assessors are required to comment on the adequacy of the existing Transition Plan (if applicable) and identify any accessibility deficiencies found during the site inspection and not already included in the Transition Plan.</p> </div>

Form Data Field	Definition
<b>Scope of Accessibility Compliance</b>	<p><b>For HUD:</b>  When a repair or replacement is a remedy for an accessibility deficiency, the Assessor must define or describe the scoping requirement of the Accessibility rule which is violated. So for example, in a Fair Housing Act covered unit, when a bathroom door measures less than 31.5” clear space, the scoping requirement at issue is that “all covered units must have an accessible path through the unit” and the specific deficiency is that a bathroom door has less than 31.5” clear path.</p> <p>For the scoping of accessibility actions, sketches or drawings of “as is” and “required” conditions are often necessary. Such sketches and illustrations should be provided to the lender to be uploaded as attachments to the CNA.</p> <p><b>For USDA:</b>  If the Assessor determines that the property’s Transition Plan is adequate, the Assessor may base the cost for an accessibility deficiency on the Transition Plan’s estimated cost. If the Transition Plan is missing deficiencies or the Assessor feels that the Transition Plan’s costs are inadequate, then the Assessor must formulate an estimated cost for the necessary repair/correction. While the estimated cost must be based on an understanding of what is required to correct the deficiency, a detailed description and/or drawings are not required.</p> <p><i>(Field size limit: 100 characters)</i></p>
<b>Scope of Required Replace/ Refurbishment</b>	<p>Enter a thumbnail text description of the scope of work for the repair/replacement/ add new action. For HUD CNAs this is required when the recommendation is indicated as an accessibility remedy. If the field size of 100 characters is insufficient, use the Accessibility Narrative field or provide an attachment to be submitted with the CNA describing the work specification.</p> <p><i>(Field size limit: 100 characters)</i></p>
<b>Comments</b>	<p>Enter any comments regarding the recommendation.</p> <p><i>(Field size limit: 2,000 characters).</i></p>

### DURATION OF ACTION EXAMPLE

The following is an explanation for possible values in the *Duration of Action* field.

If a component scheduled to be replaced in Year 5 has a *Duration of Action* of 2, then the cost would be spread out evenly between years three through seven (two years prior [RUL-2], the base year, and two years after [RUL+2]). *Duration of Action* is most useful in estimating the probable distribution of replacement of multiples of the same generic component grouped by similar age or condition (e.g., various appliances). Such replacement of any single item (e.g., one refrigerator) among multiples of the same component would have no specific location.

Similarly, replacing roofs on six identical buildings might be distributed over three years by entering a *Duration of Action* of 1, thus scheduling two roofs per year for replacement beginning in the relative year before the assessed RUL of these roofs expires. This *Duration of Action* entry can also be used to spread the cost of a single replacement (e.g., a single boiler system) over several years when the actual year when a replacement might be needed is necessarily uncertain.

Changing the *Duration* or spread of costs/replacements over a shorter or longer timeframe moderates sharp changes in future costs from year to year that otherwise result from numerous replacements scheduled in a single year. This is one of the most common changes a lender might make in an Assessor's recommendation.

 **NOTE:** If the *Duration of Action* is greater than or equal to the RUL of the component in question, then the costs that are distributed prior to Relative Year 1 are recognized all in Year 1 because they cannot be recognized prior to Year 1. For example, IF RUL = 2, DOA = 3, Total Cost = \$700, THEN cost per year is Year 1 = \$300, Year 2 = \$100, Year 3 = \$100, Year 4 = \$100, Year 5 = \$100.

### THE LOCATION FIELD

For some types of components (e.g., carpet, appliances) that are often replaced at unit turnover, the location for immediate repairs may be indefinite. Effort should be made to identify units where such immediate (first 12 months) repairs will be made.

 **Example:** An Assessor is performing a site visit and discovers damaged siding in one of the buildings that requires immediate replacement. The Assessor will need to clearly identify the location of the damage so that completion of this non-critical repair can be verified by inspection. The Assessor defines the location as precisely as possible: *“North elevation of building 2, 2nd floor, damaged siding, of Unit 2E.”*

When/If follow-up inspection occurs and the location was not specific, Owners will be required to provide documentation by unit.

In the case of future repairs and replacements scheduled for the estimate period, the location is often not needed, or is necessary only to distinguish one action from another similar action (e.g., replace boiler, Building A versus Building B) or where the action, timing, or other relevant characteristics are different.

**SEE ALSO:**

- *Duration* field on the [Repair, Replace, Add New Recommendation Form](#)

## NARRATIVE FORM

Capital Needs Assessment

Participants

Property

Sites

Unit Type Definition

Buildings

Units and Common Spaces

Utility Type Usage

Inspection Samples

Components

Alternatives

Repair Replace Recommendation

**Narrative**

Financial Factors

Repair Replace Decision

LoV Admin

Narrative - ASTM Outline Topics

- 1.0 Executive Summary
- 2.0 Purpose & Scope
- 3.1 Overall General Description
- 3.2 Site
- 3.3 Structural Frame - Building Envelop
- 3.4 Mechanical & Electrical Systems
- 3.5 Elevators
- 3.6 Life & Fire Safety
- 3.7 Interior Elements - Common
- 3.7 Interior Elements - Tenant
- 4.0 Additional Considerations
- 5.0 Document Review & Interviews
- 6.0 Opinions of Probable Costs
- 7.1 Accessibility
- 7.2 Intrusive & Other Examinations
- 7.3 Owner Proposed Improvements
- 8.0 Assessor Qualifications
- 9.0 Limiting Conditions

Commentary

Update

Close

Figure 34 – Narrative Form

### OVERVIEW

Use the Narrative form to enter free-form text descriptions of various conditions of the property, or other items that may require commentary. Lengthy narrative is not required and is rarely useful. Recitation of federal rules, e.g. on accessibility, are not needed unless a specific provision is at issue and its application to an observed circumstance or deficiency at a property needs description. Narratives created on this form can be up to 2,000 characters in length.

This form provides an optional space to input any narrative that is pertinent to the CNA and is in addition to the information already provided in previous forms. The narrative sections on this form are organized in accordance with the standard outline for CNAs published in ASTM 2018-08. Alternative outlines or presentation order are not permitted.

**NOTE:** If preferred, it is possible to leave this form blank and submit a narrative document as an attachment instead. If an attachment is used instead of this form, the order of the narrative in the attachment should match the order on this form. Standard boilerplate text such as Assessor Qualifications and Limiting Conditions should be sized to fit within the 2,000 character limit and entered into the Narrative form, a quick and easy copy and paste task.

## PERFORMING BASIC TASKS

### TO ENTER OR UPDATE A NARRATIVE

1. Select a *Narrative – ASTM Outline Topic* from the list on top of the form.
2. Enter new text or edit existing using the *Commentary* field on the bottom of the form.
3. Select **Update**.

### FIELD DEFINITIONS

\* Indicates a required field that must not be left empty or null.

Form Data Field	Definition
<b>1.0 Executive Summary</b>	Enter an Executive Summary narrative, including ASTM outline Sections 1.1 through 1.5. <i>(Field size limit: 2,000 characters)</i>
<b>2.0 Purpose and Scope</b>	Enter a statement of purpose and scope of the assessment assignment, which is ASTM outline Section 2. <i>(Field size limit: 2,000 characters)</i>
<b>3.1 Overall General Description</b>	Enter an overall general description of the property, which is ASTM outline Section 3.1. <i>(Field size limit: 2,000 characters)</i>
<b>3.2 Site</b>	Enter an overall general description of the site, which is ASTM outline Section 3.2. <i>(Field size limit: 2,000 characters)</i>
<b>3.3 Structural Frame – Building Envelope</b>	Enter a narrative description of the structural frame and building envelope features for buildings included in the property, which is ASTM outline Section 3.3. <i>(Field size limit: 2,000 characters)</i>

Form Data Field	Definition
<b>3.4 Mechanical and Electrical Systems</b>	Enter a narrative description of mechanical, electrical, and plumbing systems, which is ASTM outline Section 3.4. <i>(Field size limit: 2,000 characters)</i>
<b>3.5 Elevators</b>	Enter a narrative description of elevators or other vertical lift systems, if any, found at the property, which is ASTM outline Section 3.5. <i>(Field size limit: 2,000 characters)</i>
<b>3.6 Life and Fire Safety</b>	Enter a narrative description of life safety and fire protection systems, which is ASTM outline Section 3.6. <i>(Field size limit: 2,000 characters)</i>
<b>3.7 Interior Elements – Common</b>	Enter a narrative description of interior elements in common spaces, which is ASTM outline Section 3.7.1. <i>(Field size limit: 2,000 characters)</i>
<b>3.7 Interior Elements – Tenant</b>	Enter a narrative description of interior elements in tenant spaces, which is ASTM outline Section 3.7.2. <i>(Field size limit: 2,000 characters)</i>
<b>4.0 Additional Considerations</b>	Enter a narrative description of additional considerations, if any, relevant to the property or the assessment assignment, which is ASTM outline Section 4. <i>(Field size limit: 2,000 characters)</i>
<b>5.0 Document Review and Interviews</b>	Enter a narrative description of documents reviewed and persons interviewed in conjunction with the assessment assignment, which is ASTM outline Section 5. <i>(Field size limit: 2,000 characters)</i>
<b>6.0 Opinions of Probable Costs</b>	Enter a narrative comment supplemental to, but not duplicative of, the tables and forms created by this CNA, describing the costs to remedy physical deficiencies, and/or a description of the assumptions, data sources and estimating premises used in concluding costs for particular items, categories of item and/or in the aggregate, which is ASTM outline Section 6. <i>(Field size limit: 2,000 characters).</i>

Form Data Field	Definition
<b>7.1 Accessibility</b>	<p>Identify which of the statutes and rules concerning accessibility for persons with disabilities apply to the property and the extent of the property’s non-compliance (if any) with these requirements, which is ASTM outline Section 7.1. Any accessibility deficiencies identified during the site inspection must be described in the CNA report. CNA reports for USDA must include an opinion of the adequacy of the property’s existing Transition Plan.</p> <p><b>On HUD Projects only</b>, the CNA must include a narrative specification of how any deficiencies will be remedied and, when necessary for comprehension, illustrate the deficiencies with photos and recommended remedies with scaled and dimensioned drawings or sketches that the assessor may provide to the lender to be uploaded as attachments to the CNA at Submission.</p> <p><b>(Field size limit: 2,000 characters)</b></p> <div data-bbox="521 793 1485 1060" style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE:</b> USDA projects should have Transition Plans (TPs) in place based on self-evaluations of accessibility compliance. Owners should not be required to re-do this work if it has already been done. However, if the existing TP is inadequate, then the CNA is an opportunity to assess and correct the existing TP, or identify non-compliant issues that should form the basis of a TP.</p> </div>
<b>7.2 Intrusive and Other Examinations</b>	<p>Enter a narrative description of any intrusive methods used by the Assessor or others to complete the assessment and any further examination or study recommended but not completed, which is ASTM outline Section 7.2. For HUD, Assessors should prepare a description of standard work describing methods used to make field observations that confirm actual components and materials installed and the condition of same even when these items are not observable if methods are limited to “non-intrusive” measures as defined in ASTM 2018-08. In short, describe your intrusive standard work.</p> <p><b>(Field size limit: 2,000 characters)</b></p>
<b>7.3 Owner-Proposed Improvements</b>	<p>Enter a narrative description of the Owner’s desired or proposed improvements, if any, and the extent to which these improvements were/are incorporated in recommended repairs and replacements, which is ASTM outline Section 7.3.</p> <p><b>(Field size limit: 2,000 characters)</b></p>

Form Data Field	Definition
<b>8.0 Assessor Qualifications</b>	Enter the statement of qualifications, experience, and education/credentials both for the persons performing the assignment and the firm or organization employing them, which is ASTM outline Section 8.  <i>(Field size limit: 2,000 characters)</i>
<b>9.0 Limiting Conditions</b>	Enter a narrative description of limiting conditions, matters excluded, and limits of liability for the assessment assignment, which is ASTM outline Section 9.  <i>(Field size limit: 2,000 characters)</i>

## FINANCIAL FORMS

### FINANCIAL FACTORS FORM

**Capital Needs Assessment**

**Financial Factors**

Participants  
Property  
Sites  
Unit Type Definition  
Buildings  
Units and Common Spaces  
Utility Type Usage  
Inspection Samples  
Components  
Alternatives  
Repair Replace Recommendation  
Narrative  
**Financial Factors**  
Repair Replace Decision

**Financial Factors**

Estimate Period (# yrs)  Min RfR Balance Per Unit (USDA)

Initial Deposit to RfR  Min. RfR Balance % (of Needs)  %

YR-1 Annual deposit Per Unit  Ending YR-1 Planned Min Bal

YR-1-Annual Deposit

	Initial Rate	Next Rate	RY of Change
% change in Annual Deposit	<input type="text"/> %	<input type="text"/> %	<input type="text"/> %
% inflation of Capital Needs	<input type="text"/> %	<input type="text"/> %	<input type="text"/> %
% interest earned on RfR Balance	<input type="text"/> %	<input type="text"/> %	<input type="text"/> %

Reserve Comments

**Guidance**

The above matrix can be used to define inflation rate of 'Capital Needs,' interest rate on 'RfR Balance' and an annual rate of change in the 'Annual Deposit' by entering a rate (e.g. 2 for 2%). Rates of inflation and interest rate on balances should reflect current market conditions as the 'Initial Rate' and historic average rates (of inflation and short maturities) as the 'Next Rate'. If a single rate or historic average is expected for the entire Estimate Period, enter that rate as the 'Next Rate' and leave other entries blank.

If current interest or inflation rates are not average or if a change in rate of change for annual deposit is planned, enter the current or initial rate as the 'Initial Rate' and then enter the number of the relevant year in which the change from 'initial' to 'next rate' or the historic average rate will take affect.

e.g. If the Annual Deposit inflates at a rate of 2% for the first 5 years followed by 3% for the remaining 7 years of a 12yr CNA, the following can be entered: 2 | 3 | 6

Figure 35 – Financial Factors Form

## OVERVIEW

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Use the Financial Factors form to specify the parameters used to structure the Financial Plan for funding recommended future repairs and replacements.

The  Assessor uses this form to define the Estimate Period, but is not responsible for estimates of future inflation, interest rates or for planning future funding. The  Lender is responsible for financial judgments and should use their knowledge of current and anticipated market conditions to specify each parameter consistent with the agency guidance applicable to this CNA.

For USDA, often USDA itself serves in the place of the  Lender role.

## PERFORMING BASIC TASKS

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### TO ENTER OR UPDATE FINANCIAL FACTORS

1. Enter new or edit existing values in the fields on the Financial Factors form.
2. Select **Update**.

## FIELD DEFINITIONS

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\* Indicates a required field that must not be left empty or null.

Form Data Field	Definition
<b>Estimate Period*</b>	<p>Enter the number of future years required for the financial plan, not greater than 20. HUD and USDA require an estimate period of 20 years for any assessments prepared for their programs except when the remaining term of a loan or contract is less than 18 years, in which case the estimate period is the remaining term plus 2 years.</p> <p>If the <i>Approving Agency</i> entered on the Property Information form is <i>“Other,”</i> then this number of years may reflect whatever estimate period is specified by the other approving agency, but not more than 20 years.</p>
<b>Min. RfR Balance per Unit*</b>	<p>Enter the dollar amount per unit of the minimum ending balance for the first relative year if any minimum balance is required and when agency guidance requires that such a minimum balance be expressed as a “dollars per unit” figure. If no “dollars per unit” minimum balance is required, enter “0.”</p>

Form Data Field	Definition
<b>Initial Deposit*</b>	Enter the amount in dollars of any lump sum deposit to the RfR account before or at the beginning of the first relative year of the estimate period. The sum may include, be the same as, or be a portion of an existing balance carried over from a prior estimate period, from a prior period of ownership, or from similar accounts released from terminating deeds of trust, or similar covenants.
<b>Min. RfR Balance % (of Needs)</b>	<b>Read-Only.</b> For HUD CNAs the minimum balance is a percentage of aggregate uninflated capital needs for the Estimate Period. The Agency intent is to identify an average annual amount. Accordingly, the percentage is auto-calculated as the inverse of the number of years entered as the estimate period. When calculating the Financial Schedule the Validation Engine applies this percentage, calculates the first year minimum balance and then inflates that figure by the same annual inflation factor, if any, applied to capital needs.
<b>YR-1 Annual Deposit per Unit*</b>	Enter the expected dollars per unit needed as an Annual Deposit to the RfR escrow. The lender likely will enter trial dollar amounts per unit to test possible funding solutions given a set of realistic assumptions about cost inflation, interest rates on short-term maturities, and a modest percent annual change in an Owner's annual deposit to the RfR escrow.
<b>First Year RfR Deposit*</b>	<b>Read-only.</b> This is the auto-calculated sum of money estimated as the required contribution to the RfR account for the first relative year of the estimate period, which is an auto-filled value resulting from multiplying the per unit annual deposit to the RfR for the first relative year times the number of units in the property.
<b>Required Minimum RfR</b>	<b>Read-only.</b> Displays the sum of the minimum ending balance in the RfR account, if any is required, for the relative year. This is based on either the <i>"Dollars per Unit"</i> method, or the <i>"Minimum Percentage of Total Uninflated Capital Needs"</i> method, whichever is indicated.

Form Data Field	Definition
<b>Initial Rate/Annual Deposit*</b>	<p>To plan an increase/decrease in the annual percentage rate of change in the annual deposit, enter the proposed initial annual percentage rate of change. The “initial” and “next” rate of change in the annual deposit allows the user to propose a graduated annual increase in owner contributions to the RfR including a one-time increase/decrease in the rate of change.</p> <p>No proposed rate of change should exceed the rate of inflation expected and applied to the costs of capital needs.</p> <p>To plan a single rate of change for the entire estimate period, enter that rate as the “next” rate and leave the adjacent “initial” and “RY of Change” entries blank.</p> <p>To plan a fixed annual deposit amount for the entire estimate period, enter “0” as the “next” rate and leave the “initial rate” and “RY of Change” blank.</p>
<b>Initial Rate/Capital Needs*</b>	<p>To plan for an increase/decrease in the annual inflation rate for the cost of capital needs, enter the current rate of inflation. This initial rate of inflation when used with the “next” inflation rate enables the user to recognize a current rate of inflation that is significantly different, higher or lower, when compared to long-term averages. The initial rate should describe current market conditions if these conditions differ significantly from the historical average. If current market conditions are consistent with historical averages, then enter only a single rate as the “next” rate and leave the adjacent “initial rate” and “RY of Change” entries blank.</p>
<b>Initial Rate/RfR Balance*</b>	<p>Enter the estimated initial annual percentage rate of interest earnings on the current balances in the RfR account for the early years of the estimate period. This should always be an estimate of expected interest rates for short-term maturities consistent with the need for liquidity in the RfR account. The initial percentage rate of interest, when used with the next rate of interest, enables the user to recognize current interest rates for short-term maturities that are significantly higher or lower than long-term averages for such maturities. The initial rate should describe current market conditions if these conditions differ significantly from the historical average. If current market conditions are consistent with historical averages, then enter only a single rate as the “next” rate and leave the adjacent “initial rate” and “RY of Change” entries blank.</p>

Form Data Field	Definition
<b>Next Rate/Annual Deposit</b>	<p>Enter the final or only rate of change proposed in the amount of the annual deposit.</p> <p>No rate of change proposed should exceed the rate of inflation expected and applied to the costs of repairs and replacements.</p> <p>To propose a fixed annual deposit for the estimate period enter “0” and leave the adjacent “initial rate” and “RY of Change” entries blank.</p>
<b>Next Rate/Capital Needs</b>	<p>Enter the final or only inflation rate for the costs of repairs and replacements. This entry should always reflect the historical average of annual inflation rates, e.g, average annual inflation for the last 50 years.</p> <p>To view uninflated costs during the estimate period as reported by the Validation Engine, enter “0” and leave the adjacent “initial rate” and “RY of Change” blank. But “0” inflation is not the historical average and should not be assumed in a submitted CNA.</p>
<b>Next Rate/RfR Balance</b>	<p>Enter the final or only rate of interest for short-term maturities. This entry should always reflect the historical average of short-term interest rates, e.g. average interest rates for 30 to 60 day maturities for the last 50 years.</p> <p>While the “initial rate” may be “0” the historical average is not and so this entry should never be “0”.</p>
<b>RY of Change/Annual Deposit</b>	<p>This is the number of the relative year in which the next percentage rate of change in annual deposits is applied.</p>
<b>RY of Change/Capital Needs</b>	<p>The number of the relative year in which the next rate of inflation estimated for the costs of repairs and replacements is applied. The number of the relative year should not exceed 4 because the fourth and later relative years of the estimate period should reflect cost inflation rates that are consistent with long-term historical averages, notwithstanding current and immediately foreseeable market conditions that may differ significantly from historical averages.</p>
<b>RY of Change/RfR Balance</b>	<p>The number of the relative year in which the next rate of interest for short-term maturities is applied to the RfR account balances. The number of the relative year should not exceed 4 because the fourth and later relative years of the estimate period should reflect rates for short-term maturities that are consistent with historical averages, notwithstanding current and immediately foreseeable market conditions that may differ significantly from historical averages.</p>

Form Data Field	Definition
Reserve Comments	<p>The Lender's or Assessor's comments, if any, on the financial structure of the RfR schedule, include comments on:</p> <ul style="list-style-type: none"> <li>• Expected rates of inflation</li> <li>• Interest</li> <li>• Projected changes therein or justifications</li> <li>• Size of the initial deposit or prior balances held over</li> </ul> <p><b><i>(Field size limit: 2,000 characters)</i></b></p>

## ADDITIONAL TOPICS

---

### INFLATION RATES AND INTEREST RATES

Inflation or other percentage annual rates of change may be specified for three situations:

- Costs of repairs and replacements
- Interest earnings on RfR escrow account balances
- Amount of annual deposits to the escrow account

Each of these three rates of change can accommodate a separate value for:

- An initial period of years
- The balance of years in the estimate period

These three percentage rates and the start year for any second rate will usually not be identical.

An inflation rate is not the same as an interest rate, and these rates often do not change simultaneously. Meanwhile, the percentage rate of change for annual deposits is intended to permit a modest graduation of such deposits, not necessarily consistent with inflation or interest rate changes.

### OBTAINING HISTORICAL NORMS/AVERAGES FOR INTEREST RATES AND INFLATION RATES

Historical norms and averages can be found by using external materials, such as:

- Federal Reserve Board Averages
- The Wall Street Journal, table of historic rates
- Consumer Price Index, history tables

## INITIAL AND ANNUAL RESERVE DEPOSITS, RESERVE MINIMUM BALANCE REQUIREMENTS

The *YR-1 Annual Deposit per Unit* field allows you to enter trial dollar amounts per unit to test possible funding solutions given a set of realistic assumptions about cost inflation, interest rates on short-term maturities, and a modest percent annual change in an Owner's annual deposit to the RfR escrow. Use the Financial Factors form to alter variables in conjunction with repeated use of the Validation Engine to model results.

In addition, the Assessment Tool provides two methods for planning the minimum estimated year-end reserve balance: a dollar per unit method and a percentage of total uninflated cost method (required by HUD). Both generate a minimum balance amount for the first Relative Year in the Estimate Period. The Validation Engine inflates this initial amount in each relative year using the same inflation rate as for costs.

 **NOTE:** Remember that this financial structure and its underlying assumptions, including the scheduling of individual repairs and replacements, is merely a plan. Like all plans, users must adjust this plan periodically to reflect actual events. The minimum balance is only for estimating and sizing purposes and is not intended to inhibit owners' future use of the Reserve for Replacement Escrow to fund actual capital needs as they occur.

## REPAIR REPLACE DECISION FORM

**Capital Needs Assessment**

**Repair Replace Decision**

Participants  
Property  
Sites  
Unit Type Definition  
Buildings  
Units and Common Spaces  
Utility Type Usage  
Inspection Samples  
Components  
Alternatives  
Repair Replace Recommendation  
Narrative  
Financial Factors  
**Repair Replace Decision**  
LoV Admin

**Recommendation List**

Boilers, Gas/Dual Fuel, Lr	Existing AFUE Boilers	High Efficiency Boiler
Drywall - Common Areas	Mech Room Ceiling 2nd +	Repair fire wall penet
Earthwork, Swales, Erosi	Erosion Control NE Corne	Erosion Control NE C
Unit Refrigerator/Freezer	Existing Refrigerators	EnergyStar Refrigera
Refrigerator/Freezer - C	Refrigerator (Comm Kitch	EnergyStar Refrigera
Lighting - Exterior Entry	Existing Exterior Lighting	LED Exterior Lighting
Lighting - Interior Commc	Existing CA Lighting	Efficient CA Lighting
Lighting - Tenant Spaces	Existing Unit Lighting	Efficient Unit Lighting
Faucets & Valves	Existing Faucets	Low Flow Faucet Aer
Tub/Shower Units or Inte	Existing Shower Heads	Low Flow Shower Hez

Decision List

Delete

**Decisions**

Component Type: Boilers, Gas/Dual Fuel, Low Mbh  
Alternative Recommendation: High Efficiency Boiler

Component ID: Existing AFUE Boilers  
Decision Alternative: [Dropdown]

When: Now [Dropdown]  
Life Safety Indicator: NO [Dropdown]

Duration: [Text]  
Accessibility Indicator: NO [Dropdown]

Action: Replace [Dropdown]  
Accessibility Statute: [Dropdown]

Location: Place holder  
Scope of Accessibility Compliance: [Text]

Cost: \$62,328  
Scope of Required Replacement/ Refurbishment: [Text]

Time to Complete: [Text]  
Comments: [Text Area]

TCO Savings: \$14,542  
TCO per Year: \$2,483  
Indicated Alternative: [Text]

Add Update

Close

Figure 36 – Repair Replace Decision Form

### OVERVIEW

This screen is completed during the Financial Planning phase. For CNAs prepared for a Lender, this form is completed by the  Lender. If the Approving Agency is the Lender (e.g., the CNA is for a USDA direct loan program), this form is completed by the Agency Reviewer. The following discussion assumes that an Agency approved lender/servicer is submitting the CNA.

Decisions only need to be entered when the  Lender disagrees with and intends to change the  Assessor's recommendation. If the  Lender enters no decision, then the Assessor's recommendation is accepted.

The  Lender selects the Recommendation from the *Recommendation List* in the top left of the screen. The data fields in the lower portion of the screen should auto-populate with the Assessor's entries. The lender may edit the entries to change the Assessor's recommended timing, duration, or other factors about the recommended alternative.

Or the lender may select an entirely different alternative from the “Decision Alternative” box in the center-left of the form. This box will show any other alternatives that exist for the *Component ID* other than the one recommended by the Assessor. If the lender selects a different alternative, then the other data fields will turn blank and the lender must determine the appropriate timing, duration, and whether the newly selected alternative is a Life Safety or Accessibility item, etc.,

 **NOTE:** The lender does not have the option of creating new Alternatives. Only Alternatives defined by the Assessor will appear in the “Decision Alternative” box. If new Alternatives are desired, the CNA should be returned to the Assessor for editing.

When the lender has changed data entries, including the name of the selected alternative, if applicable, the lender then selects “Add”. *The Decision* is added to the *Decision List* in the top right of the screen.

Should the lender later change his or her mind or need to edit the decision, the lender selects the decision from the Decision List box at the upper left. The data fields for the chosen decision will auto-populate and the lender may either select **Delete**, or edit the data fields and select **Update**.

**Update** enters the edited decision in the Repair Replacement Decision worksheet. **Delete** removes the decision from the Decision List box and the worksheet and the effect is to restore the Assessor’s recommendation.

 **NOTE:** While it is possible for the Lender to change any of several values on this form, including choosing a different Alternative, the most typical changes are to the *When* field changing the time when a recommendation will be implemented, and to the *Duration* field, spreading costs over multiple years to moderate otherwise abrupt changes in costs in future years.

**FIELD DEFINITIONS**

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*\* Indicates a required field that must not be left empty or null.*

Form Data Field	Definition
<b>Component Type</b>	<b>Read-only.</b> Displays the name of a generic class or group of components. The Component ID identified by the Assessor at the site is a component of this type

Form Data Field	Definition
<b>Component ID</b>	<b>Read-only.</b> This displays the name of the Component ID that is the subject of the recommendation or decision.
<b>When*</b>	<p>Review the Assessor’s recommendation, and change this value if necessary.</p> <p>As with <i>Duration</i>, the time (<i>When: “Now” versus “End of Cycle”</i>) is an Assessor’s recommendation that you may choose to alter. For example, components with limited RUL, but not requiring immediate replacement, may be replaced early, or “Now”, for marketing, repositioning, or investment purposes, or conversely, a recommended immediate (“Now”) repair may be deferred out of necessity for lack of current funds.</p>
<b>Duration</b>	<p>Review the duration specified by the Assessor and edit if necessary. This field identifies the number of relative years before (-) and after (+) the last year of RUL for a component over which years the costs of the action may be spread.</p> <p>This is used to populate the <i>Estimate Period Schedule</i> by spreading the cost of a repair or replacement over multiple years.</p> <div data-bbox="521 940 1485 1052" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p> <b>NOTE:</b> <i>Duration of Action</i> is not used if the entry for <i>When</i> is “Now.”</p> </div> <p><i>Duration of Action</i> only applies to repairs and replacements recommended for the end of cycle (i.e., the end of the RUL of the existing component).</p> <p><b>SEE ALSO:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Duration of Action Example</a></li> </ul>
<b>Action*</b>	<p>Review the Assessor’s recommendation for action and make revisions if necessary. The possible actions are noted in the drop-down list:</p> <ul style="list-style-type: none"> <li>• <b>“Repair.”</b> Repair means to resurface, repaint, or refurbish an existing component. A Repair will be repeated at its end of cycle.</li> <li>• <b>“One-time Repair.”</b> A One-time Repair is the same as a Repair except that it <i>is not</i> repeated at its end of cycle.</li> <li>• <b>“Replace.”</b> Replace means to remove the existing component and replace it with a new one performing the same function.</li> <li>• <b>“Add New.”</b> Add New means to add a component that did not previously exist at the unit(s) or building(s) (e.g., add smoke detectors).</li> </ul> <p>See instructions for the <a href="#">Components</a> form on how to add a new component when it has no counterpart among the existing components.</p>

Form Data Field	Definition
<b>Location</b>	Review the location specified by the Assessor and edit if changes are necessary.  <b>SEE ALSO:</b> <ul style="list-style-type: none"> <li>• <a href="#">The Location Field</a></li> </ul>
<b>Cost</b>	<b>Read-only.</b> This displays the Assessor’s estimated cost of the recommended <i>Repair/Replacement/Add New</i> action and will prepopulate for each recommended action. You may determine that the cost estimate should be changed. This determination might result from a bid or price quote obtained after the Assessor completed the assessment or from another similar specific discovery, which should be documented in <i>Comments</i> and/or with an attachment to the CNA. A cost change must be entered on the Alternatives form.
<b>Time to Complete</b>	Review the Assessor’s recommendation for when a repair or replacement is a remedy for an accessibility deficiency. The time to complete should be as soon as possible and should be specified as a number of months from the later of the date when the assessment decision is accepted by the approving agency or the date of closing of any transaction for which the assessment is/was prepared.  For example, you may disagree with the Assessor’s estimated elapsed time needed or feasible for the completion of accessibility remedies. If you decide on a different number of months for completion, that decision should be entered here and represents a decision that requires explanation and justification in <i>Comments</i> . All parties should understand that the regulatory requirement for the time of completion is as soon as possible.
<b>TCO Savings</b>	<b>Read-only.</b> This displays the difference (savings) between the annual cost of ownership (including amortized acquisition cost and utilities) of the proposed alternative when compared to the existing component.
<b>TCO per Year</b>	<b>Read-only.</b> This displays the auto-calculated Total Cost of Ownership (TCO), including amortized cost of acquisition plus estimated yearly utilities for the proposed alternative.
<b>Indicated Alternative</b>	<b>Read-only.</b> This displays the auto-selected alternative that the e-Tool recommends based only on the cost-benefit analysis.

Form Data Field	Definition
<b>Alternative Recommendation</b>	<p><b>Read-only.</b> This displays the name or description of the alternative <i>Repair/Replacement/Add New</i> component item prepopulated with the name of the alternative selected by the Assessor on the Repair, Replace, Add New Recommendation form.</p> <p>If other alternatives were considered, they may be seen and selected from the drop-down list associated with the <i>Decision Alternative</i> field. The choice of a different alternative substitutes your decision in place of the Assessor’s recommendation. This will require the decision maker to review and possibly alter other entries concerning the selected alternative.</p>
<b>Life Safety Indicator*</b>	<p>Review the Assessor’s selection on the <i>Life Safety Indicator</i> field, a setting that indicates whether the repair or replacement item is a Critical Repair intended to remedy an immediate risk to health and safety. Such items require immediate attention by the Owner.</p> <div data-bbox="521 852 1485 1157" style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE:</b> While you may choose a different alternative than what was recommended by the Assessor, this would not change whether the alternative was needed to remedy a life safety hazard. Choosing “YES” or “NO” from the drop-down list contrary to the Assessor’s recommendation indicates that your judgment of the life safety hazard differs from the Assessor’s and must be explained or justified in the <i>Comments</i> section.</p> </div>
<b>Accessibility Indicator*</b>	<p>Review the Assessor’s selection on the <i>Accessibility Indicator</i> field, a setting that indicates whether a unit, building, or site conforms to the applicable accessibility statutes and regulations.</p> <p>Choosing “NO” from the drop-down list indicates that this repair or replacement is not a remedy for an accessibility deficiency.</p> <div data-bbox="521 1417 1485 1646" style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE:</b> If you choose an alternative different from the Assessor’s recommendation, the Lender may enter “YES” or “NO” notwithstanding a contrary entry by the Assessor on the Repair, Replace, Add New Recommendation form. However, when doing so, you should explain the change in the <i>Comments</i> field.</p> </div>

Form Data Field	Definition
<b>Accessibility Statute/Standard*</b>	<p>If the <i>Accessibility Indicator</i> field is “YES” for the specific alternative recommended by the Assessor, then this field will be prepopulated with the Assessor’s identification of which federal statute or regulation is addressed by the action. If you decide on an alternative that is different from that recommended by the Assessor, then you must specify which of the accessibility statutes the chosen repair or replacement addresses.</p> <p>Available choices are:</p> <ul style="list-style-type: none"> <li>• <b>“UFAS.</b> “ Section 504 of the Rehabilitation Act of 1973 and 24 CFR Part 8, Subpart C (HUD) or 7 CFR 15b (USDA).</li> <li>• <b>“Fair Housing Act.”</b> The design and construction requirements of the Fair Housing Amendments Act of 1988 as implemented by 24 CFR 100.205 and the <i>Fair Housing Act Design Manual</i>.</li> <li>• <b>“ADA.”</b> Title III of ADA and implementing regulations at 28 CFR Part 36.</li> </ul>
<b>Scope of Required Accessibility Compliance</b>	<p>Review the Assessor’s selection for <i>Accessibility Compliance</i> and change this value if necessary.</p> <p>This field should normally require revision only for clarity or precision, or if you select an alternative that is not recommended by the Assessor.</p>
<b>Scope of Required Replacement or Refurbishment</b>	<p>Review the Assessor’s selection for the scope of work. This field should require revision only for clarity or precision, or if you select an alternative that is not recommended by the Assessor.</p>
<b>Comments</b>	<p>Enter comments to explain or clarify decisions made on this form that differ from the Assessor’s original recommendation.</p> <p><b>(Field size limit: 2,000 characters)</b></p>

## VALIDATION AND SUBMISSION

### THE CNA WEB PORTAL

#### ROLE OF THE WEB PORTAL

The CNA Web Portal is the online component of the CNA e-Tool. The Web Portal supports the Validation, Submission, Review, and Approval stages of the CNA process.

**NOTE:** It may be helpful to think of the CNA Web Portal as primarily a tool for maintaining *rules and generating reports*. The system behind the Portal checks for compliance with program rules and creates reports. Unlike conventional CNA spreadsheets, the Assessment Tool does not show results beyond basic counts. Detailed results and schedules are obtained only from the CNA Web Portal. By this means, the analytics of CNAs are standardized for all users and data integrity is protected.

In contrast, the CNA Assessment Tool is primarily a tool for *data entry*. However, keep in mind that there is some data entry that takes place in the Web Portal (in particular, adding comments to flags, which is discussed later in this document).

## CNA WEB PORTAL COMPONENTS

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The CNA Web Portal consists of three websites. Each website is intended for a different audience, and requires a different level of access to use its features.

Site	Intent
<b>Validation Engine</b>	<p>This is a public-facing site that does not require login credentials. It is designed with Assessors in mind. It allows users to validate CNAs (receiving a list of flags, reports, and so on), but does not allow submission of CNAs to the reviewing agency.</p> <p>A common technique for using the Validation Engine is to upload the CNA when it is only partly complete. Doing so can generate helpful reports and pointers on what areas need changes. This process can be repeated over and over, with the user making incremental changes, until the user is satisfied with the final product.</p> <p>When the Assessor has completed the CNA, is satisfied with the validation results, and has assembled any exhibits intended for attachment to the CNA, the Assessor will e-mail the completed Assessment Tool file (in .xls format) and proposed attachments to the Lender.</p>

Site	Intent
<b>Submission Portal</b>	<p>The Submission Portal is a secured website and is available only to users who have been issued a User ID and password. The Submission Portal allows the submission of CNAs for review by the reviewing agency and allows users to see results and receive reports for both recently validated CNAs as well as those already submitted to the reviewing agency.</p> <p>In HUD’s CNA process, the Lender works with the Submission Portal. However, for some HUD Section 8 assets with no insured mortgage (i.e., no HUD-approved lender), the submitter will be the Assessor who must obtain an ID for this purpose.</p> <p>USDA’s process differs from HUD’s largely because USDA is in most cases the Lender. Accordingly, Assessors will e-mail the completed Assessment Tool and any exhibits directly to USDA. (Check USDA guidance for specific instructions.)</p> <div data-bbox="521 856 1487 1045" style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE:</b> For details on obtaining credentials, refer to the User Access Guide, which can be accessed from <a href="https://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/mfh/cna">https://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/mfh/cna</a></p> </div>
<b>Reviewer Tool</b>	<p>This segment of the CNA Web Portal is only accessible to HUD and USDA staff. It is the tool used internally to review CNA results.</p>

#### OVERVIEW OF VALIDATION AND SUBMISSION PROCESSES USING THE WEB PORTAL

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A general workflow for Validation and Submission with the Web Portal is described in this section.

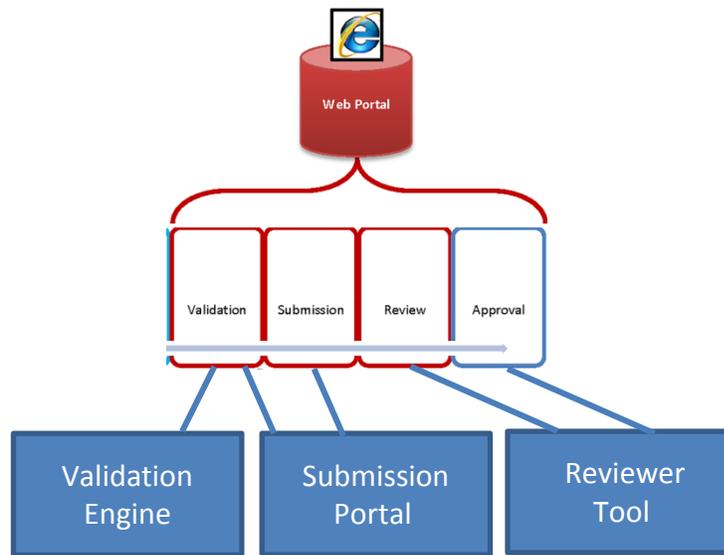


Figure 37 - CNA Workflow with the Steps that Take Place within the Web Portal Portion Highlighted

## VALIDATION ENGINE

Capital Needs Validation Tool

U.S. Department of Housing and Urban Development  
U.S. Department of Agriculture - Rural Development

CNA VALIDATION



Select CNA File

This system only accepts XLS files for import. Imported files must conform to HUD's published data standards for CNA files.

No file chosen

U.S. Department of Housing and Urban Development, 451 7th Street S.W., Washington, DC 20410

**Validation Engine:** When working in the CNA Assessment Tool, the user periodically uploads the file to the Validation Engine to view results. An Assessor may send the tool through the Validation Engine multiple times. Each time, after viewing results, the Assessor may add or change values in the CNA Assessment Tool and upload again to see how the altered values affect the CNA. Because the Validation Engine does not require login credentials, access is available to anyone at any time. CNAs uploaded to the Validation Engine are retained in the system for only four days and are only retrievable by system administrators for the purpose of trouble shooting problems Assessors may experience using the Validation Engine. They are not retrievable by any other persons and are visible to the validator only for as long as the validation results are kept open. Once closed, validated results can only be obtained by re-validating a CNA file.

**NOTE:** In the special case of CNA files generated with a custom solution per the B2G Protocol, Validation **does** require a User ID. Check documentation for your custom program for details.

## SUBMISSION PORTAL

The screenshot shows the 'Capital Needs Assessment Tool' interface. At the top, it includes the title 'Capital Needs Assessment Tool', navigation links for 'Contact Us', 'Help', and 'Logout', and the logos for the U.S. Department of Housing and Urban Development and the U.S. Department of Agriculture - Rural Development (USDA). The user is logged in as 'I38933'. Below the logos are two tabs: 'CNA SUBMISSION' (which is active) and 'LOCATE CNA'. The main content area features a 'Select CNA File' section with a dropdown arrow, a text box containing the instruction 'This system only accepts XLS files for import. Imported files must conform to HUD's published data standards for CNA files.', a 'Choose File' button, and a 'No file chosen' status. To the right of the text box are 'Expand All' and 'Collapse All' buttons. Below the text box are 'Validate' and 'Reset' buttons. At the bottom of the page, the address 'U.S. Department of Housing and Urban Development, 451 7th Street S.W., Washington, DC 20410' is displayed.

- **Submission Portal:** The Submission Portal displays two tabs: **CNA Submission** and **Locate CNA**. Upon selecting the CNA Submission tab, a user can validate a CNA and then proceed with steps to submit the CNA. CNAs validated in the CNA Submission tab are retained for a longer period and are retrievable by the submitter and system administrators but not others. When selecting the Locate CNA tab, the user is able to locate, select, and then open results for any CNA that this same user has validated or submitted, including any that the reviewing agency has returned or approved.
- **Preparing for Submission:** Lenders (submitters), like Assessors are expected to validate repeatedly to test their results as they remedy validation Flags and complete their portion of the Assessment Tool, i.e. the Financial Factors form and entering decisions, if any, on the Decisions form. While Lenders can use the public Validation Engine, it is better to use the validation screen on the CNA Submission tab in the secured Submission Portal. This is because users validating CNAs through the secured portal can use the “Locate CNA” tab to retrieve validated results even after closing and returning to the Submission Portal. By contrast, CNAs uploaded to the public Validation Engine are visible to the user only as long as the Validation Engine result is open. Lenders should use the Locate CNA tab to locate and open a recently validated CNA and view results in panels and reports. In particular, Lenders may want to export the Flags results in order to consider how best to remove or mitigate flags and draft their Flag Notes responses prior to submission. Lenders may edit the Assessment Tool file to mitigate or eliminate Flags obtained from Validation. If the Assessment Tool file is altered, it must be re-validated in order to capture the changes and reflect these changes in results. All Severe flags must be removed. For Warning flags that remain, the Lender should prepare

explanations describing mitigation steps or reasons why mitigation is not needed. These explanations will be entered as Flag Notes. In addition, the Lender will assemble the documents (.xls, .doc, .pdf files) that are intended as attachments to the CNA. Once the CNA is perfected in the Assessment Tool and draft Flag Notes are prepared and attachments assembled, the Lender is ready to Validate a final time and complete the submission process.

 **NOTE:** A CNA with Severe flags cannot be submitted. A Flag Note is required for any remaining Warning flags.

- **Submission Procedure:** After a final validation of the CNA Assessment Tool file, the user begins the Submission process by completing the following tasks in the CNA Submission tab:
  - On the [Flags](#) panel, which displays any issues or warnings that remain with the CNA, the user enters notes explaining, mitigating, or remedying the flagged problem. Longer or more complex notes should be prepared in advance and copied into the text box provided. For example, a flag may indicate that an inspected unit is a “covered unit” per the Fair Housing Act, but does not comply with the Act’s design and construction requirements. A user can write a Flag Note explaining that remedies for this unit are specified on the list of critical accessibility repairs found in the Critical Repairs panel.
  - If necessary, the user can review results of the final validation in relevant panels.
  - On the [Attachments](#) panel, the user can upload any necessary supporting attachments. A list of common attachments is provided later in this document.
  - At the bottom of the screen, the user must enter their name and their e-mail address (to which system generated messages will be sent), review the certification language, if any, and select the **Submit Button**.

 **NOTE:** Submissions cannot be undone. Users should be careful in their preparation and in their selection of attachments. If, after Submission, the user finds an error or omission that requires revision, the only remedy is to contact the reviewing agency and ask for the submitted CNA to be returned. A corrected CNA may then be submitted by repeating the original procedure.

- Once begun, the Submission procedure must be completed before exiting the Submission Portal. Flag Notes and attachments are not saved unless and until the “Submit Button” is selected. This is another reason why careful advance preparation is advised. A Submission should not be attempted when interruption

is likely. HUD is working on a “save submission in progress” remedy, but this is not currently available.

- **After Submission:** After Submission, the submitter will receive an e-mail message confirming the Submission. Submitters may locate a submitted CNA in the Locate CNA tab to see its status, the name of the reviewer if one has been assigned, and to open the CNA to see all the results and reports that are available to the reviewer.
- **HUD Review:** While a copy of the assessment file is an automatic attachment to each submission, HUD reviewers use this file only if needed for review purposes. Agency staff will not make revisions on behalf of Lenders. Except for system troubleshooting, the Assessment Tool file should NOT be provided to HUD by any means except submission through the Submission Portal. HUD reviewers evaluate CNAs by examining the reports generated from the data entered in the Assessment Tool and by reading any attachments. HUD then renders a decision, which may be Approval or Return. A returned CNA is one that the agency has concluded needs revision. The submitter will receive a system-generated e-mail describing any decision made. The user may then locate the CNA in the Locate CNA tab and see the decision with any comments. Agency comments may be offered in Flag Notes and in a general comment box.
- **HUD Returned CNAs:** When a CNA is returned, the submitter should review the notes and comments, and develop a response that may require alterations to the Assessment Tool file, changes or additions to attachments or more explanation in Flag Notes. The user should prepare a response using the same approach as described for preparing the initial Submission. Once a response is prepared, the user resubmits the revised CNA by repeating the Submission Procedure.
- **USDA CNAs:** Because USDA is most often the lender in a transaction, USDA will receive CNA Assessment Tool files directly and the Submission and review tasks will be completed by USDA staff.

#### HOW DATA IS PRESENTED IN THE CNA WEB PORTAL

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The CNA Web Portal displays data in two primary formats:

- As a series of **panels** that display data directly on the website (with options to rearrange the data, expand the view of the data (“detach”) and to download the data (“export”) as an Excel file)

- As fixed format **reports**

The key difference between panels and reports is that panels are primarily intended to be used while the user is working with a submitted CNA (with an option to download an Excel version to further explore the numbers), while the reports are primarily intended as “finished” documents that can be included in loan documents once the work is complete.

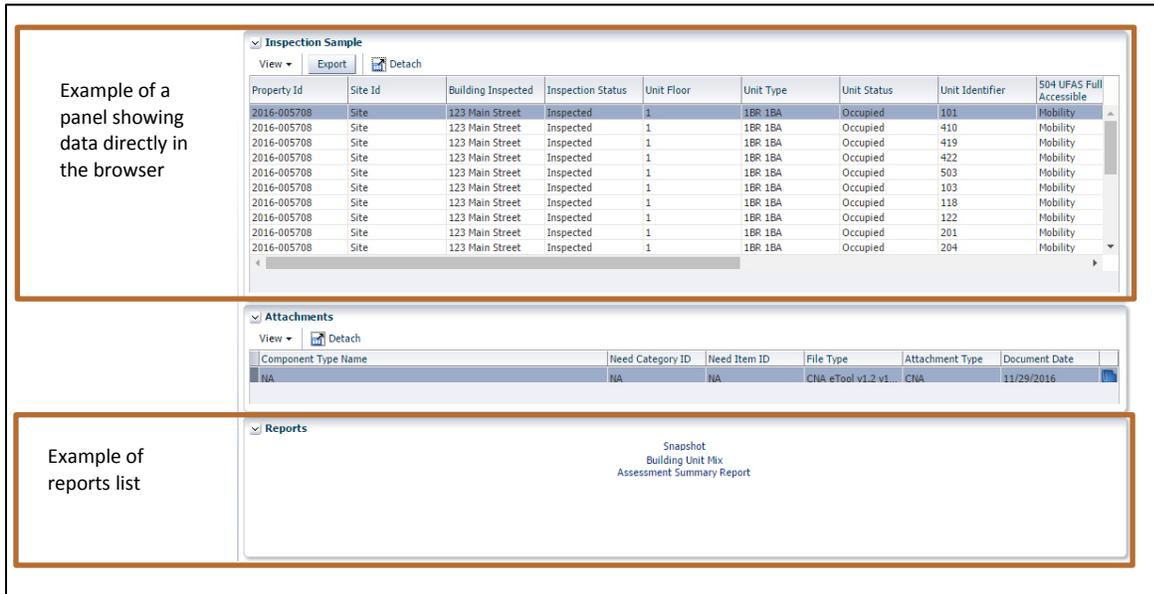


Figure 38 - Image of the Web Portal Displaying a Panel and a List of Reports

## PANELS

Panels display data directly on the CNA Web Portal website. It is possible to expand or contract the panel, modify the appearance of a panel, and hide or show columns in a panel. More details about working with panels appears later in this document.

## REPORTS

The list of reports that is available depends on whether the Validation Engine or the Submission Portal is used to validate the CNA. The Submission Portal (which requires login credentials and is generally only available to Lenders) provides extra reports that are not available to Validation Engine users.

Reports have two types, each of which behaves slightly differently:

- ADF. These reports load in a separate browser window. Note that you may need to minimize your current browser window to see the report.
- PDF. These reports generate PDFs. You can choose to save the PDF, or to open it immediately. If you choose to open it, you may need to minimize your browser window to see the report.

A list of reports available in this release, and their types, is provided below, along with which system the report is available for.

Report	Type	System Availability
Snapshot	ADF	Submission Portal only
Building Unit Mix	ADF	Validation and Submission Portal
Assessment Summary Report	PDF	Validation and Submission Portal
Property Insurance Schedule	PDF	Validation and Submission Portal

While reports are intended as printable documents, anomalies have appeared in “print command” results for users of MS Internet Explorer browser, where only the first page of a report may print. (No issues have been observed in other browsers.) A work-around for Internet Explorer users who experience this problem is to copy and paste the entire report to an MS Word document and print from this new file. Some reformatting may be necessary, particularly selecting “landscape” in lieu of “portrait” orientation.

**SEE ALSO:**

- [Appendix D – Example Reports Available from CNA e-Tool](#)

**CONTACTING SOMEONE ABOUT PROBLEMS WITH THE WEB PORTAL**

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To report a problem with the Web Portal, call the Real Estate Assessment Center (REAC) Technical Assistance Center (TAC) at 1-888-245-4860 or send an email to [reac\\_tac@hud.gov](mailto:reac_tac@hud.gov).

**PERFORMING BASIC TASKS**

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**TO EXPAND OR CONTRACT A PANEL**

1. You can expand or collapse a panel by selecting the > icon.



Figure 39 – Validation Screen with Flags Panel Highlighted

### TO CHANGE THE APPEARANCE OF A PANEL

There are several ways to change the appearance of a panel. Use the **View** menu to access options.

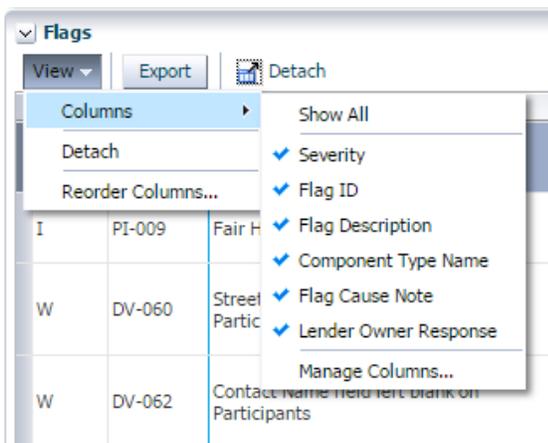


Figure 40 – View Menu

Selecting **View > Detach** allows you to view a panel full screen.

The image shows a 'Detached Table' with a grid of data. The columns represent years from 2015 to 2029. The rows include various financial metrics such as 'Beginning Balance', 'Interest Income', 'Annual Deposit', 'Inflated Needs (W)', 'Ending Balance', 'Required Minimum', 'Interest Rate on B...', 'Inflation Rate on...', 'RFR Deposit / Un...', and 'Inflated Needs / U...'. The table is displayed in a full-screen, detached view.

Figure 41 – A Detached Table

Selecting **View > Attach** restores the panel to its normal size.

## TO HIDE OR SHOW COLUMNS IN A PANEL OR CHANGE THE ORDER OF PANELS

1. In the panel menu, select **View > Columns > Manage Columns**. The Manage Columns screen will appear.

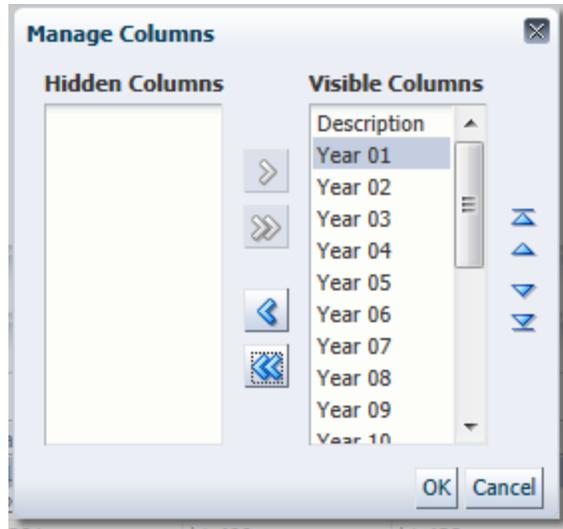


Figure 42 – Manage Columns Screen

2. To make a column visible or hidden, use the controls to move the panel from one list to the other.
3. To change the order of panels, use the provided arrow icons on the right side of the screen to change the order of the list.

### UPLOADING A CNA FOR VALIDATION

**NOTE:** A CNA Assessment Tool document may be uploaded for Validation using the Validation Engine (the unsecured, public portal) or to the Submission Portal (a secured site requiring a user name, password and authorization as a submitter).

The Validation Engine has no tabs, and displays only a Select CNA File screen with a browse box. The Submission Portal displays two tabs, “CNA Submission” and “Locate CNA.” The first tab uploads a CNA for validation, just like the similar screen in the Validation Engine. However, the results in the Submission Portal include the sequential steps to Submission including the ability to write flag notes, select and add attachments, certify, and click “Submit.” These steps are not available in the Validation Engine. The second tab allows the submitter to locate CNAs including one just uploaded for validation and supports analysis and editing of the CNA before submission. (See explanation under Preparing for Submission on page 142.)

Capital Needs Validation Tool

U.S. Department of Housing and Urban Development  
U.S. Department of Agriculture - Rural Development

CNA VALIDATION

Select CNA File  
This system only accepts XLS files for import. Imported files must conform to HUD's published data standards for CNA files.

Browse... Validate Reset

U.S. Department of Housing and Urban Development, 451 7th Street S.W., Washington, DC 20410

Figure 43 – Uploading a CNA in the Validation Engine

1. With a web browser, navigate to the CNA Web Portal page (<http://webapps.hud.gov/CNAeTool/faces/CnaValidation>).
2. In the Select CNA File panel, select **Browse**.
3. Select the completed CNA Assessment Tool document you wish to validate. Select **Open**. The file name you selected will appear in the blank box and the *Browse* button will become an *Update* button.
  - a. If the file uploaded is not the file you intend to review, use the **Update** button to select a different file.
  - b. You may select the **Reset** button if you need to start over.

4. Once an appropriate Assessment Tool is uploaded, select **Validate**. The e-Tool will begin the process of Validation. A response should appear in less than one minute.

#### TO EMAIL A CNA FOR VALIDATION WITHOUT USING THE PANEL

**NOTE:** This process mimics the use of the CNA File Panel without accessing the Web Portal. It is intended mainly for CNA preparers with slow internet connections.

1. Attach the CNA Assessment Tool to an email message and send to the designated Validation email address, which is: [mfhassessmentvalidation@hud.gov](mailto:mfhassessmentvalidation@hud.gov).
2. You should receive a return email with the results attached in Excel format in less than one minute.

Capital Needs Assessment Tool

Contact Us | Help | Logout

U.S. Department of Housing and Urban Development  
U.S. Department of Agriculture - Rural Development

USDA

Logged in as: 138933

CNA SUBMISSION LOCATE CNA

Expand All Collapse All

Select CNA File

This system only accepts XLS files for import. Imported files must conform to HUD's published data standards for CNA files.

Choose File No file chosen

Validate Reset

U.S. Department of Housing and Urban Development, 451 7th Street S.W., Washington, DC 20410

Figure 44 - Uploading a CNA for Validation in the Submission Portal

Select a CNA Assessment Tool file for validation in the same manner shown above for use of the Validation Engine.

#### TO EVALUATE THE FLAGS

The Flags panel (available in the Validation Engine and in the Submission Portal) allows users to review flags.

Assessors will use the flags panel to identify and correct possible errors in the CNA Assessment file. For this purpose flags may be exported as an excel file and used as a checklist. But even after eliminating common errors, some flags likely will remain indicating issues at the property or matters that may need explanation or mitigation. Assessors may draft explanations for such remaining flags, most likely using the most recent exported excel file of remaining flags. This file together with the completed CNA Assessment Tool and any recommended attachments should be sent as a package to the Lender.

Lenders (submitters) can follow a similar process, perhaps adapting comments provided by Assessors. When the Lender is ready to submit the CNA, he should validate the CNA

Assessment file a final time. There should be no “severe” flags remaining and a limited number of warning flags. The lender will enter a response for each warning flag.

Three levels of flags are generated by the Validation process.

- **Severe (S).** This flag indicates the most severe situation. If a document contains Severe flags, the assessment is not eligible for Submission until the flags are cleared. Examples of Severe flags include missing IDs (such as, Building ID, *Component ID*) or components that lack alternatives.
- **Warning (W).** This flag indicates an issue that needs to be resolved or needs an explanation. It does not prevent Submission.

**NOTE:** Prior to Submission, the Lender should enter a Response Comment explaining or mitigating the presence of any Warning (W) flags.

- **Informational (I).** This flag provides information that the user may need to consider. It does not prevent Submission and does not require explanation or comment.

For a detailed list of flag codes, see [Appendix A: Flag Code Meanings](#).

#### TO ADD A RESPONSE COMMENT TO A FLAG

After validation on the CNA Submission tab of the Submission Portal, Lenders can add a Response Comment for any Warning (W) flag. It may be helpful, but not required to add them to Informational (I) flags if you believe it would be useful to the reviewing agency.

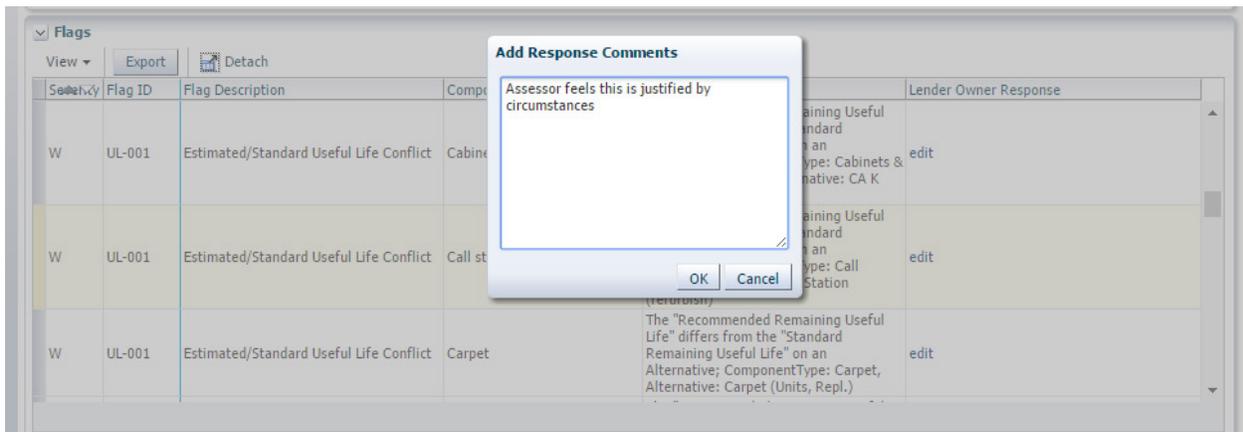


Figure 45 - Add Response Comments Box

1. In the Flags panel, find the row containing the flag to which you wish to add a Response Comment.
2. In the Lender Owner Response column, select **Edit**.
3. Enter the text of your comment in the provided field and select **OK**.

## TO ADD AN ATTACHMENT

Use the Attachments panel to upload supporting attachments.

▼ **Select Attachment Files**

This system accepts Excel, Word doc and Images

File To Upload	Component Type Name	Attachment Type Name	
Inspection Photos.pdf <input type="button" value="Update..."/>	<input type="text"/>	Evidentiary Support - EUL	✘
EPA Report.pdf <input type="button" value="Update..."/>	<input type="text"/>	EPA Portfolio Manager Performance Report	✘

+ Add Attachment

1. In the *Select Attachment Files* section, select **Choose File**.
2. From the *Attachment Type Name* box, select a type for the attachment.

**NOTE:** Although a drop-down box named **Component Type Name** is available in this panel, it is generally recommended to leave it blank. This drop-down box was originally intended to allow you to classify each attachment component by component (e.g. for separately uploading photos of carpets, refrigerators, or microwaves). Instead of using this drop-down box and uploading multiple files, it is preferred that you instead combine these materials into a PDF file and upload as a single file.

### SEE ALSO:

- [Most Common Attachments](#)

## PERFORMING BASIC TASKS (SUBMISSION PORTAL ONLY)

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### TO SEARCH FOR A CNA

Users of the Submission Portal can search for a CNA that has been previously uploaded for Validation or previously submitted, returned or approved.

**LOCATE CNA**

\*\* At least one is required

\*\* Property Name: rococo arms

\*\* Assessment ID: [ ]

\*\* Property ID: [ ]

\*\* State: [ ]

\*\* City: [ ]

\*\* iRems Property ID: [ ]

\*\* AMAS ID: [ ]

\*\* Reviewer: [ ]

\*\* Internal Status: [ ]

\*\* Approving Agency: [ ]

Search [ ] Reset [ ]

Property Name	Assessment ID	Status	Date CNA Submitted	Case Number	Reviewer	iRems Property ID	City	State	Postal Cod
Rococo Arms	2016-005708	Submitted	11/29/2016			123-45-6789	Anytown	XX	12345

Columns Hidden: 1

U.S. Department of Housing and Urban Development, 451 7th Street S.W., Washington, DC 20410

1. Select the Locate CNA tab.
2. In the provided fields, enter the search criteria you wish to search for. For example, to search by property name, use the *Property Name* field.
3. Select **Search**. A list of matching CNAs will appear below.
4. To view the contents of a listed CNA, select its ID# from the *Assessment ID* column.

**NOTE:** One of the useful search parameters, is the *Internal Status* field. Lender submitters and viewers will be able to locate CNAs by their status. Choices are: “Received for Validation,” “Submitted,” “Under Review,” “Ready for Decision,” “Returned,” and “Approved.”

## TO SUBMIT A CNA FOR AGENCY REVIEW

Use the CNA Certification panel to submit a CNA for Agency Review

**CNA Certification**

TEMPLATE HUD By entering my electronic signature information I do hereby certify that I will abide the program details set forth in HUD guidance for MultiFamily participants.

\* Name: Shirley Jackson \* Email Address: shirleyjackson@onelend.com

Submit [ ] Cancel [ ]

Figure 46 – CNA Certification Panel

**NOTE:** Before submitting the CNA, it is important to add any necessary attachments and to add Response Comments to any flags that require them. Once the CNA is submitted, it is not possible to make edits, add attachments, or add comments unless the reviewing agency returns the CNA.

1. Ensure that any necessary attachments are uploaded using the steps above for adding an attachment.
2. Complete the *Name* and *Email Address* fields, which serve as a form of electronic signature for the Submission.
3. Select **Submit**.

You will receive email notification of the Submission at the email address you supplied.

## ADDITIONAL TOPICS

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### WEB PORTAL DATA RETENTION

The table below lists the retention times for CNAs uploaded to the Web Portal. The retention time is based on how many steps were completed.

Step Completed	Time Retained
Validation	4 days
Submitted	3 years
Approved	Permanent

### ADDITIONAL TIPS ON LENDER VALIDATION

Validation can be used to identify errors, needed corrections, and compare scenarios. Typically, needed changes must be entered in the Assessment Tool that must then be Validated again.

Below are some tips to make the process more likely to succeed.

- Check key values for the property, such as total units, total square footage, and total replacement cost.
- Verify that the inspection sample meets all applicable requirements.
- Look for any Component IDs that do not have a corresponding alternative and recommendation.
- Review the Critical Repair Needs to verify that the appropriate repairs appear.
- Review the Non-Critical Repair Needs to verify that the appropriate repairs appear.
- Review the Future Repair Needs schedule to verify that all of the intended and appropriate building systems and features appear on the schedule.
- Use Estimate Period Recap to quickly identify years with minimum and maximum remaining balances and highest/lowest replacement costs (withdrawals). If a deficit exists, use Suggested Add to ADRR \$/Unit (i.e., the auto-calculated estimate of added \$/unit in annual deposit that would eliminate the deficit).

- Review the Financial Schedule (reserve balances by year for the estimate period) for compliance with the applicable minimum balance requirements.

#### MOST COMMON ATTACHMENTS

Below is a list of some of the most common attachments.

- **Narrative.** If the Assessor chose to create a single PDF or Word file containing the narrative portion of the report, a Narrative Attachment must follow the numbering sequence shown in the Narrative form, i.e. the ASTM 2018-08 standard CNA outline.
- **Photographs.** Assessors are likely to find it most efficient to create a single attachment containing all appropriate photographs (rather than uploading individual photographs one at a time). Each photograph should be appropriately labeled. Order the photographs consistent with the ASTM 2018-08 standard CNA outline.
- **Additional Tests and Reports.** Tests and reports may include a seismic report, energy audit, or Wood Destroying Insect report.
- **EPA Portfolio Manager Benchmarking Report.** This is required for HUD submissions.

**NOTE:** Do not adjust the formatting of EPA Portfolio Manager Benchmarking reports. The Web Portal will automatically determine whether the report follows the exact file format and will not read a non-conforming report.

Additional documents that are commonly attached for HUD-specific programs include:

- Financial Factors Worksheet
- Design Maps Summary Report, obtained from the U.S. Geological Survey addressing earthquake risk

## APPENDIX A: IMPORTANT FIELD SIZES

The table below lists the character limit of several important fields used by the CNA Assessment Tool. Note that not all fields in with character limits are listed here. Field names are listed based on their Excel database names.

### FIELD SIZES

Category	Length
Alternative Name	200
Alternative Source Of Replace Cost Est	100
Assessment Amas Property Id	30
Assessment Ashrae Lvl2 Energy Auditor	100
Assessment FHA Application Id	30
Assessment Other Site Visit Dates	50
Assessment Unique Id	30
Attachment File Type	300
Building Foundation	100
Building Name / Building Id	100
Building Type	100
Common Space Common Space Id	100
Component Location	200
Inspection Sample Unit Identifier	100
Name Component Id	200
Narratives	2000
Notes / Comments	2000
Participant Contact Email Address	100
Participant Contact Name	100
Participant Name	100
Participant Phone Number	100
Property City	100
Property EPA Property Id	20
Property Postal Code	15
Property Property Name	100
Property Rems Property Id	30
Property State	30
Property Street Address	100
Property Zip Code	20
Recommendation / Decision Accessibility Statute Standard	100
Recommendation / Decision Repair Replacement Location	200
Recommendation / Decision Scope Of Reqd Accessible Compl	100
Recommendation / Decision Scope Of Reqd Replace Refurb	100
Recommendation / Decision Time To Complete	30
Unit Unit Type	200
Utility Provider	100

## APPENDIX B: FLAG CODE MEANINGS

### FLAG CODES TABLE

The table below provides a list of flags that may trigger during the Validation process.

ID	SEVERITY	DESCRIPTION	CAUSE
AA-002	W	Utility Data Report not attached	EPA Portfolio Manager Report (SEDI or SEP) was not attached to the Assessment
AA-003	W	Estimate Period less than 20 years for HUD CNA	Number of years identified for the estimate period is less than the 20-year standard for HUD
AA-004	I	Review EPA Portfolio Manager Report	Please review the attached EPA Portfolio Manager Report
AA-012	I	Assessment submitted to HUD for review is more than 7 months old	More than 7 months have passed between when the CNA was submitted to HUD for review and when the assessment was completed
AA-013	W	Assessment submitted to HUD for review is more than 6 months old	More than 6 months have passed between when the CNA was submitted to HUD for review and when the assessment was completed
DA-001	W	Mobility Accessible Units below 5% of Total Unit Count	Number of Mobility Accessible Units is below 5% for a Unit Type; see Site: <SiteID/>, Building: <BuildingID/>, Unit Type: <UnitType/>
DA-002	W	Accessibility Requirements identified	Comments field has been left blank or contains an invalid value for an identified Accessibility Recommendation/Decision; see Component: <Component/>, Alternative: <Alternative/>
DA-003	W	Sensory Impaired Units below 2% of Total Unit Count	Number of Sensory Impaired Units is below 2% for a Unit Type; see Site: <SiteID/>, Building: <BuildingID/>, Unit Type: <UnitType/>
DA-004	W	Accessible Unit not on an accessible path	Inspected Accessible Unit is not on an accessible path; see Site: <SiteID/>, Building: <BuildingID/>, Unit Type: <UnitType/>
DA-005	W	Fair Housing Act Covered Unit not in compliance	Compliance requirements not met for Fair Housing Act Covered Unit; see Site: <SiteID/>, Building: <BuildingID/>, Unit Type: <UnitType/>, Unit Number: <UnitNumber/>
DA-006	W	Public space does not meet Americans with Disabilities Act (ADA)	Public space does not meet Americans with Disabilities Act (ADA) requirements; see Site: <SiteID/>, Building: <BuildingID/>, Common Space: <CommonSpace/>
DA-009	W	No Fair Housing Act Covered Units inspected for Unit Type	No Fair Housing Act Covered Units inspected for Unit Type; see Site: <SiteID/>, Building: <BuildingID/>, Unit Type: <UnitType/>
DA-012	W	Occupancy and/or Building Permit missing	Building was built between 1990 and 1992 and the Occupancy Permit Date and/or Building Permit Date field is blank; see Site: <SiteID/>, Building: <BuildingID/>
DU-001	W	Minimum percentage of units not inspected for a Building	Minimum number of units were not inspected for a Building; see Site: <SiteID/>, Building: <BuildingID/>
DU-002	W	Insufficient Vacant Units inspected	An insufficient number of Vacant Units were inspected

ID	SEVERITY	DESCRIPTION	CAUSE
DU-003	S	Number of Vacant Units greater than the Number of Units	Number of Vacant Units cannot be greater than the total number of units on property
DU-004	S	Total Mobility Impaired Units cannot be greater than Total Units	The total number of Mobility Impaired Units cannot be greater than the total number of units for a Unit Type; see Site: <SiteID/>, Building: <BuildingID/>, Unit Type: <UnitType/>
DU-005	S	Total Sensory Impaired Units cannot be greater than Total Units	Total number of Sensory Impaired Units cannot be greater than the total number of units for a Unit Type; see Site: <SiteID/>, Building: <BuildingID/>, Unit Type: <UnitType/>
DU-006	S	Total Sensory Impaired Units required when Federally Assisted	There are no Sensory Impaired Units defined for the following Unit Type on a Federally Assisted property; see Unit Type: <UnitType/>
DU-007	W	If Building Type is 2- to 5-story elevator or High-rise, Total Inspected Covered Units cannot be blank	There were no Covered Units inspected in a 2- to 5-story elevator or High-rise building; see Site: <SiteID/>, Building: <BuildingID/>
DU-008	W	Total Mobility Impaired Units required when Federally Assisted	There are no Mobility Impaired Units defined on a Federally Assisted property
DU-009	W	Minimum number of Units were not inspected for a Unit Type	The minimum number of Units were not inspected for a Unit Type; see Site: <SiteID/> UnitType:<UnitType/>
DV-001	S	Initial Inflation Rate on Cap Needs field left blank	Initial Inflation Rate on Cap Needs field has been left blank or contains an invalid value on Financial Factors
DV-002	S	Alternative Name field left blank on Decision/Recommendation	Alternative Name field has been left blank or contains an invalid value in either the Recommendation or Decision; see Alternative: <Alternative/>
DV-004	S	Alternative Name field left blank on Alternative	Alternative Name field has been left blank or contains an invalid value for an Alternative; see Component Type: <ComponentType/>
DV-005	S	Unit Cost field left blank on Alternative	Unit Cost field has been left blank or contains an invalid value for an Alternative; see Component Type: <ComponentType/>, Alternative: <Alternative/>
DV-006	S	Usage/Year field left blank on Alternative	Usage/Year field has been left blank or contains an invalid value for an Alternative; see Component Type: <ComponentType/>, Alternative: <Alternative/>
DV-007	S	Estimated Useful Life field left blank on Alternative	Estimated Useful Life field has been left blank or contains an invalid value for an Alternative; see Component Type: <ComponentType/>, Alternative: <Alternative/>
DV-009	S	No Owner/Borrower participant identified	An Owner/Borrower has not been identified within the participants provided
DV-012	S	Federally Assisted Indicator field left blank	Federally Assisted Indicator field has been left blank or contains an invalid value
DV-013	S	Sample Percentage field left blank	Sample Percentage field has been left blank or contains an invalid value

ID	SEVERITY	DESCRIPTION	CAUSE
DV-016	S	Square Footage field left blank on Common Space	Square Footage field has been left blank or contains an invalid value on a Common Space; see Site: <SiteID/>, Building: <BuildingID/>, Common Space: <CommonSpace/>
DV-017	S	Number of Sinks field left blank on Common Space	Number of Sinks field has been left blank or contains an invalid value on a Common Space; see Site: <SiteID/>, Building: <BuildingID/>, Common Space: <CommonSpace/>
DV-018	S	Number of Toilets field left blank on Common Space	Number of Toilets field has been left blank or contains an invalid value on a Common Space; see Site: <SiteID/>, Building: <BuildingID/>, Common Space: <CommonSpace/>
DV-019	S	Number of Showerheads field left blank on Common Space	Number of Showerheads field has been left blank or contains an invalid value on a Common Space; see Site: <SiteID/>, Building: <BuildingID/>, Common Space: <CommonSpace/>
DV-020	S	Total Units field left blank on Units	Total Units field has been left blank or contains an invalid value on Units; see Site: <SiteID/>, Building: <BuildingID/>, Unit Type: <UnitType/>
DV-021	S	Building ID field left blank on Unit Type	Building ID field has been left blank or contains an invalid value for a Unit Type; see Site: <SiteID/>, Unit Type: <UnitType/>
DV-022	S	Number of Bedrooms field left blank on Unit Type	Number of Bedrooms field has been left blank or contains an invalid value for a Unit Type; see Site: <SiteID/>, Building: <BuildingID/>, Unit Type: <UnitType/>
DV-023	S	Number of Bathrooms field left blank on Unit Type	Number of Bathrooms field has been left blank or contains an invalid value for a Unit Type; see Site: <SiteID/>, Building: <BuildingID/>, Unit Type: <UnitType/>
DV-024	S	Number of Sinks field left blank on Unit Type	Number of Sinks field has been left blank or contains an invalid value for a Unit Type; see Site: <SiteID/>, Building: <BuildingID/>, Unit Type: <UnitType/>
DV-025	S	Number of Toilets field left blank on Unit Type	Number of Toilets field has been left blank or contains an invalid value for a Unit Type; see Site: <SiteID/>, Building: <BuildingID/>, Unit Type: <UnitType/>
DV-026	S	Number of Showerheads field left blank on a Unit Type	Number of Showerheads field has been left blank or contains an invalid value on a Unit Type; see Site: <SiteID/>, Building: <BuildingID/>, Unit Type: <UnitType/>
DV-027	S	Total Mobility Impaired Units field left blank on a Unit Type	Total Mobility Impaired Units field has been left blank or contains an invalid value on a Unit Type; see Site: <SiteID/>, Building: <BuildingID/>, Unit Type: <UnitType/>
DV-028	S	Total Sensory Impaired Units field left blank on a Unit Type	Total Sensory Impaired Units field has been left blank or contains an invalid value on a Unit Type; see Site: <SiteID/>, Building: <BuildingID/>, Unit Type: <UnitType/>

ID	SEVERITY	DESCRIPTION	CAUSE
DV-038	S	Quantity field left blank on Components	Quantity field has been left blank or contains an invalid value on a Component; see Component Type: <ComponentType/>, Component: <Component/>
DV-039	S	Unit Cost field left blank on a Component	Unit Cost field has been left blank or contains an invalid value on a Component; see Component Type: <ComponentType/>, Component: <Component/>
DV-041	S	Standard Estimated Useful Life field left blank on a Component	Standard Estimated Useful Life field has been left blank or contains an invalid value on a Component; see Component Type: <ComponentType/>, Component: <Component/>
DV-042	S	Year Installed field left blank on a Component	Year Installed field has been left blank or contains an invalid value on a Component; see Component Type: <ComponentType/>, Component: <Component/>
DV-044	S	ADRR per Unit field left blank on Financial Factors	Annual Deposit to Reserves for Replacement (ADRR) per Unit field has been left blank or contains an invalid value on Financial Factors
DV-045	S	Initial Interest Rate for RfR Balance field left blank on Financial Factors	Initial Interest Rate for RfR Balance field has been left blank or contains an invalid value on Financial Factors
DV-046	S	Initial Inflation Rate for Annual RfR Deposit field left blank on Financial Factors	Initial Inflation Rate for Annual RfR Deposit field has been left blank or contains an invalid value on Financial Factors
DV-047	S	Estimate Period field left blank on Financial Factors	Estimate Period field has been left blank or contains an invalid value on Financial Factors
DV-048	S	First Year RfR Deposit field left blank on Financial Factors	First Year RfR Deposit field has been left blank or contains an invalid value on Financial Factors
DV-049	S	Initial Deposit to RfR field left blank on Financial Factors	Initial Deposit to RfR field has been left blank or contains an invalid value on Financial Factors
DV-050	S	Minimum RfR Balance requirements left blank on Financial Factors	Both the Minimum RfR Balance per Unit and Minimum Balance Percentage fields have been left blank on Financial Factors; one is required
DV-051	W	Reserve Comments field left blank on Financial Factors	Reserve Comments field has been left blank or contains an invalid value on Financial Factors
DV-052	S	Building Inspected field left blank on Inspection Sample	Building Inspected field has been left blank or contains an invalid value on an Inspected Unit; see Site: <SiteID/>, Unit Type: <UnitType/>, Unit Number: <UnitNumber/>
DV-053	S	Unit Type field left blank on Inspection Sample	Unit Type field has been left blank or contains an invalid value on an Inspected Unit; see Site: <SiteID/>, Building: <BuildingID/>, Unit Number: <UnitNumber/>
DV-054	S	Unit Identifier field left blank on Inspection Sample	Unit Identifier field has been left blank or contains an invalid value on an Inspected Unit; see Site: <SiteID/>, Building: <BuildingID/>, Unit Type: <UnitType/>
DV-059	S	Owner/Borrower Name field left blank on Participants	Participant Name field has been left blank or contains an invalid value for a Participant; see Participant Role: <ParticipantRole/>

ID	SEVERITY	DESCRIPTION	CAUSE
DV-060	W	Street Address field left blank on Participants	Street Address field has been left blank or contains an invalid value for a Participant; see Participant Role: <ParticipantRole/>
DV-061	W	City field left blank on Participants	City field has been left blank or contains an invalid value for a Participant; see Participant Role: <ParticipantRole/>
DV-062	W	Contact Name field left blank on Participants	Contact Name field has been left blank or contains an invalid value for a Participant; see Participant Role: <ParticipantRole/>
DV-063	W	Phone Number field left blank on Participants	Phone Number field has been left blank or contains an invalid value for a Participant; see Participant Role: <ParticipantRole/>
DV-064	W	Contact Email Address field left blank on Participants	Contact Email Address field has been left blank or contains an invalid value for a Participant; see Participant Role: <ParticipantRole/>
DV-065	W	State field left blank on Participants	State field has been left blank or contains an invalid value for a Participant; see Participant Role: <ParticipantRole/>
DV-066	S	Street Address field left blank on Assessment	Street Address field has been left blank or contains an invalid value on the Assessment
DV-067	S	Street Address field left blank on a Site	Street Address field has been left blank or contains an invalid value on a Site; see Site: <SiteID/>
DV-068	S	Square Footage field left blank on a Site	Square Footage field has been left blank or contains an invalid value on a Site; see Site: <SiteID/>
DV-073	S	Duration of Action field left blank on Recommendation or Decision	Duration of Action field has been left blank or contains an invalid value on a Recommendation or Decision; see Component: <Component/>, Alternative: <Alternative/>
DV-079	S	Year Built field left blank on Building	Year Built field has been left blank or contains an invalid value on a Building; see Site: <SiteID/>, Building: <BuildingID/>
DV-080	S	Replacement Cost of Building per SQ field left blank on Building	Replacement Cost of Building per SQ field has been left blank or contains an invalid value on a Building; see Site: <SiteID/>, Building: <BuildingID/>
DV-083	S	Building ID field left blank on Building	Building ID field has been left blank or contains an invalid value on a Building; see Site: <SiteID/>
DV-085	S	Provider field left blank	Provider field has been left blank or contains an invalid value for a Utility; see Utility Type: <TypeOfUtility/>
DV-086	S	As of Date field left blank	As of Date field has been left blank or contains an invalid value for a Utility; see Utility Type: <TypeOfUtility/>
DV-090	S	Component Type Name field left blank on Alternative	Component Type Name field has been left blank or contains an invalid value for an Alternative; see Component Type: <ComponentType/>, Alternative: <Alternative/>
DV-091	S	Type of Utility field left blank on Alternative	Type of Utility field has been left blank or contains an invalid value for an Alternative; see Component Type: <ComponentType/>, Alternative: <Alternative/>
DV-095	S	Common Space ID field left blank on Common Space	Common Space ID field has been left blank or contains an invalid value for a Common Space

ID	SEVERITY	DESCRIPTION	CAUSE
DV-097	S	Site ID field left blank on Units	Site ID field has been left blank or contains an invalid value on a Unit; see Site: <SiteID/>, Building: <BuildingID/>, Unit Type: <UnitType/>
DV-098	S	Component Type Name field left blank on a Component	Component Type Name field has been left blank or contains an invalid value on a Component; see Component: <Component/>
DV-099	S	Component ID field left blank on a Component	Component ID field has been left blank or contains an invalid value on a Component; see Component Type: <ComponentType/>
DV-100	S	Type of Utility field left blank for Component	Type of Utility field has been left blank or contains an invalid value for a Component; see Component Type: <ComponentType/>, Component: <Component/>
DV-106	S	Site ID field left blank on Inspection Sample	Site ID field has been left blank or contains an invalid value on an Inspection Sample; see Building: <BuildingID/>, Unit Type: <UnitType/>, Unit Number: <UnitNumber/>
DV-109	S	City field left blank on Property	City field has been left blank or contains an invalid value for the Property
DV-110	S	State field left blank on Property	State field has been left blank or contains an invalid value for the Property
DV-111	S	Zip Code field left blank on Property	Zip Code field has been left blank or contains an invalid value for the Property
DV-113	S	Site ID field left blank on a Site	Site ID field has been left blank or contains an invalid value on a Site
DV-114	S	City field left blank on a Site	City field has been left blank or contains an invalid value on a Site; see Site: <SiteID/>
DV-115	S	State field left blank on a Site	State field has been left blank or contains an invalid value on a Site; see Site: <SiteID/>
DV-116	S	Zip Code field left blank on a Site	Zip Code field has been left blank or contains an invalid value on a Site; see Site: <SiteID/>
DV-121	S	Site ID field left blank on Building	Site ID field has been left blank or contains an invalid value for a Building; see Site: <SiteID/>, Building: <BuildingID/>
DV-123	S	Utility Rate field left blank on Utility	Utility Rate field has been left blank or contains an invalid value on a Utility; see Utility: <TypeOfUtility/>
DV-127	S	Property Name field left blank on Assessment	Property Name field has been left blank or contains an invalid value on the Assessment
DV-134	S	Unit Type field left blank on Unit Type	Unit Type field has been left blank or contains an invalid value on Unit Types; see Site: <SiteID/>, Building: <BuildingID/>
DV-136	W	Zip Code field left blank on Participants	Zip Code field has been left blank or contains an invalid value for a Participant; see Participant Role: <ParticipantRole/>
DV-143	S	Date of Site Visit field left blank on Assessment	Date of Final Site Visit field has been left blank on Assessment
DV-186	S	Unit Floor field left blank on Inspection Sample	Unit Floor field has been left blank or contains an invalid value on Inspection Sample; see Site: <SiteID/>, Building: <BuildingID/>, Unit Type: <UnitType/>, Unit Number: <UnitNumber/>

ID	SEVERITY	DESCRIPTION	CAUSE
DV-187	S	Accessibility Indicator field left blank on a Decision/Recommendation	Accessibility Indicator field has been left blank or contains an invalid value on a Decision/Recommendation; see Component: <Component/>, Alternative: <Component/>
DV-189	S	Action field left blank on a Decision/Recommendation	Action field has been left blank or contains an invalid value on a Decision/Recommendation; see Component: <Component/>, Alternative: <Component/>
DV-191	S	Unit of Measure field left blank on an Alternative	Unit of Measure field has been left blank or contains an invalid value on an Alternative; see Component Type: <ComponentType/>, Alternative: <Alternative/>
DV-193	I	Relevant Agency Program field left blank on the Assessment	Relevant Agency Program field has been left blank or contains an invalid value on the Assessment
DV-195	S	HUD CNA Type field left blank on the Assessment	HUD CNA Type field has been left blank or contains an invalid value on the Assessment
DV-196	S	Type of Common Space field left blank on a Common Space	Type of Common Space field has been left blank or contains an invalid value on a Common Space; see Site: <SiteID/>, Building: <BuildingID/>, CommonSpace: <CommonSpace/>
DV-200	S	MSA or Non-MSA field left blank on the Assessment	MSA or Non-MSA field has been left blank or contains an invalid value on the Assessment
DV-201	S	Life Safety Indicator field left blank on a Decision/Recommendation	Life Safety Indicator field has been left blank or contains an invalid value on a Decision/Recommendation; see Component: <Component/>, Alternative: <Alternative/>
DV-203	S	Building Type field left blank on a Building	Building Type field has been left blank or contains an invalid value on a Building; see Site: <SiteID/>, Building: <BuildingID/>
DV-204	S	Foundation field left blank on a Building	Foundation field has been left blank or contains an invalid value on a Building; see Site: <SiteID/>, Building: <BuildingID/>
DV-205	S	Construction Type field left blank on a Building	Construction Type field has been left blank or contains an invalid value on a Building; see Site: <SiteID/>, Building: <BuildingID/>
DV-206	S	Type of Utility field left blank on Utility Type	Type of Utility field has been left blank or contains an invalid value on a Utility Type; see Utility Type: <TypeOfUtility/>
DV-207	S	Consumption Unit field left blank on Utility Type	Consumption Unit field has been left blank or contains an invalid value on a Utility Type; see Utility Type: <TypeOfUtility/>
DV-209	S	Utility Type field left blank on Utility Type	Utility Type field has been left blank or contains an invalid value on a Utility Type; see Utility Type: <TypeOfUtility/>
DV-210	S	When field left blank on Recommendation or Decision	When field has been left blank or contains an invalid value on a Recommendation or Decision; see Component: <Component/>, Alternative: <Alternative/>
DV-212	S	Inspection Status field left blank on Inspection Sample	Inspection Status field has been left blank or contains an invalid value on an Inspected Unit; see Site: <SiteID/>, Building: <BuildingID/>, Unit Type: <UnitType/>, Unit Number: <UnitNumber/>

ID	SEVERITY	DESCRIPTION	CAUSE
DV-213	S	Unit Status field left blank on Unit Type	Unit Status field has been left blank or contains an invalid value for a Unit Type; see Site: <SiteID/>, Building: <BuildingID/>, Unit Type: <UnitType/>
DV-215	S	Approving Agency field left blank	Approving Agency field has been left blank or contains an invalid value
DV-216	S	Accessible Path Exists field left blank on Unit Type	Accessible Path Exists field has been left blank or contains an invalid value on Unit Type; see Site: <SiteID/>, Building: <BuildingID/>, Unit Type: <UnitType/>
DV-217	S	Commercial/Public Accommodation field left blank	Commercial/Public Accommodation field has been left blank or contains an invalid value
DV-218	S	Accessibility Statute/Standard field left blank	Accessibility Statute/Standard field has been left blank or contains an invalid value for an Accessibility Replacement Decision; see Component: <Component/>, Alternative: <Alternative/>
DV-220	S	ASHRAE Level 2 Energy Auditor Name/Credentials field left blank	ASHRAE Level 2 Energy Auditor Name/Credentials field has been left blank or contains an invalid value
DV-221	S	Additional Testing Comment field left blank	Additional Testing was indicated but the Additional Testing Comment field has been left blank or contains an invalid value
DV-222	S	USDA CNA Type field left blank	USDA CNA Type field has been left blank or contains an invalid value
DV-223	S	Type Comments field left blank	Comments field has been left blank or contains an invalid value on a Common Space identified as Common Area Type = "Other"; see Site: <SiteID/>, Building: <BuildingID/>, CommonSpace: <CommonSpace/>
DV-224	S	EUL Comments field left blank on Component	EUL Comments field has been left blank or contains an invalid value on Components; see Component Type: <ComponentType/>, Component: <Component/>
DV-231	S	Repair/Replacement Location field left blank	Repair/Replacement Location field has been left blank or contains an invalid value on an Accessibility or Life Safety Decision; see Component: <Component/>, Alternative: <Alternative/>
DV-233	S	Scope of Required Accessibility Compliance field left blank	Scope of Required Accessibility Compliance field has been left blank or contains an invalid value on an Accessibility Decision; see Component: <Component/>, Alternative: <Alternative/>
DV-234	S	Scope of Required Replacement/Refurbishment field left blank	Scope of Required Replacement/Refurbishment field has been left blank or contains an invalid value on a Repair/Replacement Decision with Action marked as Repair; see Component: <Component/>, Alternative: <Alternative/>
DV-238	S	Construction Type Comments field left blank	Construction Type Comments field has been left blank or contains an invalid value on a Repair/Replacement Decision with a Construction Type of "Other"; see Component: <Component/>, Alternative: <Alternative/>

ID	SEVERITY	DESCRIPTION	CAUSE
DV-239	S	Number of Stories Below Grade field left blank	Number of Stories Below Grade field has been left blank or contains an invalid value for a Building with a Full Basement foundation; see Site: <SiteID/>, Building: <BuildingID/>
DV-240	S	Basement Floor Type field left blank on Building	Basement Floor Type field has been left blank or contains an invalid value on a Building identified as having a Full Basement; see Site: <SiteID/>, Building: <BuildingID/>
DV-241	S	Foundation Comments field left blank on Building	Foundation Comments field has been left blank or contains an invalid value for a Building with a Foundation identified as "Other"; see Site: <SiteID/>, Building: <BuildingID/>
DV-243	S	Time to Complete field left blank on Recommendation or Decision	Time to Complete field has been left blank or contains an invalid value on an Accessibility Recommendation/Decision; see Component: <Component/>, Alternative: <Alternative/>
DV-244	S	Start Year for new Deposit Inflation Rate field left blank on Financial Factors	Start Year for new Deposit Inflation Rate field has been left blank or contains an invalid value on Financial Factors
DV-245	S	Start Year for new Rate on RfR Balance field left blank on Financial Factors	Start Year for new Rate on RfR Balance field has been left blank or contains an invalid value on Financial Factors
DV-246	S	Start Year for new Inflation Rate on Cap Needs field left blank on Financial Factors	Start Year for new Inflation Rate on Cap Needs field has been left blank or contains an invalid value on Financial Factors
DV-247	S	ADA Compliance Exists field left blank on Common Spaces	ADA Compliance Exists field has been left blank or contains an invalid value on a Common Space; see Site: <SiteID/>, Building: <BuildingID/>, CommonSpace: <CommonSpace/>
DV-260	W	Comments field is required when Assessed RUL exists	Comments field has been left blank or contains an invalid value and is required when Assessed RUL exists; see Component: <ComponentID/>
DV-262	S	Participant Role field has been left blank on for a Participant	Participant Role field has been left blank for a Participant; see Participant Name: <ParticipantName/>
FN-002	W	Annual Ending Balance falls below Allowable Minimum Balance	Annual Ending Balance per Unit falls below Allowable Minimum Balance in year; see Relative Year: <RelativeYear/>
FN-004	W	Annual Capital Needs Inflation Rate above max	Annual Capital Needs Inflation Rate above 2.5% maximum rate on Financial Factors
FN-005	W	Annual Reserve Deposit Inflation Rate above max	Annual Reserve Deposit Inflation Rate above 2.5% maximum rate on Financial Factors
FN-006	W	Annual Percentage Rate Earned on RfR Balance above max	Annual Percentage Rate Earned above 1.5% maximum rate on Financial Factors
FN-013	S	File Type field left blank	File Type field has been left blank
GS-001	S	Seismic ratings SX1 and SXS left blank on Assessment	Based on HUD-related program, seismic ratings SX1 and SXS are required and are not present
GS-002	S	Seismic Hazard Analysis Report required but not attached	Seismic rating SX1 and/or SXS indicates Seismic Hazard Analysis Report is required; no Seismic Hazard Analysis Report is attached
OC-001	S	Date of Occupancy Permit cannot be greater than Year Built	Date of Occupancy Permit cannot be after the Year Built on a Building; see Site: <SiteID/>, Building: <BuildingID/>

ID	SEVERITY	DESCRIPTION	CAUSE
PB-001	W	Utility Rate cannot be Zero	Utility Rate cannot be \$0; see Utility Type: <TypeOfUtility/>
PI-003	W	Number of Elevators Required for 2- to 5-Story Elevator Building	Number of Elevators is a required field for 2- to 5-Story Buildings; see Site: <SiteID/>, Building: <BuildingID/>
PI-004	W	Number of Stories Required for 2- to 5-Story Elevator Building	Number of Stories is a required field for 2- to 5-Story Buildings; see Site: <SiteID/>, Building: <BuildingID/>
PI-005	W	Number of Elevators Required for High-rise Building	Number of Elevators is a required field for High-rise Buildings; see Site: <SiteID/>, Building: <BuildingID/>
PI-006	W	Number of Stories Required for High-rise Building	Number of Stories is a required field for High-rise Buildings; see Site: <SiteID/>, Building: <BuildingID/>
PI-008	I	Public Accommodation identified on Common Space	Common Public Space identified as Leasing/Marketing or Rental Space, check parking; see Site: <SiteID/>, Building: <BuildingID/>, Common Space: <CommonSpace/>
PI-009	I	Fair Housing Act Covered Building	<BuildingID/> on <SiteID/> must comply with the design and construction requirements of the Fair Housing Act
PI-010	W	Replacement Cost of Building per SQ left blank	Replacement Cost of Building per SQ was left blank or contains an invalid value; see Site: <SiteID/>, Building: <BuildingID/>
PI-011	S	Year of Rehab cannot be prior to Year Built	Year of Rehab cannot be greater than Year Built; see Site: <SiteID/>, Building: <BuildingID/>
PI-012	S	When Replacement Cost of Building per SQ > 0, Source of Replacement Cost cannot be blank	When Replacement Cost of Building per SQ is greater than 0, Source of Replacement Cost cannot be blank; see Site: <SiteID/>, Building: <BuildingID/>
PI-013	S	Invalid Basement Floor Type selection	When Number of Stories Below Grade is greater than 1, Basement Floor Type has to equal either Structural Slab or Slab on Grade; see Site: <SiteID/>, Building: <BuildingID/>
PV-001	W	Total Accessible Surface Parking is less than 2% of Total Surface Parking	Total Accessible Surface Parking is less than 2% of Total Surface Parking; see Site: <SiteID/>
PV-002	W	Total Accessible Covered Parking is less than 2% of Total Covered Parking	Total Accessible Covered Parking is less than 2% of Total Covered Parking; see Site: <SiteID/>
PV-003	W	Total Accessible Garage Parking is less than 2% of Total Garage Parking	Total Accessible Garage Parking is less than 2% of Total Garage Parking; see Site: <SiteID/>
PV-004	W	Total Garage Accessible Parking Spaces is less than 2% of Total Garage Parking Spaces	Total Garage Accessible Parking Spaces is less than 2% of Total Garage Parking Spaces on a Common Space; see Site: <SiteID/>, Building: <BuildingID/>, Common Space: <CommonSpace/>
PV-005	W	Total Unit Accessible Garage Parking is less than 2% of Total Unit Garage Parking	Total Unit Accessible Garage Parking is less than 2% of Total Unit Garage Parking for a Unit Type; see Site: <SiteID/>, Building: <BuildingID/>, Unit Type: <UnitType/>

ID	SEVERITY	DESCRIPTION	CAUSE
PV-006	S	Total Accessible Surface Parking cannot be greater than Total Surface Parking	Total Accessible Surface Parking cannot be greater than Total Surface Parking; see Site: <SiteID/>
PV-007	S	Total Accessible Covered Parking cannot be greater than Total Covered Parking	Total Accessible Covered Parking cannot be greater than Total Covered Parking; see Site: <SiteID/>
PV-008	S	Total Accessible Garage Parking cannot be greater than Total Garage Parking	Total Accessible Garage Parking spaces cannot be greater than Total Garage Parking; see Site: <SiteID/>
PV-009	S	Total Unit Accessible Garage Parking cannot be greater than Total Unit Garage Parking	Total Unit Accessible Garage Parking spaces cannot be greater than Total Unit Garage Parking; see Site: <SiteID/>, Building: <BuildingID/>, Unit Type: <UnitType/>
PV-010	S	Total Garage Accessible Parking Spaces cannot be greater than Total Garage Parking Spaces	Total Garage Accessible Parking Spaces cannot be greater than Total Garage Parking Spaces; see Site: <SiteID/>, Building: <BuildingID/>, Common Space: <CommonSpace/>
RR-002	I	Decision Alternative does not match Recommendation Alternative	Decision Alternative does not match Recommendation Alternative; see Component: <Component/>
RR-004	I	Decision Timing does not match Recommendation Timing	Decision Timing does not match the Assessor-chosen Recommendation Timing; see Component: <Component/>, Alternative: <Alternative/>
RR-005	W	One-time Repair chosen for an End-of-Cycle Action	Repair/Replacement "Action" type "One-time Repair" cannot be scheduled for "End of Cycle"; see Recommendation/Decision for Component: <Component/>, Alternative: <Alternative/>
RR-006	I	Repair chosen for an End-of-Cycle Action	Repair/Replacement "Action" type "Repair" has been scheduled for "End of Cycle"; see Recommendation/Decision for Component: <Component/>, Alternative: <Alternative/>
RR-007	S	Component "Unit Cost" left blank on a "Repair" Recommendation/Decision	Component Cost field for a Component was left blank or contains an invalid value on a "Repair" Recommendation/Decision; see Component Type: <ComponentType/>, Component: <Component/>
RR-008	S	End-of-Cycle timing chosen for a Life Safety or Accessibility Recommendation/Decision	Recommendation/Decision indicated as either Life Safety or Accessibility cannot have an "End of Cycle" timing; see Component: <Component/>, Alternative: <Alternative/>
RR-009	W	Estimated Useful Life for a Repair is less than Remaining Useful Life	Estimated Useful Life of a repair is less than the Remaining Useful Life on the Component being repaired; see Component: <Component/>, Alternative: <Alternative/>
UL-001	W	Estimated/Standard Useful Life Conflict	Recommended Remaining Useful Life differs from Standard Remaining Useful Life on an Alternative; see Component Type: <ComponentType/>, Alternative: <Alternative/>
UL-002	W	Remaining Useful Life less than 10%	End of Cycle chosen for Component with less than 10% life remaining; see Component: <Component/>, Alternative: <Alternative/>

ID	SEVERITY	DESCRIPTION	CAUSE
UL-003	W	Lifecycle Analysis warrants earlier retirement	Recommendation/Decision differs from early retirement warranted by Lifecycle Cost Analysis; see Component: <Component/>, Alternative: <Alternative/>

## APPENDIX C: ESTIMATED USEFUL LIFE TABLES

The following tables list the recommended average useful life of the categories of assets that should be considered in a Capital Needs calculation. If a specific item is not listed, it should be assigned to the most closely related category.

The Standard Estimated Useful Life (EUL) for a component type is fixed. The user may estimate the Remaining Useful Life (RUL) of any existing component independent of the Standard EUL by entering the estimated RUL in the appropriate space on the Components tab of the Excel Assessor/Lender Tool. When identifying an alternative to the existing component, the user may specify an EUL for the alternative that differs from the Standard EUL for that component type but must enter an explanation in the comment space on the Alternatives tab of the tool.

Lv	ASTM Outline	HUD Extension of ASTM Outline lvl 1	HUD Extension of ASTM Outline lvl 2	HUD Extension of ASTM Outline lvl 3	Component Description	Family	Elderly	3 tiers of categorization: Need Category, Need Item, Component Type
3					<b>System Description and Observations</b>			
	3.1				Overall General Description			
	3.2				<b>Site Systems</b>			Need Category
		3.2.1			Topography			
		3.2.2			<b>Storm Water Drainage</b>			Need Item
			3.2.2.1		Catch basins, inlets, culverts	50	50	All items not color coded
			3.2.2.2		Marine or stormwater bulkhead	35	35	are "Component Type"
			3.2.2.3		Earthwork, swales, drainways, erosion controls	50	50	names. Greyed items
			3.2.2.4		Storm drain lines	50	50	do not appear in the
			3.2.2.5		Stormwater mgmt. ponds	50	50	CNA e Tool.
			3.2.2.6		Fountains, pond aerators	15	15	
		3.2.3			<b>Access and Egress</b>			Need Item
			3.2.3.1		Security gate - lift arm	10	10	
			3.2.3.2		Security gate - rolling gate	15	15	
		3.2.4			<b>Paving, Curbing, and Parking</b>			Need Item
			3.2.4.1		Asphalt Pavement	25	25	
			3.2.4.2		Asphalt Seal Coat	5	5	
			3.2.4.3		Concrete Pavement	50	50	
			3.2.4.4		Curbing, Asphalt	25	25	
			3.2.4.5		Curbing, Concrete	50	50	
			3.2.4.6		Parking, Gravel Surfaced	15	15	
			3.2.4.7		Permeable Paving Systems (brick, concrete pavers)	30	30	
			3.2.4.8		Striping and Marking	15	15	
			3.2.4.9		Signage, Roadway / Parking	15	15	

Lv	ASTM Outline	HUD Extension of ASTM Outline lvl 1	HUD Extension of ASTM Outline lvl 2	HUD Extension of ASTM Outline lvl 3	Component Description	Family	Elderly	3 tiers of categorization: Need Category, Need Item, Component Type
			3.2.4.10		Carports, wood frame	30	30	
			3.2.4.11		Carports, metal frame	40	40	
		3.2.5			<b>Flatwork (walks, plazas, terraces, patios)</b>			Need Item
			3.2.5.1		Asphalt	25	25	
			3.2.5.2		Concrete	50	50	
			3.2.5.3		Gravel	15	15	
			3.2.5.4		Permeable Paving (brick, concrete pavers)	30	30	
		3.2.6			<b>Landscaping and Appurtenances</b>			Need Item
			3.2.6.1		Fencing, chain-link	40	40	
			3.2.6.2		Fencing, wood picket	15	20	
			3.2.6.3		Fencing, wood board (=>1"x 6")	20	25	
			3.2.6.4		Fencing, wrought Iron	60	60	
			3.2.6.5		Fencing, steel or aluminum	20	25	
			3.2.6.6		Fencing, concrete Masonry unit (CMU)	30	30	
			3.2.6.7		Fencing, PVC	15	20	
			3.2.6.8		Signage, Entrance/Monument	25	25	
			3.2.6.9		Mail Kiosk	15	20	
			3.2.6.10		Retaining Walls , heavy block (50-80 lb.)	60	60	
			3.2.6.11		Retaining Walls, reinforced concrete masonry unit (CMU)	40	40	
			3.2.6.12		Retaining Walls, treated timber	25	25	
			3.2.6.13		Storage sheds	30	30	
		3.2.7			<b>Recreational Facilities</b>			Need Item
			3.2.7.1		Sport Court- asphalt	25	25	
			3.2.7.2		Sport Court- synthetic	15	20	
			3.2.7.3		Sport Court-hardwood	50	50	
			3.2.7.4		Tot Lot (playground equipment)	10	15	
			3.2.7.5		Tot Lot- lose ground cover	3	5	
			3.2.7.6		Pool Deck	15	15	
			3.2.7.7		Pool/Spa Plastic Liner	8	8	
			3.2.7.8		Pool/Spa pumps and equipment	10	10	
			3.2.7.9		Decks-treated lumber	20	20	
			3.2.7.10		Decks-composite	50	50	
		3.2.8			<b>Site Utilities</b>			
			3.2.8.1		<b>Site Utilities-Water</b>			Need Item
				3.2.8.1.1	Water Mains/Valves	50	50	
				3.2.8.1.2	Water Tower	50	50	

Lv	ASTM Outline	HUD Extension of ASTM Outline lvl 1	HUD Extension of ASTM Outline lvl 2	HUD Extension of ASTM Outline lvl 3	Component Description	Family	Elderly	3 tiers of categorization: Need Category, Need Item, Component Type
				3.2.8.1.3	Irrigation System	25	25	
			3.2.8.2		<b>Site Utilities-Electric</b>			Need Item
				3.2.8.2.1	Electric distribution center	40	40	
				3.2.8.2.2	Electric distribution lines	40	40	
				3.2.8.2.3	Transformer	30	30	
				3.2.8.2.4	Emergency Generator	25	25	
				3.2.8.2.5	Solar Photovoltaic panels	15	15	
				3.2.8.2.6	Photovoltaic Inverters	10	10	
				3.2.8.2.7	Pole mounted lights	25	25	
				3.2.8.2.8	Ground lighting	10	10	
				3.2.8.2.9	Building Mounted Lighting	10	10	
				3.2.8.2.10	Building Mounted High Intensity Discharge (HID) Lighting	10	20	
			3.2.8.3		<b>Site Utilities-Gas</b>			Need Item
				3.2.8.3.1	Gas Main	40	40	
				3.2.8.3.2	Gas Supply Lines	40	40	
				3.2.8.3.3	Site Propane, Storage & Distribution	35	35	
				3.2.8.3.4	Gas lights/fire pits	20	20	
			3.2.8.4		<b>Site Utilities-Sewer</b>			Need Item
				3.2.8.4.1	Sanitary Sewer lines	50	50	
				3.2.8.4.2	Sanitary waste treatment system	40	40	
				3.2.8.4.3	Lift Station	50	50	
			3.2.8.5		<b>Site Utilities-Trash</b>			Need Item
				3.2.8.5.1	Dumpsters	15	15	
				3.2.8.5.2	Compactors (exterior, commercial grade)	20	20	
				3.2.8.5.3	Recycling containers/equipment	15	15	
				3.2.8.5.4	Composting, organic recycling equipment	10	10	
	3.3				<b>Building Frame &amp; Envelope</b>			Need Category
		3.3.1			<b>Foundation</b>			Need Item
			3.3.1.1		Slab, reinforced concrete	100	100	
			3.3.1.2		Slab, post tensioned	100	100	
			3.3.1.3		Continuous reinforced concrete footer and CMU stem wall	100	100	
			3.3.1.4		Piers, reinforced concrete footer and CMU pier	100	100	
			3.3.1.5		Piers, treated timber post/pole	40	40	
			3.3.1.6		Foundation Waterproofing	40	40	
			3.3.1.7		Foundation suction, drainage, groundwater, radon gas controls, pumps, sumps, equip. failure alarms	10	10	
		3.3.2			<b>Building Frame</b>			

Lv	ASTM Outline	HUD Extension of ASTM Outline lvl 1	HUD Extension of ASTM Outline lvl 2	HUD Extension of ASTM Outline lvl 3	Component Description	Family	Elderly	3 tiers of categorization: Need Category, Need Item, Component Type
			3.3.2.1		<b>Framing System, Floors &amp; Walls</b>			Need Item
				3.3.2.1.1	Wood, timbers, dimensioned lumber, laminated beams, trusses	100	100	
				3.3.2.1.2	Tie downs, clips, braces, straps, hangers, shear walls/panels	75	75	
				3.3.2.1.3	Steel, beams, trusses	100	100	
				3.3.2.1.4	Reinforced concrete	100	100	
				3.3.2.1.5	Reinforced masonry, concrete masonry units (CMUs)	100	100	
				3.3.2.1.6	Solid Masonry (obsolete)	100	100	
			3.3.2.2		<b>Crawl Spaces, Envelope Penetrations</b>			Need Item
				3.3.2.2.1	Sealed crawl space system	40	40	
				3.3.2.2.2	Vents, screens, covers	30	30	
				3.3.2.2.3	Vapor Barrier (VDR) ground or underfloor	30	30	
				3.3.2.2.4	Penetrations, caulking/sealing	15	15	
				3.3.2.2.5	Crawl space, (de)pressurization, fans, pumps, sumps, equipment failure alarms	10	10	
			3.3.2.3		<b>Roof Frame &amp; Sheathing</b>			Need Item
				3.3.2.3.1	Wood frame and board or plywood sheathing	75	75	
				3.3.2.3.2	Tie downs, clips, braces, straps, hangers	75	75	
				3.3.2.3.3	Steel frame and sheet metal or insulated panel sheathing	100	100	
				3.3.2.3.4	Reinforced concrete deck	100	100	
			3.3.2.4		<b>Flashing &amp; Moisture Protection</b>			Need Item
				3.3.2.4.1	Caulking and Sealing	15	15	
				3.3.2.4.2	Concrete/Masonry Sealants	10	10	
				3.3.2.4.3	Wood waterproofing and sealants	10	10	
				3.3.2.4.4	Building wraps & moisture resistant barriers	50	50	
				3.3.2.4.5	Paints and stains, exterior	8	8	
			3.3.2.5		<b>Attics &amp; Eaves</b>			Need Item
				3.3.2.5.1	Screened gable end or soffit Vents	30	30	
				3.3.2.5.2	Roof vents, passive	40	40	
				3.3.2.5.3	Roof Vents, powered	20	20	
			3.3.2.6		<b>Insulation</b>			Need Item
				3.3.2.6.1	Loose fill, fiber glass, cellulose, mineral wool	50	50	
				3.3.2.6.2	Batts, blankets, rolls, fiber glass or mineral wool	60	60	
				3.3.2.6.3	Rigid foam board	60	60	
				3.3.2.6.4	Sprayed foam	60	60	

Lv	ASTM Outline	HUD Extension of ASTM Outline lvl 1	HUD Extension of ASTM Outline lvl 2	HUD Extension of ASTM Outline lvl 3	Component Description	Family	Elderly	3 tiers of categorization: Need Category, Need Item, Component Type
			3.3.2.7		<b>Exterior Stairs, Rails, Balconies/Porches, Canopies</b>			Need Item
				3.3.2.7.1	Exterior Stairs, wood frame/stringer	30	30	
				3.3.2.7.2	Exterior Stair Tread-wood	15	15	
				3.3.2.7.3	Exterior Stairs-steel frame/stringer	40	40	
				3.3.2.7.4	Exterior Stair Tread-metal, concrete filled	20	20	
				3.3.2.7.5	Exterior Stairs, Concrete	50	50	
				3.3.2.7.6	Fire escapes, metal	50	50	
				3.3.2.7.7	Balcony/Porch, wood frame	25	25	
				3.3.2.7.8	Balcony/Porch, steel frame or concrete	40	40	
				3.3.2.7.9	Balcony/Porch, wood decking	20	20	
				3.3.2.7.10	Balcony/Porch, composite decking	50	50	
				3.3.2.7.11	Railings, wood	20	20	
				3.3.2.7.12	Railings, metal	50	50	
				3.3.2.7.13	Railings, composite	50	50	
				3.3.2.7.14	Canopy, Concrete	50	50	
				3.3.2.7.15	Canopy, Wood/Metal	40	40	
			3.3.2.8		<b>Exterior Doors &amp; Entry Systems</b>			Need Item
				3.3.2.8.1	Unit Entry Door, Exterior, solid wood/metal clad	25	30	
				3.3.2.8.2	Common Exterior Door, aluminum and glass	30	30	
				3.3.2.8.3	Common Exterior Door, solid wood /metal clad	25	25	
				3.3.2.8.4	Storm/Screen Doors	5	10	
				3.3.2.8.5	Sliding Glass Doors	25	30	
				3.3.2.8.6	French or Atrium Doors, wood/metal clad	25	30	
				3.3.2.8.7	Automatic Entry Doors	30	30	
				3.3.2.8.8	Commercial Entry Systems	50	50	
				3.3.2.8.9	Overhead Door	30	30	
				3.3.2.8.10	Automatic Opener, overhead door	20	20	
		3.3.3			<b>Façades or Curtainwall</b>			
			3.3.3.1		<b>Sidewall System</b>			Need Item
				3.3.3.1.1	Aluminum Siding	40	40	
				3.3.3.1.2	Vinyl Siding	25	25	
				3.3.3.1.3	Cement Board Siding	45	45	
				3.3.3.1.4	Plywood/Laminated Panels	20	20	
				3.3.3.1.5	Exterior Insulation Finishing System (EIFS)	30	30	
				3.3.3.1.6	Stucco, over wire mesh/lath	50	50	
				3.3.3.1.7	Metal/Glass Curtain Wall	40	40	

Lv	ASTM Outline	HUD Extension of ASTM Outline lvl 1	HUD Extension of ASTM Outline lvl 2	HUD Extension of ASTM Outline lvl 3	Component Description	Family	Elderly	3 tiers of categorization: Need Category, Need Item, Component Type
				3.3.3.1.8	Precast Concrete Panel (tilt-up)	60	60	
				3.3.3.1.9	Brick/block veneer	60	60	
				3.3.3.1.10	Stone Veneer	50	50	
				3.3.3.1.11	Glass Block	50	50	
				3.3.3.1.12	Cedar/Redwood shakes, clapboard	50	50	
				3.3.3.1.13	Pine board, clapboard	50	50	
			<b>3.3.3.2</b>		<b>Windows</b>			<b>Need Item</b>
				3.3.3.2.1	Wood, (dbl, sgl hung, casement, awning, sliders)	35	45	
				3.3.3.2.2	Wood, fixed pane, picture	40	45	
				3.3.3.2.3	Aluminum	35	40	
				3.3.3.2.4	Vinyl	30	30	
				3.3.3.2.5	Vinyl/Alum Clad Wood	50	50	
				3.3.3.2.6	Storm/Screen Windows	7	15	
		3.3.4			<b>Roofing and Roof Drainage</b>			
			<b>3.3.4.1</b>		<b>Sloped Roofs</b>			<b>Need Item</b>
				3.3.4.1.1	Asphalt Shingle	20	20	
				3.3.4.1.2	Metal	50	50	
				3.3.4.1.3	Slate shingle	75	75	
				3.3.4.1.4	Clay/cementitious barrel tile	60	60	
				3.3.4.1.5	Wood Shingle, Cedar Shakes/Shingles	25	25	
			<b>3.3.4.2</b>		<b>Low Slope/Flat Roofs</b>			<b>Need Item</b>
				3.3.4.2.1	Low slope-Built-up Roof, with gravel finish	20	20	
				3.3.4.2.2	Low slope-Built-up Roof, no mineral or gravel finish	10	10	
				3.3.4.2.3	Low slope-Adhered rubber membrane, (EPDM)	15	15	
				3.3.4.2.4	Low slope-Thermoplastic membrane, (TPO, vinyl)	15	15	
				3.3.4.2.5	Low slope-Rubberized/elastomeric white/cool roof	15	15	
			<b>3.3.4.3</b>		<b>Roof Drainage, Trim &amp; Accessories</b>			<b>Need Item</b>
				3.3.4.3.1	Gutters/Downspouts, aluminum	20	20	
				3.3.4.3.2	Gutters/Downspouts, copper	50	50	
				3.3.4.3.3	Low slope-roof drains, scuppers	30	30	
				3.3.4.3.4	Soffits, Wood, Vinyl, Metal	20	20	
				3.3.4.3.5	Fascia, Wood, Vinyl	20	20	
				3.3.4.3.6	Roof Hatch	30	30	
				3.3.4.3.7	Service Door	30	30	
				3.3.4.3.8	Roof Skylight	30	30	
	<b>3.4</b>				<b>Mech.-Elect.-Plumbing</b>			<b>Need Category</b>

Lv	ASTM Outline	HUD Extension of ASTM Outline lvl 1	HUD Extension of ASTM Outline lvl 2	HUD Extension of ASTM Outline lvl 3	Component Description	Family	Elderly	3 tiers of categorization: Need Category, Need Item, Component Type
		3.4.1			<b>Plumbing</b>			
			3.4.1.1		<b>Water Supply and Waste Piping</b>			Need Item
				3.4.1.1.1	PVC/CPVC pipe, supply and waste	75	75	
				3.4.1.1.2	Copper/brass hard pipe, supply	75	75	
				3.4.1.1.3	Copper Tube, supply	50	50	
				3.4.1.1.4	Galvanized pipe, supply	40	40	
				3.4.1.1.5	Cast iron sanitary waste	75	75	
				3.4.1.1.6	Domestic Cold Water Pumps	20	20	
				3.4.1.1.7	Sewage Ejectors	50	50	
				3.4.1.1.8	Commercial Sump Pump	20	20	
				3.4.1.1.9	Residential Sump Pump	15	15	
				3.4.1.1.10	Water Softener/Filtration	15	15	
			3.4.1.2		<b>Domestic Water Heating</b>			Need Item
				3.4.1.2.1	DHW circulating pumps	15	15	
				3.4.1.2.2	DHW storage tanks	15	15	
				3.4.1.2.3	Exchanger, in tank or boiler	15	15	
				3.4.1.2.4	External tankless heater, gas or electric	20	20	
				3.4.1.2.5	Solar hot water	20	20	
				3.4.1.2.6	Residential hot water heater, gas or electric	12	15	
				3.4.1.2.7	Flue, gas water heaters	35	35	
				3.4.1.2.8	Boilers, Oil Fired, Sectional	25	25	
				3.4.1.2.9	Boilers, Gas Fired, Sectional	25	25	
				3.4.1.2.10	Boilers, Oil/ Gas/ Dual Fuel, Low MBH	30	30	
				3.4.1.2.11	Boilers, Oil/ Gas/ Dual Fuel, High MBH	40	40	
				3.4.1.2.12	Boilers, Gas Fired Atmospheric	25	25	
				3.4.1.2.13	Boilers, Electric	20	20	
				3.4.1.2.14	Boiler Blowdown and Water Treatment	25	25	
				3.4.1.2.15	Boiler Room Pipe Insulation	25	25	
				3.4.1.2.16	Boiler Room Piping	50	50	
				3.4.1.2.17	Boiler Room Valves	25	25	
				3.4.1.2.18	Boiler Temperature Controls	15	15	
				3.4.1.2.19	Heat Exchanger	35	35	
			3.4.1.3		<b>Fixtures</b>			Need Item
				3.4.1.3.1	Faucets & valves	15	20	
				3.4.1.3.2	Bath tubs & sinks, cast iron	75	75	
				3.4.1.3.3	Bubs tubs & sinks, enameled or stainless steel, fiberglass	40	40	

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				3.4.1.3.4	Bath tubs & sinks, porcelain	50	50	
				3.4.1.3.5	Toilets/bidets/urinals	40	40	
				3.4.1.3.6	Flush valves	10	15	
				3.4.1.3.7	Tub/shower units or integrated assemblies	30	30	
		3.4.2			<b>Centralized HVAC Systems</b>			
			3.4.2.1		<b>Centralized Heating/Cooling Equipment</b>			Need Item
				3.4.2.1.1	Boilers, Oil Fired, Sectional - Centralized	25	25	
				3.4.2.1.2	Boilers, Gas Fired, Sectional - Centralized	25	25	
				3.4.2.1.3	Boilers, Oil/ Gas/ Dual Fuel, Low MBH - Centralized	30	30	
				3.4.2.1.4	Boilers, Oil/ Gas/ Dual Fuel, High MBH - Centralized	40	40	
				3.4.2.1.5	Boilers, Gas Fired Atmospheric - Centralized	25	25	
				3.4.2.1.6	Boilers, Electric - Centralized	20	20	
				3.4.2.1.7	Boiler Blowdown and Water Treatment - Centralized	25	25	
				3.4.2.1.8	Boiler Room Pipe Insulation - Centralized	25	25	
				3.4.2.1.9	Boiler Room Piping - Centralized	50	50	
				3.4.2.1.10	Boiler Room Valves - Centralized	25	25	
				3.4.2.1.11	Boiler Temperature Controls - Centralized	15	15	
				3.4.2.1.12	Heat Exchanger - Centralized	35	35	
				3.4.2.1.13	Combustion Air, Duct with Fixed Louvers	30	30	
				3.4.2.1.14	Combustion Air, Motor Louvers and Duct	25	25	
				3.4.2.1.15	Combustion Waste Flue	40	40	
				3.4.2.1.16	Cooling tower	25	25	
				3.4.2.1.17	Chilling plant	20	20	
				3.4.2.1.18	Steam supply station	50	50	
				3.4.2.1.19	Free standing chimney	50	50	
			3.4.2.2		<b>Centralized Heat/Air/Fuel Distribution</b>			Need Item
				3.4.2.2.1	Fuel oil/propane storage tanks	40	40	
				3.4.2.2.2	Remediate/remove abandoned tanks/fuel lines	100	100	
				3.4.2.2.3	Fuel transfer system	25	25	
				3.4.2.2.4	Gas/oil distribution lines	50	50	
				3.4.2.2.5	Gas meter	40	40	
				3.4.2.2.6	2 pipe/4 pipe hydronic distribution-above grade	50	50	
				3.4.2.2.7	2 pipe/4 pipe hydronic distribution-in ground	25	25	

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				3.4.2.2.8	Hydronic/Water Circulating Pumps	20	20	
				3.4.2.2.9	Hydronic/Water Controller	20	20	
				3.4.2.2.10	Radiation-steam/hydronic (baseboard or freestanding radiator)	50	50	
				3.4.2.2.11	Fan Coil Unit, Hydronic	30	30	
				3.4.2.2.12	Central exhaust fans/blowers	20	20	
		3.4.3			<b>Decentralized and Split HVAC Systems</b>			
			3.4.3.1		<b>Dwelling/Common Area HVAC Equipment</b>			Need Item
				3.4.3.1.1	Electric heat pump, condenser, pad or rooftop	15	15	
				3.4.3.1.2	Electric AC condenser, pad or rooftop	15	15	
				3.4.3.1.3	Electric furnace/air handler	20	20	
				3.4.3.1.4	Gas furnace/air handler	20	20	
				3.4.3.1.5	Hydronic heat/electric AC air handler	25	25	
				3.4.3.1.6	Hydronic feed electric heat pump/air handler	25	25	
				3.4.3.1.7	Wall mounted electric/gas heater	25	25	
				3.4.3.1.8	Electric baseboard heater	30	30	
				3.4.3.1.9	PTAC Thruwall (packaged terminal air conditioning)	15	15	
				3.4.3.1.10	Window or thru-wall air conditioners	10	10	
				3.4.3.1.11	Package HVAC roof top	15	15	
				3.4.3.1.12	Air filtration/humidity control devices (humidifiers, HRV's)	20	20	
				3.4.3.1.13	Duct, rigid sheet metal, insulated if not in conditioned space	35	35	
				3.4.3.1.14	Duct, flexible, insulated	20	20	
				3.4.3.1.15	Duct, sealing-mastic, or UL 181A or 181B tape.	20	20	
				3.4.3.1.16	Diffusers, registers	20	20	
				3.4.3.1.17	Fireplace, masonry & firebrick, masonry chimney	75	75	
				3.4.3.1.18	Fireplace, factory assembled	35	35	
				3.4.3.1.19	Fireplace insert, stove	50	50	
				3.4.3.1.20	Chimneys, metal, and chimney covers	35	35	
			3.4.3.2		<b>HVAC Controls</b>			Need Item
				3.4.3.2.1	Dwelling/common area thermostat	15	20	
				3.4.3.2.2	Heat sensors	15	15	
				3.4.3.2.3	Outdoor temperature sensor	10	10	
		3.4.4			<b>Electrical</b>			
			3.4.4.1		<b>Electric Service &amp; Metering</b>			Need Item
				3.4.4.1.1	Building service panel	50	50	

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				3.4.4.1.2	Building meter	40	40	
				3.4.4.1.3	Tenant meters, meter panel	40	40	
			3.4.4.2		<b>Electrical Distribution</b>			Need Item
				3.4.4.2.1	Tenant electrical panel	50	50	
				3.4.4.2.2	Unit/building wiring	50	50	
			3.4.4.3		<b>Electric Lighting &amp; Fixtures</b>			Need Item
				3.4.4.3.1	Switches & outlets	35	35	
				3.4.4.3.2	Lighting - exterior entry	15	20	
				3.4.4.3.3	Lighting- interior common space	25	30	
				3.4.4.3.4	Lighting - Tenant Spaces	20	25	
				3.4.4.3.5	Door bells, chimes	20	25	
			3.4.4.4		<b>Telecommunications Equipment</b>			Need Item
				3.4.4.4.1	Satellite dishes/antennae	20	20	
				3.4.4.4.2	Telecom panels & controls	20	20	
				3.4.4.4.3	Telecom cabling & outlets	20	20	
	3.5				<b>Vertical Transportation</b>			Need Category
		3.5.1			<b>Elevators/Escalators</b>			Need Item
			3.5.1.1		Electrical switchgear	50	50	
			3.5.1.2		Electrical wiring	30	30	
			3.5.1.3		Elevator controller, call, dispatch, emergency	10	20	
			3.5.1.4		Elevator cab, interior finish	10	20	
			3.5.1.5		Elevator cab, frame	35	50	
			3.5.1.6		Elevator, machinery	20	30	
			3.5.1.7		Elevator, shaftway doors	10	20	
			3.5.1.8		Elevator, shaftway hoist rails, cables, traveling	20	25	
			3.5.1.9		Elevator, shaftway hydraulic piston and leveling	20	25	
			3.5.1.10		Escalators	50	50	
	3.6				<b>Life Safety/Fire Protection</b>			Need Category
		3.6.1			<b>Sprinklers and Standpipes</b>			Need Item
			3.6.1.1		Building fire suppression sprinklers, standpipes	50	50	
			3.6.1.2		Fire pumps	20	20	
			3.6.1.3		Fire hose stations	50	50	
			3.6.1.4		Fire extinguishers	10	15	
		3.6.2			<b>Alarm, Security &amp; Emergency Systems</b>			Need Item
			3.6.2.1		Tenant space alarm systems	10	15	
			3.6.2.2		Residential smoke detectors	5	7	

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			3.6.2.3		Call station	10	15	
			3.6.2.4		Emergency/auxiliary generator	25	25	
			3.6.2.5		Emergency/auxiliary fuel storage tank	25	25	
			3.6.2.6		Emergency lights, illuminated signs	5	10	
			3.6.2.7		Smoke and fire detection system, central panel	15	15	
			3.6.2.8		Buzzer/intercom, central panel	20	20	
			3.6.2.9		Tenant buzzer / intercom /secured entry system	20	20	
		3.6.3			<b>Other Systems</b>			Need Item
			3.6.3.1		Pneumatic Lines and Controls	30	30	
			3.6.3.2		Auto-securing doors/entries/lock down	30	30	
	3.7				<b>Interior Elements</b>			
		3.7.1			<b>Interiors-Common Spaces</b>			Need Category
			3.7.1.1		<b>Finished walls, ceilings, floors</b>			Need Item
				3.7.1.1.1	Drywall - Common	35	40	
				3.7.1.1.2	Plaster - Common	50	50	
				3.7.1.1.3	Paints, stains, clear finishes, interior - Common	15	20	
				3.7.1.1.4	Wallpapers - Common	15	20	
				3.7.1.1.5	Wall tile, ceramic, glass, natural stone - Common	35	50	
				3.7.1.1.6	Floor tile, ceramic, natural stone - Common	40	50	
				3.7.1.1.7	Concrete/Masonry/Terrazzo - Common	75	75	
				3.7.1.1.8	Hardwood floor (3/4" strip or parquet) - Common	50	50	
				3.7.1.1.9	Wood floor, laminated/veneered - Common	20	25	
				3.7.1.1.10	Resilient tile or sheet floor (vinyl, linoleum) - Common	15	20	
				3.7.1.1.11	Carpet - Common	6	10	
				3.7.1.1.12	Acoustic tile/drop ceiling - Common	15	20	
			3.7.1.2		<b>Millwork (doors, trim, cabinets, tops)</b>			Need Item
				3.7.1.2.1	Interior, hollow core doors - Common	20	25	
				3.7.1.2.2	Interior doors, solid core, wood, metal clad, fire rated	30	35	
				3.7.1.2.3	Door trim - Common	20	30	
				3.7.1.2.4	Wall trim (base, chair rail, crown moldings) - Common	30	35	
				3.7.1.2.5	Passage & lock sets - Common	15	20	
				3.7.1.2.6	Bifold & sliding doors - Common	15	20	
				3.7.1.2.7	Cabinets & vanities - Common	20	25	
				3.7.1.2.8	Tops, granite, natural stone, engineered stone - Common	50	50	

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				3.7.1.2.9	Tops, solid surface, stainless steel - Common	40	50	
				3.7.1.2.10	Tops, plastic laminates, wood - Common	15	25	
				3.7.1.2.11	Vanity tops, cultured marble, molded acrylic, fiber glass - Common	25	35	
			3.7.1.3		<b>Appliances</b>			Need Item
				3.7.1.3.1	Refrigerator/freezer - Common	15	15	
				3.7.1.3.2	Range, cook top, wall oven - Common	20	25	
				3.7.1.3.3	Range hood - Common	20	25	
				3.7.1.3.4	Microwave - Common	10	10	
				3.7.1.3.5	Disposal (food waste) - Common	7	10	
				3.7.1.3.6	Compactors (interior, residential grade) - Common	7	10	
				3.7.1.3.7	Dishwasher - Common	10	15	
				3.7.1.3.8	Clothes washer/dryer - Common	10	15	
			3.7.1.4		<b>Specialties</b>			Need Item
				3.7.1.4.1	Interior Mail Facility	20	25	
				3.7.1.4.2	Common area bath accessories (towel bars, grab bars, toilet stalls, etc.)	7	12	
				3.7.1.4.3	Mirrors & medicine cabinets - Common	20	25	
				3.7.1.4.4	Closet/storage specialties, shelving - Common	20	25	
				3.7.1.4.5	Common area interior stairs	50	50	
				3.7.1.4.6	Common area railings	15	25	
				3.7.1.4.7	Bath/kitchen vent/exhaust fans - Common	15	15	
				3.7.1.4.8	Ceiling fans - Common	15	15	
				3.7.1.4.9	Window treatments, drapery rods, shades, blinds, etc. - Common	15	25	
				3.7.1.4.10	Indoor recreation and fitness equipment	10	15	
				3.7.1.4.11	Entertainment centers, theatre projection and seating	15	25	
		3.7.2			<b>Interiors-Dwelling Units</b>			Need Category
			3.7.2.1		<b>Finished walls, ceilings, floors</b>			Need Item
				3.7.2.1.1	Drywall	35	40	
				3.7.2.1.2	Plaster	50	50	
				3.7.2.1.3	Paints, stains, clear finishes, interior	10	15	
				3.7.2.1.4	Wallpapers	10	15	
				3.7.2.1.5	Wall tile, ceramic, glass, natural stone	30	40	
				3.7.2.1.6	Floor tile, ceramic, natural stone	40	50	

Lv	ASTM Outline	HUD Extension of ASTM Outline lvl 1	HUD Extension of ASTM Outline lvl 2	HUD Extension of ASTM Outline lvl 3	Component Description	Family	Elderly	3 tiers of categorization: Need Category, Need Item, Component Type
				3.7.2.1.7	Concrete/Masonry/Terrazzo	75	75	
				3.7.2.1.8	Hardwood floor (3/4" strip or parquet)	50	50	
				3.7.2.1.9	Wood floor, laminated/veneered	15	20	
				3.7.2.1.10	Resilient tile or sheet floor (vinyl, linoleum)	15	20	
				3.7.2.1.11	Carpet	6	10	
				3.7.2.1.12	Acoustic tile/drop ceiling	15	20	
			3.7.2.2		<b>Millwork (doors, trim, cabinets, tops)</b>			Need Item
				3.7.2.2.1	Interior, hollow core doors	20	25	
				3.7.2.2.2	Interior doors, solid core, wood, metal clad	30	35	
				3.7.2.2.3	Door trim	20	30	
				3.7.2.2.4	Wall trim (base, chair rail, crown moldings)	25	35	
				3.7.2.2.5	Passage & lock sets	12	20	
				3.7.2.2.6	Bifold & sliding doors	12	20	
				3.7.2.2.7	Cabinets & vanities	20	25	
				3.7.2.2.8	Tops, granite, natural stone, engineered stone	50	50	
				3.7.2.2.9	Tops, solid surface, stainless steel	40	50	
				3.7.2.2.10	Tops, plastic laminates, wood	15	25	
				3.7.2.2.11	Vanity tops, cultured marble, molded acrylic, fiber glass	25	35	
			3.7.2.3		<b>Appliances</b>			Need Item
				3.7.2.3.1	Refrigerator/freezer	12	15	
				3.7.2.3.2	Range, cook top, wall oven	15	25	
				3.7.2.3.3	Range hood	15	25	
				3.7.2.3.4	Microwave	10	10	
				3.7.2.3.5	Disposal (food waste)	7	10	
				3.7.2.3.6	Compactors (interior, residential grade)	7	10	
				3.7.2.3.7	Dishwasher	10	15	
				3.7.2.3.8	Clothes washer/dryer	10	15	
			3.7.2.4		<b>Specialties</b>			Need Item
				3.7.2.4.1	Bath accessories (towel bars, grab bars, etc.)	7	12	
				3.7.2.4.2	Mirrors & medicine cabinets	15	25	
				3.7.2.4.3	Closet/storage specialties, shelving	15	25	
				3.7.2.4.4	Interior stairs	50	50	
				3.7.2.4.5	Stair and loft railings	20	25	
				3.7.2.4.6	Bath/kitchen vent/exhaust fans	15	15	
				3.7.2.4.7	Ceiling fans	10	15	

Lv	ASTM Outline	HUD Extension of ASTM Outline lvl 1	HUD Extension of ASTM Outline lvl 2	HUD Extension of ASTM Outline lvl 3	Component Description	Family	Elderly	3 tiers of categorization: Need Category, Need Item, Component Type
				3.7.2.4.8	Window treatments, drapery rods, shades, blinds, etc.	10	20	
4					<b>Additional Considerations</b>			Need Category
	4.1				<b>Environmental Items (not elsewhere defined)</b>			Need Item
		4.1.1			Environmental remediation alarms	5	5	
		4.1.2			Environmental remediation pumps & equipment	5	5	
		4.1.3			Mold-treat-remediate	100	100	
		4.1.4			Pest Control/Integrated Pest Management Plan	1	1	
	4.2				<b>Lead based paint (LBP), asbestos</b>			Need Item
		4.2.1			LBP inspection	100	100	
		4.2.2			<b>Lead based paint abatement</b>			
			4.2.2.1		LBP encapsulation (abatement)	20	20	
			4.2.2.2		LBP removal	100	100	
		4.2.3			<b>Lead based paint interim controls</b>			
			4.2.3.1		LBP hazard interim control	6	6	
			4.2.3.2		LBP Encapsulation (interim control)	6	6	
		4.2.4			<b>Asbestos</b>			
			4.2.4.1		Asbestos encapsulation (abatement)	10	10	
			4.2.4.2		Asbestos Removal	100	100	
	4.3				<b>Commercial Tenant Improvements</b>			Need Item
		4.3.1			Owner provided item(s) (specify)	5	5	
		4.3.2			Owner provided \$ allowance (specify)	5	5	

## APPENDIX D: EXAMPLE REPORTS AVAILABLE FROM WEB PORTAL

This section provides screenshots of the reports that are available from the Web Portal.

### SNAPSHOT REPORT

**NOTE:** This report is available only from the Submission Portal.

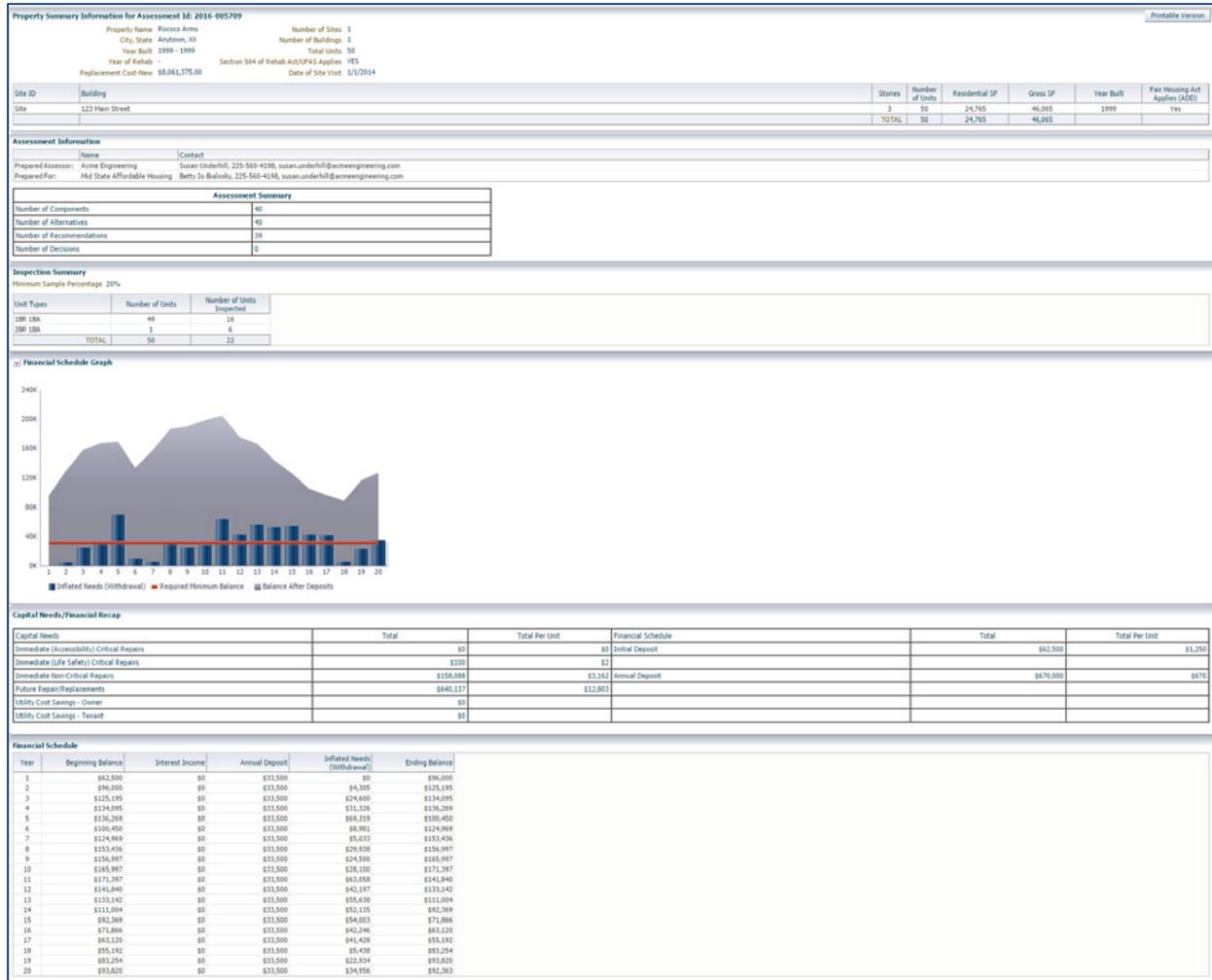


Figure 47 - Snapshot Report

## BUILDING UNIT MIX

**NOTE:** This report is available from the Submission Portal and from Validation Engine.

### Building Unit Mix for Rococo Arms

Assessment ID: 2016-005709

▼ SITE: Site

#### BUILDING: 123 Main Street

Unit Type	Unit Type Sq. Ft.	No. Units/Spaces	Square Footage	# Garage Spaces
2BR 1BA	755	1	755	0
1BR 1BA	490	49	24,010	0
<b>Unit Totals</b>		<b>50</b>	<b>24,765</b>	<b>0</b>
Common Space			21,300	0
<b>Totals</b>		<b>50</b>	<b>46,065</b>	<b>0</b>

#### RESIDENTIAL BUILDINGS

Unit Type	Unit Type Sq. Ft.	No. Units/Spaces	Square Footage	# Garage Spaces
1BR 1BA	490	49	24,010	0
2BR 1BA	755	1	755	0
<b>Unit Totals</b>		<b>50</b>	<b>24,765</b>	<b>0</b>
Common Space			21,300	0
<b>Residential Buildings Totals</b>		<b>50</b>	<b>46,065</b>	<b>0</b>

PROPERTY TOTALS		UFAS Accessible Units	
		Mobility	Sensory
# Units	50	3	1
Total Sq. Ft. Units	24,765		
Total Common Space	21,300		
Total All Sq. Ft.	46,065		
Total # Garage Pkg Spaces	0	# Accessible	0
Total In Unit Garage Spaces	0	# Accessible	0
Total # Surface Pkg Spaces	25	# Accessible	2

Figure 48 - Building Unit Mix Report

**ASSESSMENT SUMMARY REPORT**

**NOTE:** This report is available from the Submission Portal and from the Validation Engine.

Capital Needs Assessment Project Summary - Asset Management		 Received for Validation Status Date: 11/29/16 for 2016-005699
<b>Property: Rococo Arms</b>		
<b>Assessor</b>	<b>Owner</b>	
Name: Acme Engineering Addr1: 6509 Yberra Street Addr2: City: Jackson State: MS                      Zip Code: 39201 Phone: 225-560-4198 Email: susan.underhill@acmeengineering.com	Name: Mid State Affordable Housing Addr1: 6509 Yberra Street Addr2: City: Jackson State: MS                      Zip Code: 39201 Phone: 225-560-4198 Email: susan.underhill@acmeengineering.com	
<b>Site Information /Init Mix</b>	<b>Project</b>	
Type: Elderly Year Built: 1999 - 1999 Last Renovated: - 1BR 1BA 49 2BR 1BA 1 Mobility Accessible Apts: 4 Total Dwelling Units: 50	Name: Rococo Arms Addr1: 123 Main Street Addr2: City: Anytown State: XX                      Zip Code: 12345 Phone: 225-560-4198 Email: susan.underhill@acmeengineering.com	
	<b>Inspection Report</b>	
	Date: 1/1/14 Inspector: Susan Underhill	
1 of 23		CNA Worksheet Run Date: 11/29/16

Figure 49 - Assessment Summary Report (First Page Only)

**PROPERTY INSURANCE SCHEDULE**

		<b>Property Insurance Schedule of Replacement Cost (HUD Form 92329)</b>			
				OMB Approval No. 2502-0029 (exp. 09/30/2016)	
CNA Number: 2017-001491		Property Name: Fianl Testing Subhash		Date Run: 3/31/17	
Residential Buildings					
Building Types	Building Id	SF Cost	Total SF	100 % Insurable Value	
Walk-up	A	\$110	17,640	\$1,940,400	
Walk-up	B	\$110	15,480	\$1,702,800	
Walk-up	C	\$110	17,640	\$1,940,400	
Walk-up	D	\$110	15,480	\$1,702,800	
Walk-up	E	\$110	17,640	\$1,940,400	
Walk-up	F	\$110	15,480	\$1,702,800	
Walk-up	G	\$110	17,640	\$1,940,400	
Walk-up	H	\$110	15,480	\$1,702,800	
Walk-up	I	\$110	17,640	\$1,940,400	
Walk-up	J	\$110	15,480	\$1,702,800	

Figure 50 - Property Insurance Schedule Report