

# Substantial Improvement and Substantial Damage Estimates

Illinois Department of Natural Resources Webinar

November 21, 2024



# Basic NFIP Requirements

- Ensure that all proposed development is reasonably safe from flooding.
- Ensure that the lowest floor of any structure in the SHA is elevated to or above the base flood elevation.
- Ensure that work done in the floodway does not increase the base flood.
- All work done in the floodplain needs a permit before proceeding
- If a building in a floodplain is determined to be substantially improved or substantially damaged it must be brought into compliance with local floodplain management regulations.

# Resources and Guidance

## Flood Smart

- <https://www.floodsmart.gov>

## FEMA Map Service Center and National Flood Hazard Layer

- MSC - <https://msc.fema.gov>
- NFHL - <https://msc.fema.gov/nfhl>

## FEMA Mapping and Insurance eXchange (FMIX)

- Customer Care Center -- 877-336-2627
- [https://floodmaps.fema.gov/fhm/fmx\\_main.html](https://floodmaps.fema.gov/fhm/fmx_main.html)

## Substantial Improvement/Substantial Damage Desk Reference

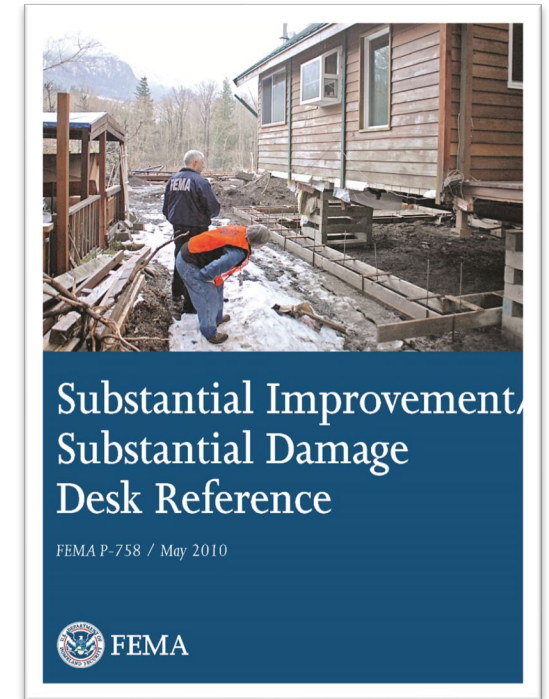
- [https://www.fema.gov/media-library-data/20130726-1734-25045-2915/p\\_758\\_complete\\_r3.pdf](https://www.fema.gov/media-library-data/20130726-1734-25045-2915/p_758_complete_r3.pdf)

## Answers to Questions about Substantially Improved/Substantially Damaged

- [Answers to Questions About Substantially Improved/Substantially Damaged Buildings FEMA 213](#)

## Answers to Questions about Increased Cost of Compliance

- [Increased Cost of Compliance Coverage | FEMA.gov](#)
- [https://www.fema.gov/sites/default/files/2020-08/fema\\_increased-cost-of-compliance\\_fact-sheet.pdf](https://www.fema.gov/sites/default/files/2020-08/fema_increased-cost-of-compliance_fact-sheet.pdf)



# Substantial Improvement Definition

- Any repair, reconstruction, rehabilitation, addition, or other activity to a building in a floodplain *(taking place during a 10-year period)* in which the *(cumulative)* project cost equals or exceeds 50 percent of the market value of the building before the improvement or repair is started.
- Substantial improvement is considered to begin when the first alteration of any wall, ceiling, floor or other structural part of the building commences, regardless if that alteration affects the external dimensions of the building.
- Substantial improvement does not include:
  - The cost of any project to improve a building to comply with existing State or local health, sanitary, or safety code specifications, which are solely necessary to assure safe living conditions; or
  - The cost of any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure.



# How do you determine Substantial Improvement?

- Review your local ordinance
- Use your permit application!
- Your ordinance allows you to ask for cost estimates for work being done to a structure in the floodplain
- [Floodplain Management Resources \(illinois.gov\)](http://illinois.gov)

## Illinois Sample Floodplain Development Permit Application—All Development¶

This permit application shall be required when any type of "development" is proposed within the "regulatory floodplain." Development must comply with the specific standards outlined in your community's floodplain ordinance.¶

- → **Development**—any manmade change to improved or unimproved real estate, including buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.¶
- → **Regulatory Floodplain**—Includes all areas within the floodplain limits identified on the official FEMA Flood Insurance Rate Maps and adjoining areas below the Base Flood elevation, is provided.¶
- → **Regulatory Floodway**—Includes any designated floodway in an AE zone or the entire Zone A floodplain as shown on the official FEMA Flood Insurance Rate Maps.¶
- → **Flood Protection Elevation**—an elevation not less than one foot above the base flood.¶

### Applicant Information¶

Property Owner: ¶	Contractor/Agent: ¶
Mailing Address: ¶	Mailing Address: ¶
Phone: ¶	Phone: ¶
Email: ¶	Email: ¶

### Site Information¶

Site Address: ¶
Parcel #: ¶

### Submittal Requirements¶

- ☐ Location and detail of grading, fill, and methods to stabilize soil.¶
- ☐ Copies of any other required state or federal permits or approvals (if applicable).¶
- ☐ For buildings, please include:¶
  - ☐ Site plan of the property detailing all existing and proposed buildings, structures, service facilities, roads, waterbodies, and other pertinent design features. Where applicable, plans shall address:¶
    - ☐ Anchoring¶
    - ☐ Flood openings details¶
    - ☐ Proposed elevations of lowest floor (including basement or crawlspace)¶
    - ☐ Detail of the materials used and flood protection of all facilities servicing the building¶
    - ☐ Engineer/Architect certifications (for floodproofed structures)¶
    - ☐ Detail of repairs and improvements, including cost estimate and appraisal, if necessary.¶

### Brief Description of Project¶

¶
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Section Break (Continued)

# Calculating Substantial Improvement

- Get a detailed cost estimate or quote from a contractor on their letterhead
- Review the estimate for completeness and true cost of materials/labor
- Look to assessor for market value and establish a policy on the multiplier you will use
- Only use the fair market value of the structure, do not include the value of the land
- Determine percent improvement
- If close to 50% consider recording any letter to property owner with County Recorder

## Costs must include:

- Materials and labor
- Demolition and construction debris removal
- Profit and overhead
- Exterior finishes; siding, windows, foundation, etc.
- Interior finishes; flooring, paint, doors, hardware, flooring, etc.
- Plumbing, Electric and HVAC

# Substantial Damage

Damage of **any origin** sustained by a building in a floodplain whereby the damage (cumulative percentage of damage during a time period) equals or exceeds 50 percent of the market value of the building before the damage occurred, regardless of actual repair work performed.

The market value of volunteer labor and materials must be included in this determination.



# State of Illinois Flood Damage Assessment Packet

A cooperative effort by:

Illinois Department of Natural Resources / Office of Water Resources

Illinois Emergency Management Agency

Federal Emergency Management Agency



March 2020

Includes Information On:  
Steps to Take Following a Flood  
Substantial Damage Determinations  
Damage Assessment Worksheet  
FEMA Substantial Damage Estimator (SDE)  
Sample Building Notice  
Sample Substantial Damage letter  
Sample Press Release  
Information on mitigation programs



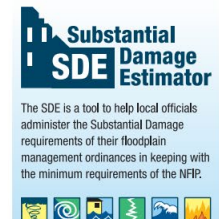
## Substantial Damage Estimator (SDE) User Manual and Field Workbook

Using the SDE Tool to Perform  
Substantial Damage Determinations

FEMA P-784 / Tool Version 3.0 / August 2017



FEMA



# SD Tools and Online Training

- Substantial Damage Estimator (SDE) Tool
  - Software
    - [https://www.fema.gov/sites/default/files/2020-07/SDE3\\_04062018.zip](https://www.fema.gov/sites/default/files/2020-07/SDE3_04062018.zip)
  - User Manual and Field Workbook:
    - [https://www.fema.gov/sites/default/files/2020-07/sde\\_3.0\\_user\\_manual\\_field\\_workbook\\_0.pdf](https://www.fema.gov/sites/default/files/2020-07/sde_3.0_user_manual_field_workbook_0.pdf)
- FEMA's Emergency Management Institute (EMI) Independent Study Courses
  - IS-284.A: Using the Substantial Damage Estimator 3.0 Tool
    - <https://training.fema.gov/is/courseoverview.aspx?code=IS-284.a>
  - IS-285: Substantial Damage Estimation for Floodplain Administrators
    - <https://training.fema.gov/is/courseoverview.aspx?code=IS-285>



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FEMA





## SD Tools and Online Training (cont.)

- FEMA YouTube SDE Training Modules (10 modules)
  - [https://www.youtube.com/watch?v=5W0CDF1Wods&list=PL720Kw\\_OoJlKaUGLcplGiC2Gw9-lutGHt](https://www.youtube.com/watch?v=5W0CDF1Wods&list=PL720Kw_OoJlKaUGLcplGiC2Gw9-lutGHt)
- Example SD Plans
  - Template for a Substantial Damage Management Plan  
[https://crsresources.org/files/500/sde\\_credit\\_template.docx](https://crsresources.org/files/500/sde_credit_template.docx)



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Using the SDE Tool to Perform Substantial Damage Determinations

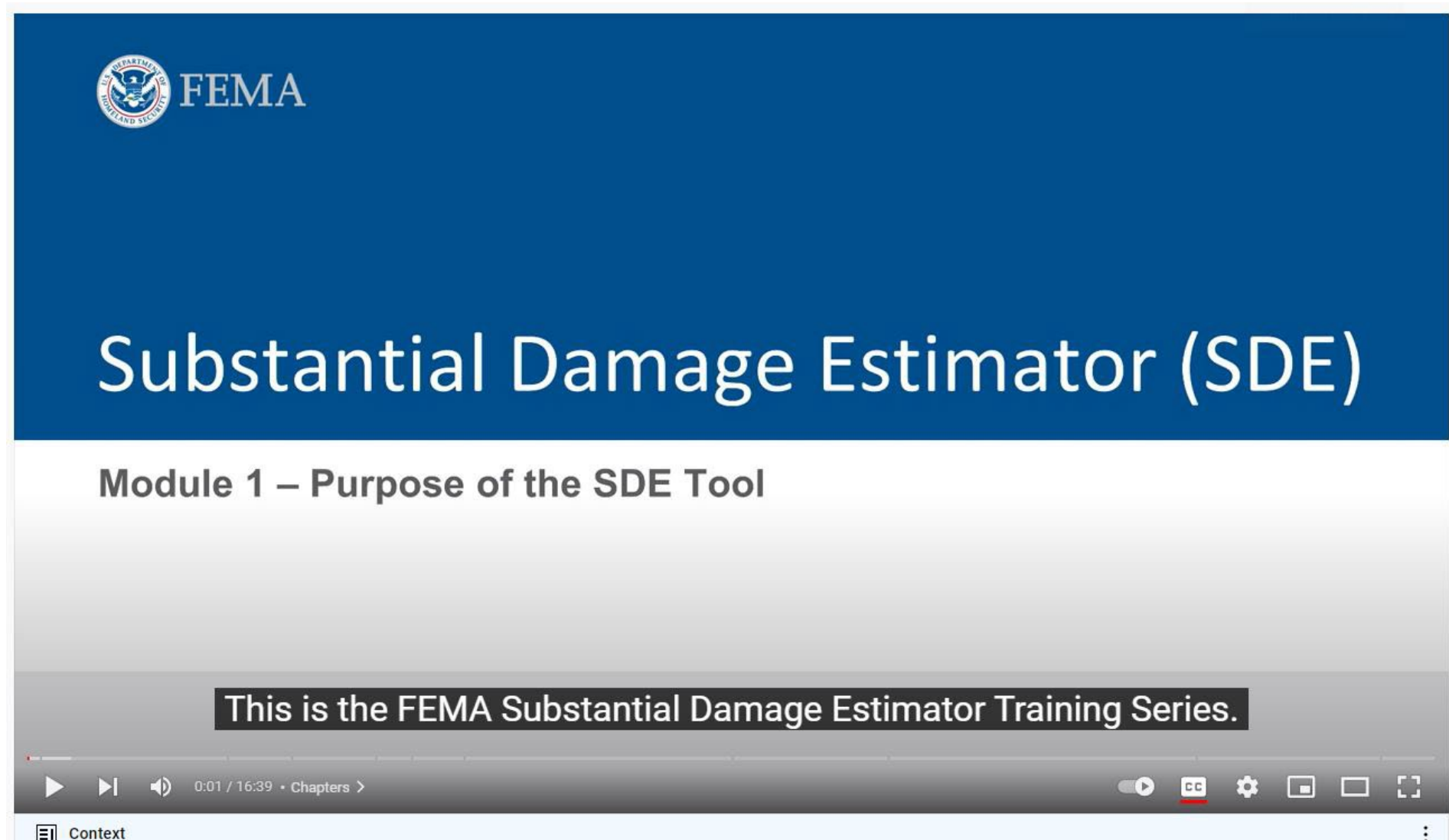
FEMA P-784 / Tool Version 3.0 / August 2017



FEMA



# SDE Tool – YouTube Training Series





# NFIP Technical Bulletins

- TB-1 - [Requirements for Flood Openings in Foundation Walls and Walls of Enclosures](#)
- TB-2 - [Flood Damage-Resistant Materials Requirements](#)
- TB-3 - [Requirements for the Design and Certification of Dry Floodproofed Non-Residential and Mixed-Use Buildings](#)
- TB-4 - [Elevator Installation for Buildings Located in Special Flood Hazard Areas](#)
- TB-5 - [Free of Obstruction Requirements For Buildings Located in Coastal High Hazard Areas](#)



## Openings in Foundation Walls and Walls of Enclosures

Below Elevated Buildings in Special Flood Hazard Areas  
in accordance with the National Flood Insurance Program

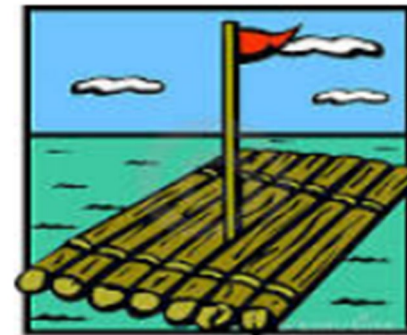
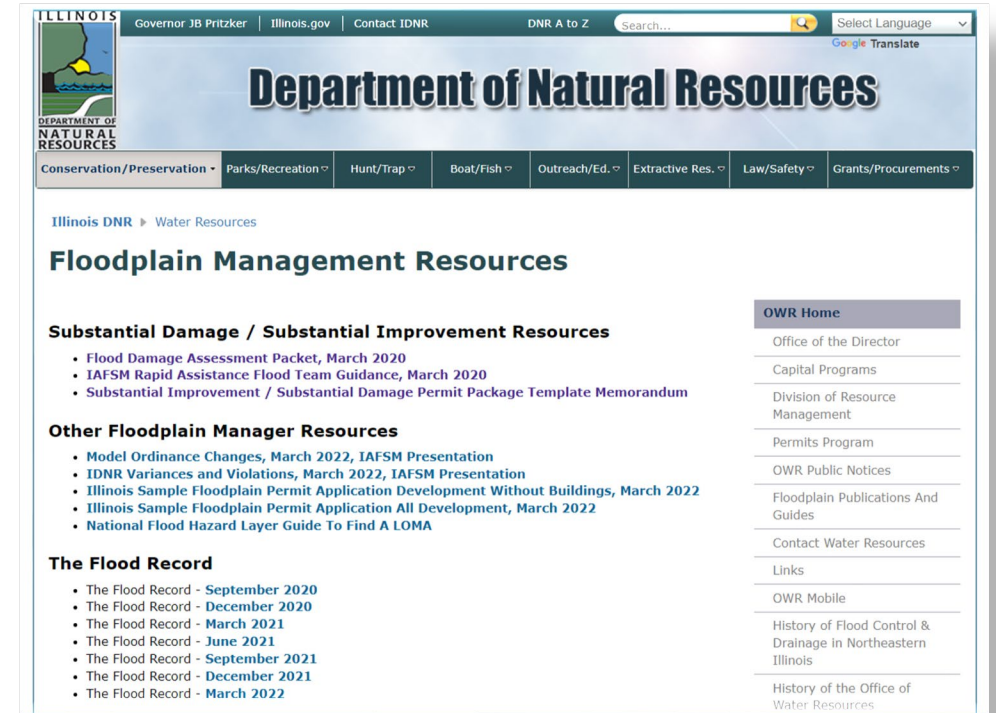
Technical Bulletin 1 / August 2008



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# State Specific Resources

- [Floodplain Management Resources - Water Resources \(illinois.gov\)](https://www.illinois.gov)
- [State of Illinois Flood Damage Assessment Packet \(illinois.gov\)](https://www.illinois.gov)
- [SI/SD Permit Packet Template \(illinois.gov\)](https://www.illinois.gov)
- [Rapid Flood Assessment Team Guidance \(illinois.gov\)](https://www.illinois.gov)
- [Illinois Association for Floodplain and Stormwater Management \(illinoisfloods.org\)](https://www.illinoisfloods.org)



## Calculating SD

$$\frac{\text{Cost to Repair to Pre-Damage Condition}}{\text{Market Value of Building}} \geq 50\%$$

The *Cost to Repair* must include all costs necessary to fully repair the structure to its pre-damage condition. Notice that the formula uses “cost to repair,” not “cost of repairs.”

Examples:

$$\frac{\$30,000}{\$100,000} = 0.3 \times 100 = 30\%$$
$$\frac{\$75,000}{\$100,000} = 0.75 \times 100 = 75\%$$

Monitor damaged structures for phased improvements which may lead them to a SD percentage.

# Costs That Must be Included in SD determinations

- The term includes the cost of all materials, labor, and other items necessary to perform the proposed work.
- Costs that must be included in SD determinations but not limited to:
  - Structural elements and exterior finishes
  - Interior finish elements
  - Utility and service equipment
  - Contractor's overhead and profit
  - Construction management and supervision
  - Labor and other costs associated with demolishing, moving, or altering building components to accommodate improvements, additions, and making repairs
  - Materials and labor, including the estimated value of donated or discounted materials and owner or volunteer labor



Substantial Improvement/  
Substantial Damage  
Desk Reference

FEMA P-758 / May 2010

# Calculating Wages and Profit

- The Desk Reference has limited guidance.
- Wages (pg. 4-8) are to be the “going rate” says to use minimum-hour wage scales for the skill and type of work being done.



- Many property owners get a contractors estimate just to estimate the work. If they provide an insurance adjuster's estimate you will see their wages for the various construction skills.
- IL Department of Labor published prevailing wage rate tables for each county: <https://labor.illinois.gov/laws-rules/conmed/current-prevailing-rates.html>



## **ILLINOIS DAMAGE ASSESSMENT CHEAT SHEET**

The SDE requires the inspector to estimate the percent of damage for various building components. The information compiled below can be used with the SDE worksheet for residential buildings, quickly calculating substantial damage. It is intended to be used as a screening tool so that the property owner is notified as soon as possible as to the potential status of his property. Often a more detailed assessment is warranted, and more detailed damage percentages should be determined on an as-needed basis.

	<b>Super-structure</b>	<b>Exterior Finish</b>	<b>Interior Finish</b>	<b>Doors and Windows</b>	<b>Cabinets and Counters</b>	<b>Flooring</b>	<b>Plumbing</b>	<b>Electrical</b>	<b>Built in Appliances</b>	<b>HVAC</b>
<b>FLOOD DEPTH</b>										
<b>1 – 3 Inches</b>	10	0	0	0	0	100	0	0	0	0
<b>0.5 feet</b>	10	5	5	10	20	100	0	0	0	0
<b>1 foot</b>	10	10	10	15	50	100	20	0	50	80
<b>2 foot</b>	10	30	30	40	50	100	30	20	100	80
<b>3 foot</b>	25	40	40	40	50	100	30	30	100	80
<b>4 foot</b>	25	50	50	75	70	100	30	60	100	80
<b>&gt;5 foot</b>	50	50	100	100	100	100	50	80	100	80
<b>Two story =</b>	*	*	*	*		*	**	**		

**For two story buildings the percentage for each building element is typically reduced as follows:**

**\* = Reduce by 40 – 50% for two story home**

**\*\* = Reduce by 25% for two story home**

**For split-level buildings use your best judgement for any adjustments to the damage percentages**

### **Foundation**

#### Basement or crawlspace:

10% minor clean up, re-seal, paint, etc.

50% if cracked bowed or fractured on one or more walls

100% if structural damage such as blow out or caved in walls

### Slab on Grade

10% damage unless the foundation is undermined

30% if foundation is undermined

75% if foundation is broken or bowed or uplift

### ELEMENT PERCENTAGE Tab

**Note:** The inspector needs only enter the % **Damaged** data here. The data in the Element %, Item Cost, and Damage Values columns will be populated based on the selected attributes once all the data are entered into the SDE tool.

**Residence Type:** \_\_\_\_ Single-Family (SF) House \_\_\_\_ Townhouse \_\_\_\_ Manufactured House (MH)

<u>Item</u>	<u>% Damaged</u>	<u>Element %</u>	<u>Item Cost</u>	<u>Damage Values</u>
Foundation (not required for MH)				
Superstructure				
Roof Covering				
Exterior Finish				
Interior Finish				
Doors and Windows				
Cabinets and Countertops				
Flood Finish				
Plumbing				
Electrical				
Appliances				
HVAC				
Skirting / Forms Piers (MH only)				

### SDE OUTPUT SUMMARY Tab – Optional User Entered Data

**Professional Market Appraisal:** \_\_\_\_\_

**Tax Assessed Value:** \_\_\_\_\_ **Tax Factor Adjustment:** \_\_\_\_\_

**Adjusted Tax Assessed Value:** \_\_\_\_\_

**Contractor's Estimate of Damage:** \_\_\_\_\_

**Community's Estimate of Damage:** \_\_\_\_\_

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March 2020

### Includes Information On:

Steps to Take Following a Flood  
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Sample Building Notice  
Sample Substantial Damage letter  
Sample Press Release  
Information on mitigation programs





**SDE DAMAGE INSPECTION WORKSHEET**

Address: \_\_\_\_\_

Subdivision: \_\_\_\_\_ Parcel Number: \_\_\_\_\_

Lot Number: \_\_\_\_\_ Elevation of Lowest Floor: \_\_\_\_\_ Datum: \_\_\_\_\_

## NFIP Community ID: \_\_\_\_\_ NFIP Community Name: \_\_\_\_\_

Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_

Owner First Name: \_\_\_\_\_ Owner Last Name: \_\_\_\_\_

Street Number: \_\_\_\_\_ Street Name: \_\_\_\_\_ Street Suffix: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_

County/Parish: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Cell Phone: \_\_\_\_\_

Check here if same as building address: \_\_\_\_\_

First Name: \_\_\_\_\_

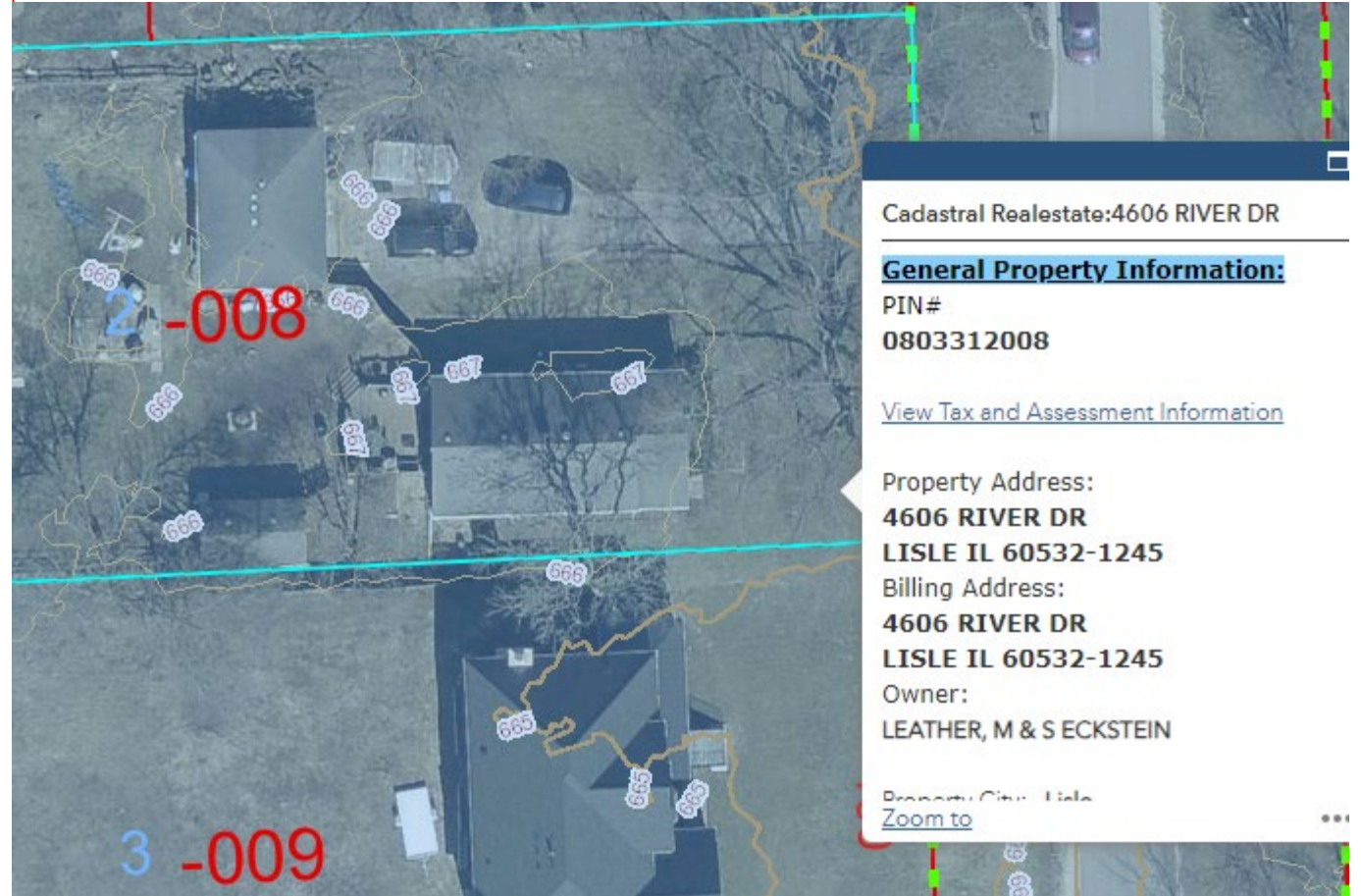
Last Name: \_\_\_\_\_

Street Number: \_\_\_\_\_ Street Name: \_\_\_\_\_ Street Suffix: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_

County/Parish: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Cell Phone: \_\_\_\_\_



**ELEMENT PERCENTAGE Tab**

**Note:** The inspector needs only enter the % Damaged. Damage Values columns will be populated based on the SDE tool.

**Residence Type:** \_\_\_\_\_ Single-Family (SF) House

Item	% Damaged
Foundation (not required for MH)	
Superstructure	
Roof Covering	
Exterior Finish	
Interior Finish	
Doors and Windows	
Cabinets and Countertops	
Flood Finish	
Plumbing	
Electrical	
Appliances	
HVAC	
Skirting / Forms Piers (MH only)	

**Tax**

Tax Summary

Tax Payment History

Tax Redemption

Tax Adjustment

Tax Status

Special Assessments

Mobile Home Information

**Supervisor of Assessment  
Assessed Value Current**

Assessed Value History

Property Transfer History

Conveyance History

Exemptions Current

Appeals History

Split/Combine History

PARCEL NUMBER: 08-03-312-008

COUNTY #: 022

NBHD: 08035

ROLL: RP

LEATHER, M &amp; S ECKSTEIN

4606 RIVER DR

Tax Year: 2022 (Taxes Payable in 2023).

LISLE

**Assessed Value Summary**

Asmt Year	Pay Year	Class	Land AV	Bldg AV	Total AV	Taxable EAV	Reason Code
2021	2022		\$44,090	\$31,540	\$75,630	\$69,630	Conversion

**Values Details**

Asmt Year:	Roll:	Current Yr Township EQ Factor:	Current Yr New Construction Value:
2022	RP		\$0
2021	RP		\$0

**SDE OUTPUT SUMMARY Tab – Optional User Entered Data**

Professional Market Appraisal: \_\_\_\_\_

Tax Assessed Value: \_\_\_\_\_ Tax Factor Adjustment: \_\_\_\_\_

Adjusted Tax Assessed Value: \_\_\_\_\_

Contractor's Estimate of Damage: \_\_\_\_\_

Community's Estimate of Damage: \_\_\_\_\_

Assessed Building Value used  
as Market Value typically in  
Illinois: 3 x Assessed Value  
Example use \$94,620

**SDE STRUCTURE / DAMAGE / NFIP INFO Tab****Structure Attributes / Information**Residence Type: ☐ Single Family ☐ Town or Row House ☐ Manufactured HouseFoundation: ☐ Continuous Wall w/Slab (Standard) ☐ Basement ☐ Crawlspace☐ Piles ☐ Slab-on-Grade ☐ Piers and PostsSuperstructure: ☐ Stud-Framed (Standard) ☐ Common Brick ☐ ICF ☐ MasonryRoof Covering: ☐ Shingles – Asphalt, Wood (Standard) ☐ Clay Tile ☐ Standing Seam (Metal)☐ SlateExterior Finish: ☐ Siding or Stucco (Standard) ☐ Brick Veneer ☐ EIFS☐ None – common brick, structuralHVAC System: ☐ Heating and/or Cooling ☐ NoneStory: ☐ One Story (Standard) ☐ Two or More Stories**Structure Information**

Year of Construction: \_\_\_\_\_

Quality of Initial Construction: ☐ Low ☐ Budget ☐ Average ☐ Good ☐ Excellent

Residence Information (if needed): \_\_\_\_\_

\_\_\_\_\_

**Inspector / Damage Information**

Inspector's Name: \_\_\_\_\_ Inspector's Phone: \_\_\_\_\_

Date of Inspection (mm/dd/yyyy): \_\_\_\_\_ Date Damage Occurred (mm/dd/yyyy): \_\_\_\_\_

Cause of Damage: ☐ Fire ☐ Flood ☐ Flood and Wind ☐ Seismic ☐ Wind ☐ Other

Cause of Damage (if "Other" is selected): \_\_\_\_\_

**Residential Building Information**

Res. Structure		Finish				Plumbing	
Occupancy Description	Single-Family / Owner Occupied	Total Rooms Above#	9	Bed Rooms Above#	4	Full Bath	2
Year Built	1978	Total Rooms Below#	0	Bed Rooms Below#	0	Shower Stall Bath	1
Style	1 Story Frame	Basement Finish #1				Toilet Room/Half-bath	1
Above Grade Total Living Area	2985	Basement Finish #2				Extra Sink/Lavatory	2
Quality	B-10	Basement Finish #3				Wet Bar	1
Basement	Crawl	Foundation	Conc				
Heat	FHA - Gas	Exterior Walls	Vert Wd				
AC	Yes	Roof	Asphlt / Gable				
Attic	None	Interior Finish	Drwl				
Foyer Adjustment	0	Flooring	Carp / Tile / Hdwd				
		Fireplace(s)					
		Masonry w/1 Extra, 1 Story		1			



**SDE STRUCTURE / DAMAGE / NFIP INFO Tab**

Damage Undetermined: \_\_\_\_\_ (check here and check the reason below):

\_\_\_\_\_ No Physical Damage Sustained \_\_\_\_\_ Vacant / Property \_\_\_\_\_ Resident Refused Inspection

\_\_\_\_\_ Address Does Not Exist \_\_\_\_\_ Other (Explain)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Duration of Flood: \_\_\_\_\_ Hours \_\_\_\_\_ Days

Depth of Flood Above Ground (estimated to nearest 0.5 foot): \_\_\_\_\_

Depth of Flood Above Lowest Floor (estimated to nearest 0.5 foot): \_\_\_\_\_

Make sure you note if this is depth in basement  
or first floor with full basement or full crawlspace

FIRM Panel Number: \_\_\_\_\_ Suffix: \_\_\_\_\_ Date of FIRM Panel (mm/dd/yyyy): \_\_\_\_\_

FIRM Zone: \_\_\_\_\_ Base Flood Elevation: \_\_\_\_\_

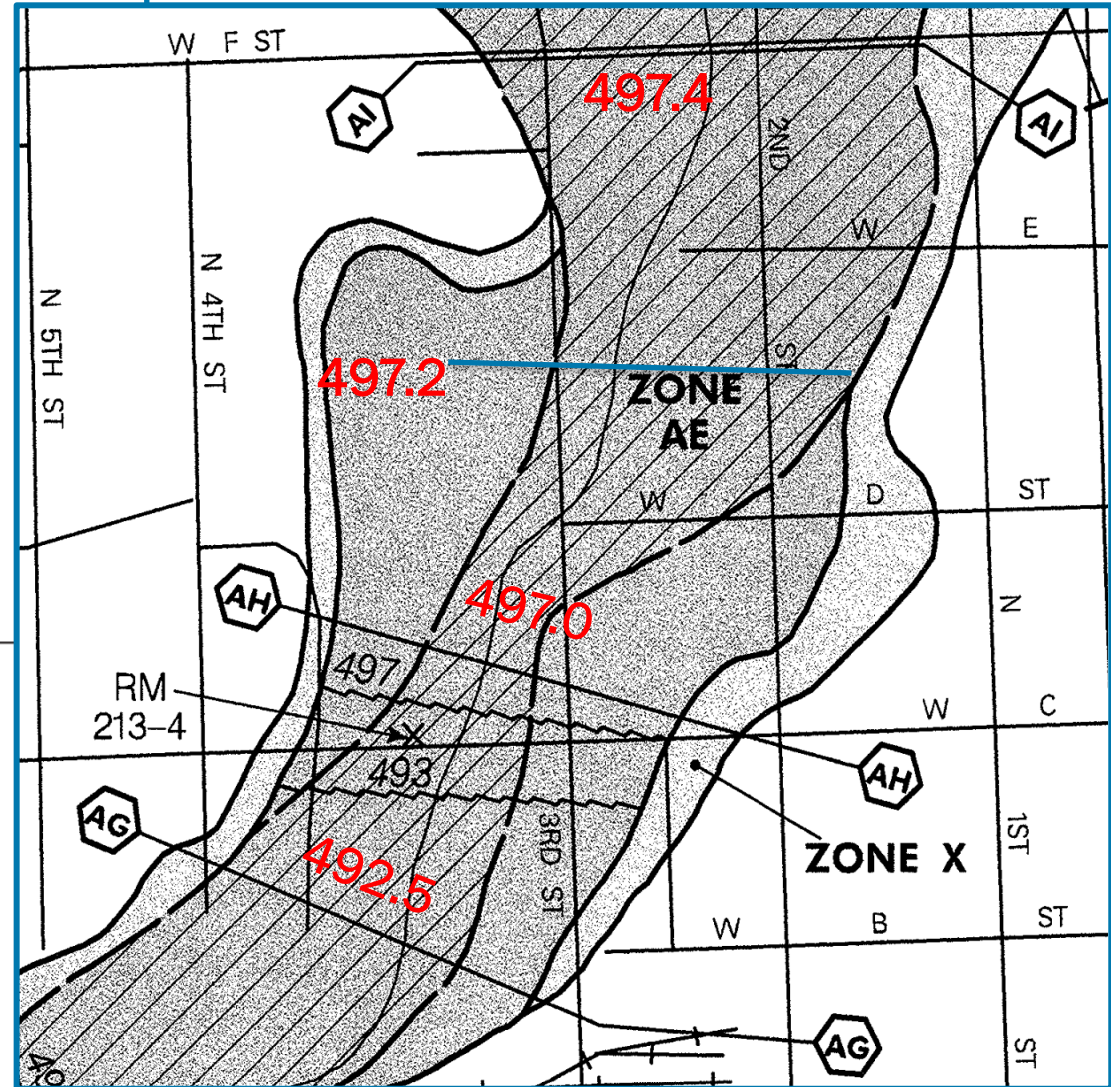
Regulatory Floodway: \_\_\_\_ Yes \_\_\_\_ No \_\_\_\_ Possible

Community Information (if needed): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

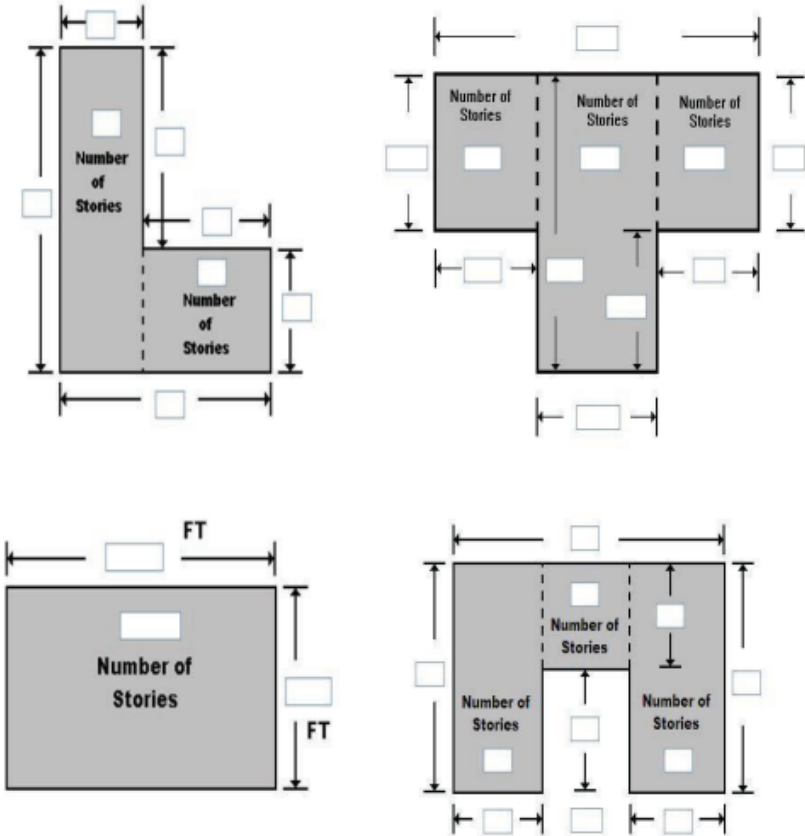
Flood depth  
based on  
debris lines  
or highwater  
marks

Take Base  
Flood  
Elevations  
from maps

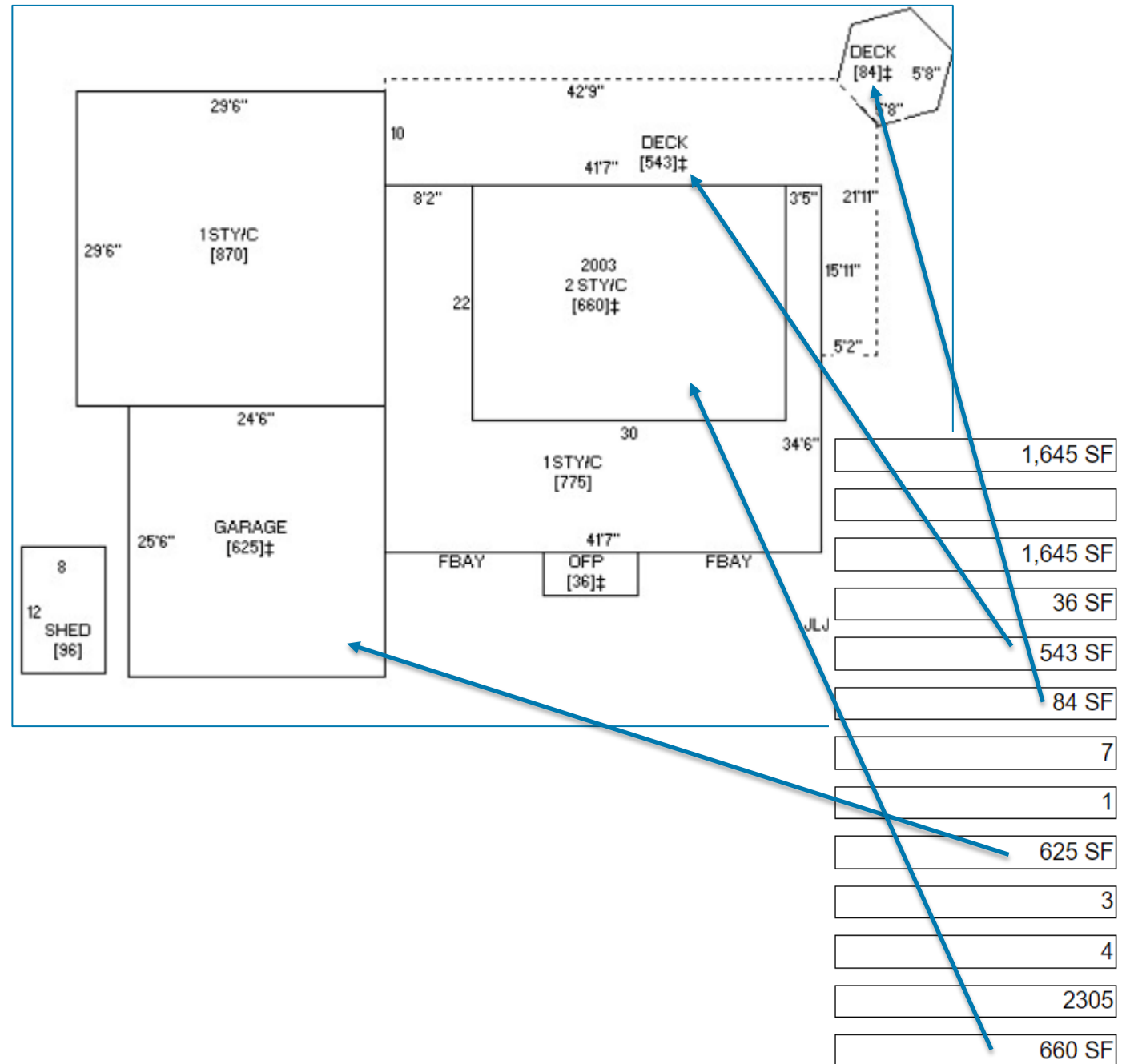


## COST Tab

Select appropriate diagram of structure footprint and enter structure dimensions and the number of stories:



Sometimes you can insert area straight from assessor's records otherwise you will need to get in the field





**COST Tab**

***Square Footage***

Base Cost per Sq Ft.: \_\_\_\_\_ Total Square Footage: \_\_\_\_\_

Geographic Adjustment: \_\_\_\_\_

***Cost Adjustments***

<u>Single-Family House</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Cost</u>	<u>Item Cost</u>
Roofing		Sq Ft		
Heating / Cooling		Each		
Appliances		Each		
Fireplaces		Each		
Porch / Breezeways		Sq Ft		
Garage		Sq Ft		
<u>Manufactured House</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Cost</u>	<u>Item Cost</u>
Expando		Sq Ft		
Carport		Sq Ft		
Open Porch		Sq Ft		
Enclosed Porch		Sq Ft		
Decks		Each		
Skirting		Sq Ft		
Fireplaces		Each		



# SDE Example – Enter Default Data



Community

State

Zip Code

NFIP Community Number

County

Date of Floodplain Map



SDE Substantial Damage Estimator 3.0

Default Data

Check Spelling

Clear All Values

Delete

Save

Address / Structure Information

City:

East St. Louis

State:

Illinois

County/Parish:

St Clair

Zip Code:

Year of Construction:

Datum:

1929

Cost Information

Base Cost:

Inspector / Damage Information

Date Damage Occurred:

7/26/2022

Cause of Damage:

Flood

Duration of Flood:

4.00

Days

Geographic Adjustment:

1.01

Cost Data Date:

8/8/2022

Inspector Name:

Inspector Phone:

Assessment Date:

Cost Data Reference:

RS Means

NFIP / Community Information

NFIP Community Name:

East St. Louis

NFIP Community ID:

170626

FIRM Panel Number:

FIRM Zone:

Make Selection...

Date of FIRM Panel:

11/5/2003

Suffix:

Make Selection...

Base Flood Elevation

Regulatory Floodway:

No

Space for Community Specific Information:



# SDE Example – Adding Properties



## Step 1

Build a list of properties  
Using Add New Property

Property Details



Load Default Values

Check Spelling

Save

Property Data

Structure Owner First Name



Street Suffix

Street

City

East St. Louis

State

Illinois

County/Parish

St Clair

Zip Code

62203

Parcel Number

Lot Number

Year of Construction

1951

Latitude



Longitude



Structure Type

Residential

NFIP Information

NFIP Community Name

East St. Louis

NFIP Community ID

170626

FIRM Panel Number

180

FIRM Zone

AH

Date of FIRM Panel

11/5/2003

Suffix

D

Base Flood Elevation

418.00

Regulatory Floodway

No

Custom Fields

Custom Field 1

Custom Field 2

Custom Field 3



SDE is a tool provided by FEMA to help local officials administer the substantial damage requirements of their floodplain management ordinance in accordance with the minimum requirements of the NFIP.

Total Number of Properties	Total Number Assessments
43	42

# SDE Example – Adding Properties



## Step 2

After the properties are entered, you will Add New Residential Assessment or Add New Non-Residential Assessment

## Access Data



View/Search  
All Records



Enter Default Data



Add New Residential  
Assessment

### Please Select a Property

Structure Owner Name	Property Address	County/Parish	Parcel Number	Lot Number	Subdivision	Year of Construction
	712 Terrace Drive	St Clair				1970
	6764 Mary Avenue	St Clair				1951
	6761 Mary Avenue	St Clair				1956
	801 N 70th Street	St Clair	02220414016			1955
	760 Terrace Drive	St Clair				1961
	1 Terrace Court	St Clair				1959
	6765 Mary Avenue	St Clair				1956
	6780 Mary Avenue	St Clair				1951
	728 N 68th Street	St Clair				1951
	6769 Mary Avenue	St Clair				1956
	6779 Mary Avenue	St Clair				1956
	6783 Mary Avenue	St Clair				1956
	6784 Mary Avenue					1951
	6774 Mary Avenue	St Clair				1951
	6770 Mary Avenue	St Clair				1950
	6773 Mary Avenue	St Clair				1956
	3 Terrace Court					1959
	4 Terrace Court	St Clair				1961
	750 N 68th Street	St Clair				1950

☐ Preload using default values.

New Property

Use Selected Property

Residential Assessment

Be sure to **SAVE** assessment record before generating a report.

Print Summary Report

Print Detailed Report

Check S

No Photo Available



Damage Date:  
7/26/2022 10:07 PM

Assessment Date:  
8/8/2022

Percent Damaged:  
%

Address

Structure/Damage/NFIP

Cost

Element Percentages

Output Summary

Photos

Structure Type:

Residential

Story:

One Story (Standard)

Residence Type:

Single Family Residence

Foundation:

Slab - on - Grade

Superstructure:

Stud-framed (Standard)

Roof Covering:

Shingles - Asphalt, Wood (Standard)

Exterior Finish:

Siding or Stucco (Standard)

HVAC System:

Heating and/or Cooling

Year of Construction:

1970

Quality:

Inspector Name:

IDNR KP

Inspector Phone:

Assessment Date:

8/8/2022

Date Damage Occurred:

7/26/2022

Cause of Damage:

Flood

☐ Damage Undetermined

Make Selection...

Duration of Flood:

4.00

Est. Depth of Flood Above Gr

3.00

Est. Depth of Flood Above Lowest Floor:

2.50

NFIP Community ID:

170626

FIRM Panel Number:

180

Suffix:

Make Selection...

Element	Description
9. Plumbing	<ul style="list-style-type: none"><li>Incoming water service (municipal water supply or well service)</li><li>Plumbing fixtures</li><li>Water heater</li><li>Water distribution system</li><li>Wastewater collection and removal system</li></ul>
10. Electrical	<ul style="list-style-type: none"><li>Electrical wiring systems (junction boxes, circuit breaker panels, distribution wiring, outlets, switches, receptacles)</li><li>Lighting</li><li>Ceiling and exhaust fans</li><li>Electric baseboard heaters</li></ul>
11. Appliances	<ul style="list-style-type: none"><li>All built-in, permanent appliances in the structure</li></ul>
12. HVAC	<ul style="list-style-type: none"><li>The system with which conditioned air is distributed throughout the structure; a typical system in residential structures involves a forced-air heating system with duct work</li><li>Exterior air conditioning units</li><li>Heat pumps</li><li>Furnaces</li></ul>

Address   Structure/Damage/NFIP   Cost

Square Footage

Click to calculate or enter square footage:



Cost Adjustments



Adjustments:

Roofing

Heating / Cooling

Appliances

Fireplaces

Porch / Breezeways

Garage

Additional Adjustments



Adjustments:

Quantity:

Unit Cost:

Adjustment Cost:

0.00

\$0.00

\$0.00

Square Foot Calculator

Select a shape to add it to the structure:



Enter Total Square Footage Manually

Save and Close

Square Foot Breakdown

Shape Type	Total Footage	Edit	Delete
Custom Shape	1248	Edit	Delete



# SDE Example

## Square Footage

Click to calculate or enter square footage:

## Cost Adjustments

- Adjustments
- Roofing
- Heating / Cooling
- Appliances
- Fireplaces
- Porch / Breach
- Garage

## Additional Adjustments

Adjustments:

Quantity:

0.00

Unit Cost:

\$0.00

Adjustment Cost:

\$0.00

## Square Foot Calculator

Select a shape to add it to the structure:



Enter Total Square

## Square Foot Breakdown

Shape Type

## No Shape

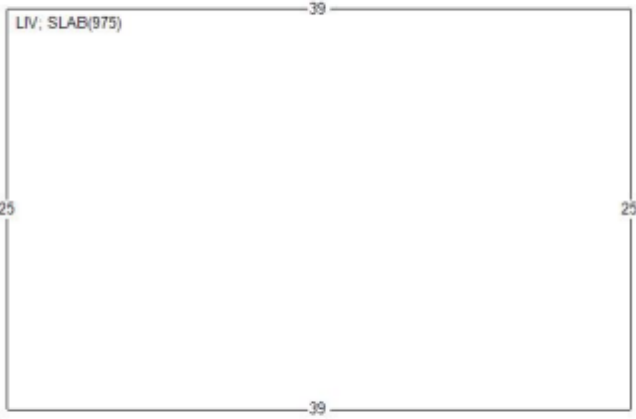
Enter Total Square Footage:

975

Save

Close (No Save)

EAST SAINT LOUIS IL 62203  
Site Address: 000636 TERRACE DR



AREA	FLAT	EFF%	E/AREA	ACT%	A/AREA	EA/AA	HEATED	NBHD
LIV	975	1.00	975	1.00	975	975	975	
SLAB	975	1.00	975	1.00	975	975		

# SDE Example

## Residential Assessment

No Photo Available





East St. Louis  
Illinois

Damage Date:  
7/26/2022 10:07 PM


Assessment Date:  
8/8/2022

Percent Damaged:  
%

Be sure to **SAVE** assessment record before exiting

Address | Structure/Damage/NFIP | **Cost** | Element Percentages | Output Summary | Photo

### Square Footage

Click to calculate or enter square footage: 

Base Cost:

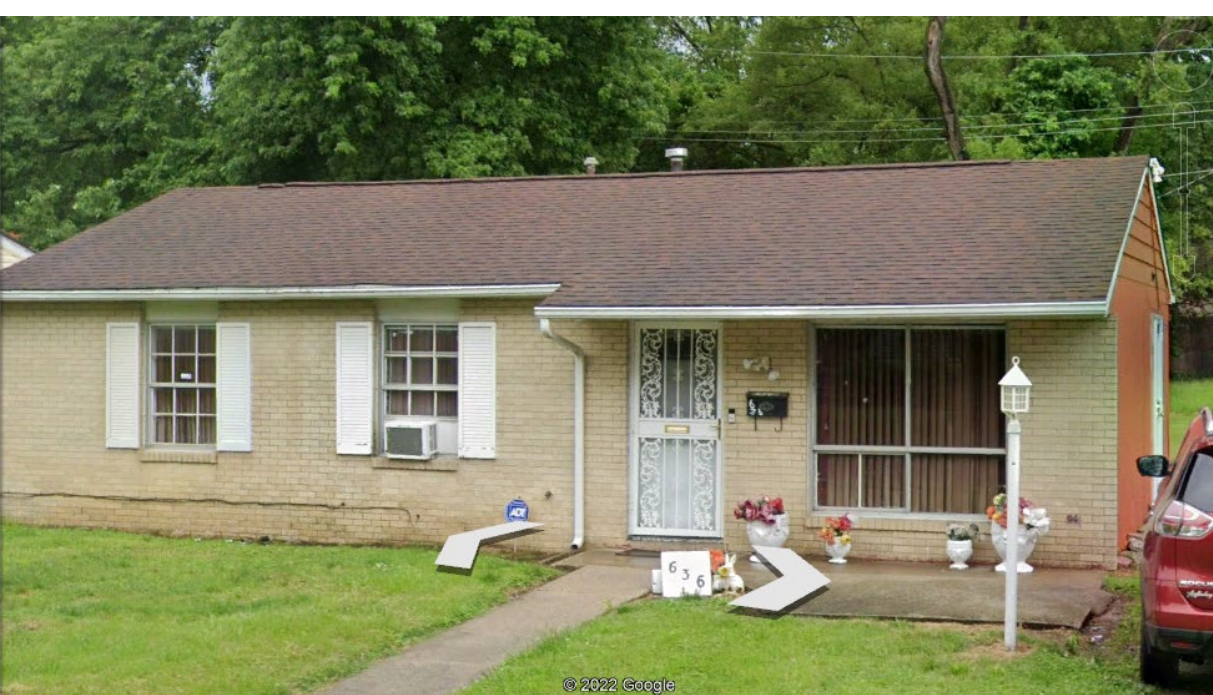
Geographic Adjustment:

### Cost Adjustments

Adjustments:	Quantity:	Unit:
Roofing	<input type="text" value="0.00"/>	Sq Ft
Heating / Cooling	<input type="text" value="0.00"/>	Ea
Appliances	<input type="text" value="0.00"/>	Ea
Fireplaces	<input type="text" value="0.00"/>	Ea
Porch / Breezeways	<input type="text" value="0.00"/>	Sq Ft
Garage	<input type="text" value="0.00"/>	Sq Ft

### Additional Adjustments

Adjustments:	Quantity:
<input type="text"/>	<input type="text" value="0.00"/>



Using RS Means

Economy Home has no masonry option

Economy - Wood Siding      800 - \$143.90

975 - \$133.80

1000 - \$132.35

Economy – Brick veneer      800- \$149.45

975 - \$138.9

1000- \$137.40

$(.75 \times 133.8) + (.25 \times 138.9) = \$135$

Residential Assessment

Be sure to **SAVE** assessment record before generating a report.

Print Summary Report

Print Detailed Report

Check Spelling

No Photo Available



Damage Date:  
7/26/2022 10:07 PM

Assessment Date:  
8/8/2022

Percent Damaged:  
**45.6 %**

- Address
- Structure/Damage/NFIP
- Cost
- Element Percentages
- Output Summary
- Photos

Element Percentages

Element:	Percent Damaged:	Element Percentage:	Element Cost:	Damage Values:
Foundation:	<input type="text" value="0.0%"/>	8 %	\$10,635.30	<b>\$0.00</b>
Superstructure:	<input type="text" value="0.0%"/>	15.9 %	\$21,137.66	<b>\$0.00</b>
Roof Covering:	<input type="text" value="0.0%"/>	4.3 %	\$5,716.47	<b>\$0.00</b>
Exterior Finish:	<input type="text" value="30.0%"/>	7 %	\$9,305.89	<b>\$2,791.77</b>
Doors and Windows:	<input type="text" value="40.0%"/>	15.8 %	\$21,004.72	<b>\$8,401.89</b>
Cabinets and Countertops:	<input type="text" value="50.0%"/>	4.5 %	\$5,982.36	<b>\$2,991.18</b>
Floor Finish:	<input type="text" value="100.0%"/>	7.9 %	\$10,502.36	<b>\$10,502.36</b>
Plumbing:	<input type="text" value="20.0%"/>	8.6 %	\$11,432.95	<b>\$2,286.59</b>
Electrical:	<input type="text" value="20.0%"/>	4.9 %	\$6,514.12	<b>\$1,302.82</b>
Appliances:	<input type="text" value="50.0%"/>	4.2 %	\$5,583.53	<b>\$2,791.77</b>
Interior Finish:	<input type="text" value="50.0%"/>	13.2 %	\$17,548.25	<b>\$8,774.12</b>
HVAC:	<input type="text" value="80.0%"/>	5.7 %	\$7,577.65	<b>\$6,062.12</b>

Estimated 2 feet over  
first floor

Replacement Cost: \$132,941.25  
Computed Damages: **\$45,904.61**

Residential Assessment

Be sure to **SAVE** assessment record before generating a report.

Print Summary Report

Print Detailed Report

- Address
- Structure/Damage/NFIP
- Cost
- Element Percentages
- Output Summary
- Photos

No Photo Available



Damage Date:  
7/28/2022 12:27 PM

Assessment Date:  
8/8/2022

Percent Damaged:  
**100.0 %**

Element Percentages


?	Element:	Percent Damaged:	Element Percentage:	Element Cost:	Damage Values:
	Foundation:	<input type="text" value="0.0%"/>	9 %	\$12,030.26	<b>\$0.00</b>
	Superstructure:	<input type="text" value="0.0%"/>	16.4 %	\$21,921.81	<b>\$0.00</b>
	Roof Covering:	<input type="text" value="0.0%"/>	4.3 %	\$5,747.79	<b>\$0.00</b>
	Exterior Finish:	<input type="text" value="5.0%"/>	6.9 %	\$9,223.20	<b>\$461.16</b>
	Doors and Windows:	<input type="text" value="10.0%"/>	15.5 %	\$20,718.79	<b>\$2,071.88</b>
	Cabinets and Countertops:	<input type="text" value="20.0%"/>	4.4 %	\$5,881.46	<b>\$1,176.29</b>
	Floor Finish:	<input type="text" value="100.0%"/>	7.7 %	\$10,292.56	<b>\$10,292.56</b>
	Plumbing:	<input type="text" value="0.0%"/>	8.4 %	\$11,228.25	<b>\$0.00</b>
	Electrical:	<input type="text" value="0.0%"/>	4.8 %	\$6,416.14	<b>\$0.00</b>
	Appliances:	<input type="text" value="0.0%"/>	4.1 %	\$5,480.45	<b>\$0.00</b>
	Interior Finish:	<input type="text" value="5.0%"/>	13 %	\$17,377.05	<b>\$868.85</b>
	HVAC:	<input type="text" value="0.0%"/>	5.5 %	\$7,351.83	<b>\$0.00</b>

Estimated 0.5 feet over  
first floor

Replacement Cost:	Computed Damages:
\$133,669.60	<b>\$14,870.74</b>

# SDE Example

## Residential Assessment

 Be sure to **SAVE** assessment record before generating a report.

[Print Summary Report](#)[Print Detailed Report](#)[Check Spelling](#)[Save](#)

No Photo Available



Damage Date:  
7/26/2022 10:07 PM

Assessment Date:  
8/8/2022

Percent Damaged:  
**100.0 %**

Address	Structure/Damage/NFIP	Cost	Element Percentages	Output Summary	Photos
---------	-----------------------	------	---------------------	----------------	--------

### Percent Damaged

To ensure consistency and equity, local officials responsible for substantial damage determinations are strongly encouraged to select only one method each for determining structure values and repair costs and to use the selected methods for the entire community. Computed damages based on element percentages within the software can only be derived from a replacement value. You can't use an appraisal or adjusted tax value which are both market values.

Basis for value of Structure (Select One...)

☐ Computed Actual Cash Value

☐ Professional Market Appraisal

☒ Adj. Tax Assessed Value

Basis for cost of Repairs/Improvements (Select One...)

☒ Computed Damages

☐ Contractor Estimate

☐ Community Estimate

Percent Damaged:

### User Entered Data (Optional)

Market Value Determination

Professional Market Appraisal:  
\$0.00

Tax Assessed Value:  
\$4,640.00

Tax Factor Adjustment: ?  
3.00

Adjusted Tax Assessed Value:  
**\$13,920.00**

Cost of Damage

Contractor Estimate:  
\$0.00

Community Estimate:  
\$0.00

### Damage Summary

Replacement Cost:  
**\$132,941.25**

Computed Damages:  
**\$45,904.61**

Depreciation Percentage:  
**24.2 %**

Computed Actual Cash Value:  
**\$100,769.47**

Percent of Existing Improvements and Repairs Pre-Disaster:  
0.00

Repair/Reconstruction Percentage:  
**45.6 %**

\*Per FEMA Publication 213, actual cash may be used as market value.



# SDE Example - Reports

## Access Data



View/Search  
All Records



Bulk Editor



Enter Default Data



Add New Property



Add New Residential  
Assessment



Add New  
Non-Residential  
Assessment

## Resources



User Manual



Web References

## Reports, Imports/Exports, and GeoFiles



Saved Enterprise  
Import Mappings



Import/Export  
Functions



View Reports



Generate GeoFile

## Substantial Damage Estimator

Subdivision		Community			
Subdivision Parcel # Lot #	Elev. of Lowest Floor ft. Datum 1929	NFIP Community Name East St. Louis NFIP Community ID # 170626 Latitude Longitude 0.000000			
Structure Address					
Owner's Name Street Address City County/Parish State Zip Phone		No Photo Available 			
Structure Information					
Year of Construction 1951 Residence Type Single Family Residence Quality Budget					
Damage Information					
Date of Assessment 11/13/2022 Inspector Name IDNR Inspector Phone		Date of Damage 11/13/2022 Cause of Damage Flood Duration of Flood 3 Days Est. Depth of Flood Above Lowest Floor 0.50			
Residence Information					
NFIP Information					
Firm Panel #	Suffix	Date of FIRM Panel	Firm Zone	BFE	Regulatory Floodway
180	D	11/05/2003	AH	418.00	No
Percent Damaged					
Basis for Value of Structure		Percent Damaged		Basis for Cost of Repairs	
\$13,776.00		100.0 %		\$15,227.44	
Adj. Tax Assessed Value		Substantially Damaged		Computed Damages	
Damage Summary					
Replacement Cost		Computed Damages		\$15,227.44	
\$119,197.17		Percent of Existing Improvements and Repairs Pre-Disaster		0.0 %	
Depreciation %		Repair/Reconstruction %		19.8 %	
38.8 %		Other Depreciation Explanation			
Computed Actual Cash Value*		\$72,948.67			
* Per FEMA Publication 213, Actual Cash Value may be used as Market Value.					
Optional User Entered Data					
Professional Market Appraisal		Contractor Estimate			
\$0.00		\$0.00			
Tax Assessed Value		Community Estimate			
\$4,592.00		\$0.00			
Factor Adjustment					
3					
Adjusted Tax Assessed Value					
\$13,776.00					

Firm Panel #	Suffix	Date of FIRM Panel	Firm Zone	BFE	Regulatory Floodway
180	D	11/05/2003	AH	418.00	No
Percent Damaged					
Basis for Value of Structure		Percent Damaged		Basis for Cost of Repairs	
\$13,776.00		100.0 %		\$15,227.44	
Adj. Tax Assessed Value		Substantially Damaged		Computed Damages	
Damage Summary					
Replacement Cost		Computed Damages		\$15,227.44	
\$119,197.17		Percent of Existing Improvements and Repairs Pre-Disaster		0.0 %	
Depreciation %		Repair/Reconstruction %		19.8 %	
38.8 %		Other Depreciation Explanation			
Computed Actual Cash Value*		\$72,948.67			
* Per FEMA Publication 213, Actual Cash Value may be used as Market Value.					
Optional User Entered Data					
Professional Market Appraisal		Contractor Estimate			
\$0.00		\$0.00			
Tax Assessed Value		Community Estimate			
\$4,592.00		\$0.00			
Factor Adjustment					
3					
Adjusted Tax Assessed Value					
\$13,776.00					

Authorized Local Official : \_\_\_\_\_  
 Signature  
 Wednesday, November 16, 2022

Authorized Local Official : \_\_\_\_\_  
 Printed Name  
 Page 1 of 1

Summary Report – Attach to the Substantial Damage/ Damage Assessment Letter

# Notification of Property Owner

- Substantial Damage Determination Letters will need to be delivered regardless of damage percentage
- What methods of delivering notices to homeowners?
  - Hand delivery
  - Registered mail
- Provides information on repair and recovery
- Keep record of date sent, this prevents the “I didn’t get a SD letter” scenario

06/12/2000

John & Jane Q. Public  
1234 Flooded-By-The-River Rd.  
Deepwater IL 61000

RE: Substantial Damage  
1234 Flooded-By-The-River Rd.

Dear Mr. And Mrs. Public,

Subsequent to the recent flooding event, a damage assessment has been completed on the property referenced above. This is a part of \_\_\_\_ (insert community name) \_\_\_\_’s floodplain management responsibilities in order to maintain the availability of flood insurance and disaster assistance to residents. The following information relates to the address referenced above:

Community Number:	170XXX
Parcel Zone Information:	Zone A
Fair Market Value of structure:	\$31,226 (based on 3.3 x assessed value)
Flood Damage:	
June 2008	<b><u>\$18,864</u></b>
Total damages	\$18,864
Percent Damaged:	60.4% damage due to flooding
Ordinance Requirement:	Mitigation (elevation, removal)

The determination is that this structure is declared **Substantially Damaged** due to flooding and must be brought into compliance with the \_\_\_\_ (insert community name) \_\_\_\_ Floodplain Ordinance prior to repair and reoccupation. For this structure to be in compliance with the ordinance, the structure must be elevated, moved outside the floodplain or demolished.

Building inspections, Building Permits, and an **Elevation Certificate** will be required prior to the issuance of a *Certificate of Occupancy*. This structure may **NOT** be occupied until these corrections are made. Please contact this office at your earliest convenience to make an appointment with me to discuss your upcoming project. If you have any additional questions, you may feel free to give me a call at xxx-xxxx.

Sincerely,

# Next Steps

- You have completed your SD determinations, issued your SD determination letters and have worked through any appeals that may have come up. What's next?
  - All work, repairs, and development in the SFHA **MUST** be permitted
  - Follow through with your normal floodplain permitting process, keeping a close eye on any changes that might affect the SD Determination (Higher quality building materials, alteration from original construction plan)
    - Does your Community have a Cumulative Improvement/ damage requirement ?
- Continue to monitor for unpermitted work while in the SFHA

## FLOOD PLAIN DEVELOPMENT APPLICATION/PERMIT

Application # \_\_\_\_\_ Date \_\_\_\_\_

TO THE ADMINISTRATOR: The undersigned hereby makes application for a Permit to develop in a flood plain. The work to be performed, including flood protection works, is as described below and in attachments hereto. The undersigned agrees that all such work shall be done in accordance with the requirements of the City of Dubuque Flood Plain Management Ordinance and with all other applicable county/city ordinances and the laws and regulations of the State of Iowa.

\_\_\_\_\_  
(Owner or Agent) (Date) (Builder) (Date)

\_\_\_\_\_  
(Address) (Address)

Telephone # \_\_\_\_\_ Telephone# \_\_\_\_\_

1. Legal Description: \_\_\_\_\_  
Street Address: \_\_\_\_\_

2. Type of Development  
Filling \_\_\_\_\_ Grading \_\_\_\_\_ Excavation \_\_\_\_\_ Routine Maintenance \_\_\_\_\_  
Minor Improvement \_\_\_\_\_ Substantial Improvement \_\_\_\_\_ New Construction \_\_\_\_\_

3. Description of Development \_\_\_\_\_  
\_\_\_\_\_

4. Premises: Area of Site: \_\_\_\_\_ sq. ft./acres Estimated cost: \$ \_\_\_\_\_  
Principal Use: \_\_\_\_\_  
Accessory Uses (Storage, parking, etc.) \_\_\_\_\_

5. Addition/modification to non-conforming use? Yes \_\_\_\_\_ No \_\_\_\_\_  
Assessed value of structure \$ \_\_\_\_\_

6. Is property located in a designated Floodway (FW District)? Yes \_\_\_\_\_ No \_\_\_\_\_

IF ANSWERED YES, CERTIFICATION MUST BE PROVIDED PRIOR TO THE ISSUANCE OF A PERMIT TO DEVELOP, THAT THE PROPOSED DEVELOPMENT WILL RESULT IN NO INCREASE IN THE 100 YEAR (BASE) FLOOD ELEVATION.

7. Property located in a designated Floodway Fringe (FF) or General Flood Plain (FP)?  
Yes \_\_\_\_\_ No \_\_\_\_\_ If yes, indicate which one: \_\_\_\_\_

# Next Steps –Temporary Occupancy Permits



FOR BUILDINGS, ESPECIALLY HOMES, THAT HAVE REACHED SUBSTANTIAL DAMAGE LEVEL



ALLOW MINIMAL REPAIRS FOR LIFE SAFETY SO HOME CAN BE OCCUPIED



ALLOWS TIME FOR MITIGATION –DESIGN OF AN ELEVATION OR A GRANT FOR ACQUISITION



SET TIMELINE WHEN TEMPORARY OCCUPANCY WILL EXPIRE (6 YEARS FOR ICC BUT DON'T WAIT THAT LONG, CAN EXTEND IF DELAYED BY A GRANT)



STATE TEMPLATE AVAILABLE



# Questions?

**Erin Conley**

**IDNR Floodplain State Coordinator**

**(217) 782-4428**

**[erin.c.conley@illinois.gov](mailto:erin.c.conley@illinois.gov)**



**Michelle Staff**

**(202) 704-1098**

**FEMA Regional Specialist**

**[michelle.staff@fema.dhs.gov](mailto:michelle.staff@fema.dhs.gov)**



**FEMA**