

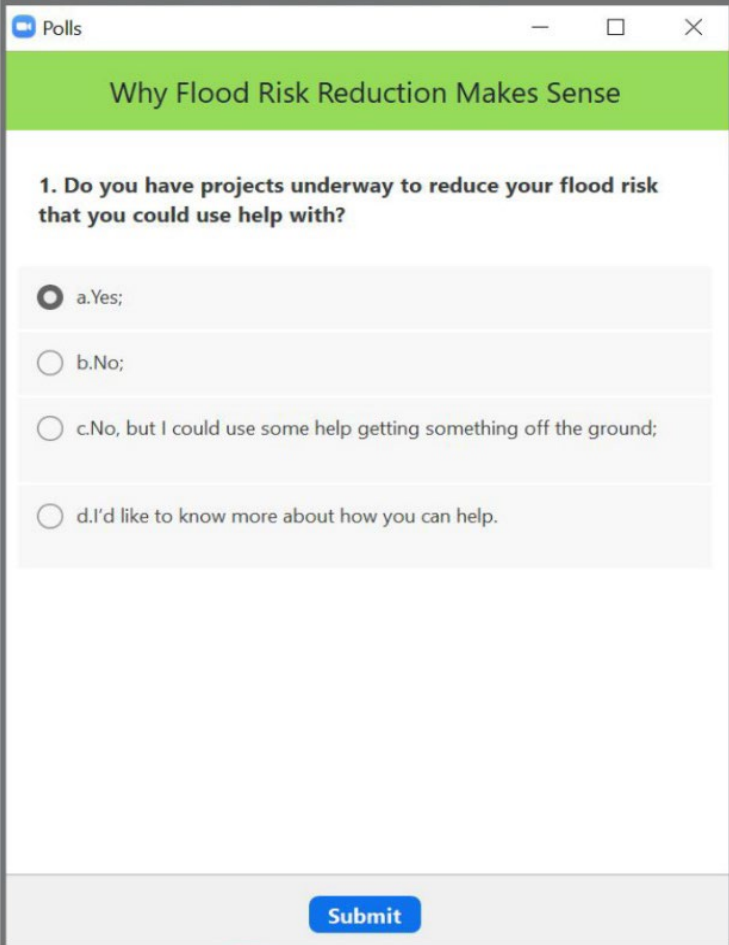
Before and After Disaster Strikes: Substantial Damage 101

Rules of the Road

- Attendees will be muted during the presentation
- Use the chat to ask questions during the presentation; we will pause for questions at various points
- If you want to share your video, please do
- For technical difficulties, send a private chat to Michele York or email michele.york@nebraska.gov
- We will be recording this class for those unable to attend today
- If you have concerns about the widescreen layout, please let us know for future classes!

Poll Questions

- Total of 5 poll questions. Your answers are anonymous
- If you are a Certified Floodplain Manager (CFM) or a Nebraska Municipality Treasurer requesting Continuing Education Credit (CEC) today, you must answer **all** poll questions. We will report only full participation
- Only the person registered and logged into Zoom will receive credit. If multiple people are viewing the presentation together, you will each need to log into Zoom using your unique link and answer the poll questions separately to receive credit



The screenshot shows a Zoom poll window with the title "Why Flood Risk Reduction Makes Sense". The poll question is "1. Do you have projects underway to reduce your flood risk that you could use help with?". There are four radio button options: "a.Yes;", "b.No;", "c.No, but I could use some help getting something off the ground;", and "d.I'd like to know more about how you can help.". A blue "Submit" button is located at the bottom right of the poll window.

Agenda

- 01** Introducing Substantial Damage
- 02** Substantial Damage Assessments
- 03** Disaster Preparedness
- 04** SDE 3.0 Exercise
- 05** Substantial Improvement
- 06** Additional Resources



Introducing Substantial Damage

Substantial Damage

- Repairs or additions to structures in the floodplain are considered development, so **must** be permitted by the community
- This is relatively easy to do, if the structure is already compliant with your regulations

However...

- What happens when the structure needs repaired or improved, but is currently “grandfathered”?

Substantial Damage

- If a non-conforming structure is substantially improved or substantially damaged, it must be brought into compliance with your floodplain ordinance
- Therefore, when a disaster occurs, the Floodplain Administrator and local community must determine if these structures have incurred substantial damage before issuing permits to repair
 - This is called a Substantial Damage Assessment (SDA)



Substantial Damage

Nebraska establishes substantial damage at 50% of the structure's market value:

002.21 Substantial damage. "Substantial damage" shall mean damage of any origin sustained by an obstruction whereby the cost of restoring the obstruction to its before-damaged condition would equal or exceed 50 percent of the market value of the obstruction before the damage occurred.

Neb. Admin. Code, Title 455, Ch.1, §002.21

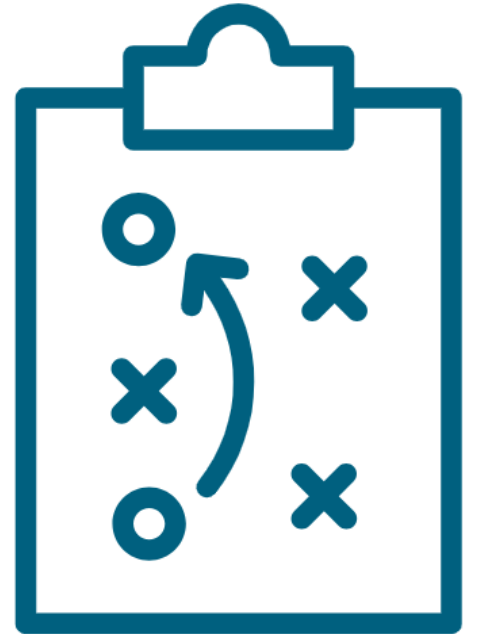
Substantial Damage

- NFIP communities can adopt a threshold lower than 50%
- Communities can also adopt language for cumulative cost tracking
- Check your floodplain ordinance for your expectations
 - Do you have a lower threshold?
 - Do you track costs over time?



Substantial Damage

- What does this mean for you as a Floodplain Administrator?
 - After a disaster, people will want to start repairs as soon as possible
 - If any buildings are in the floodplain, they need a floodplain development permit before repairs can begin
 - If these buildings are substantially damaged, they must bring the structure into compliance
- You can plan for these procedures now to avoid headaches in the future



Why is this Process Necessary?

- Is established in Federal and State law (CFR and NE Admin. Code)
- Reduces the number of flood prone structures
- Reduces the risk for continued losses
- Improves community resilience over time
- Records that you maintain can protect unsuspecting buyers of flood-prone properties
 - People sometimes would rather sell the damaged home than repair it
 - This puts the burden of compliance on the new owner

Why is this Process Necessary?

- NFIP insured homeowners that experience substantial damage can receive up to \$30,000 on top of their insurance claim
 - This is called Increased Cost of Compliance Coverage (ICC)
 - Is an automatic rider with any NFIP policy
- Structures that incur substantial damage qualify for Hazard Mitigation Grant funding to elevate or relocate
 - Substantially damaged structures automatically are considered to meet BCA requirements for HMA grants

Mitigation Reduces Future Flood Damage
Is your building insured through the National Flood Insurance Program (NFIP) with a Standard Flood Insurance Policy (SFIP)? If so, you may be eligible for up to \$30,000 in Increased Cost of Compliance (ICC) coverage. ICC will help cover the costs of meeting the community's rebuilding requirements that will protect your home from future flood damages. ICC coverage can help to pay the cost of one or any combination of these four mitigation activities.

- Elevate** above the flood level required by your community.
- Relocate** to a new site, preferably out of the floodplain.
- Demolish** the building.
- Dry floodproof** the building (primarily non-residential).

Your insurance carrier and community building department can help you to determine your ICC eligibility and the documentation you will need.

ICC Helps Reduce Future Flood Damage
Flooding badly damaged John Smith's \$200,000 home. After John reported his flood loss to his insurance carrier, an assigned adjuster inspected the property and said he may be eligible to receive ICC and should talk to his community building department. John contacted the community building department and after an inspection of the home, it was declared substantially damaged. John and the building department jointly decided elevating his home was the best way to meet the local floodplain rebuilding requirements and reduce future flood damage. John provided the substantial damage letter he received from his community building department to the insurance carrier. After the insurance carrier verified that the flood damages equaled at least 50 percent of the pre-flood market value, John qualified to receive ICC. After submitting a signed contract for the work, a building permit from the building department, and a signed ICC Proof of Loss form, John was ready to elevate his home.*

*Check with your insurance carrier to determine if you are able to receive a partial payment to help with the initial mitigation activity costs.

For more information about the NFIP, flood insurance, and ICC, contact your insurance carrier or visit www.FloodSmart.gov.

National Flood Insurance Program
Increased Cost of Compliance Coverage
Reduces Future Flood Damages





Completing Substantial Damage Assessments

Post-Disaster: The SDA Process

Step 1: Office review and field work preparations

Step 2: Curbside Review

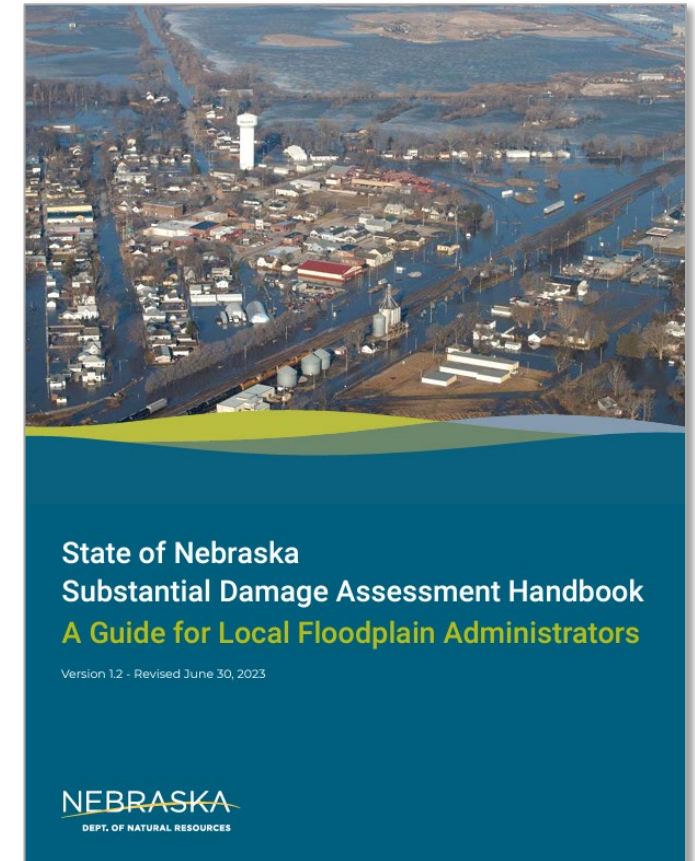
Step 3: Substantial Damage Inspections, comprising of:

- ✓ Developing the Substantial Damage Inspection schedule
- ✓ Notifying authorities of inspection plans
- ✓ Providing training for inspectors via pilot inspections
- ✓ Conducting substantial damage inspections

Step 4: Processing field data

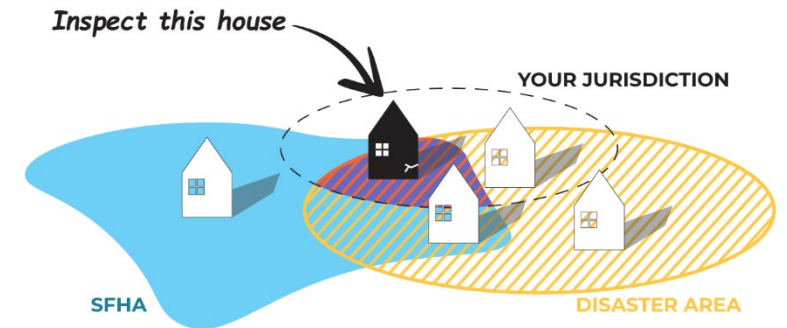
Step 5: Review and Issue Substantial Damage Determinations

Step 6: Floodplain Development Permits

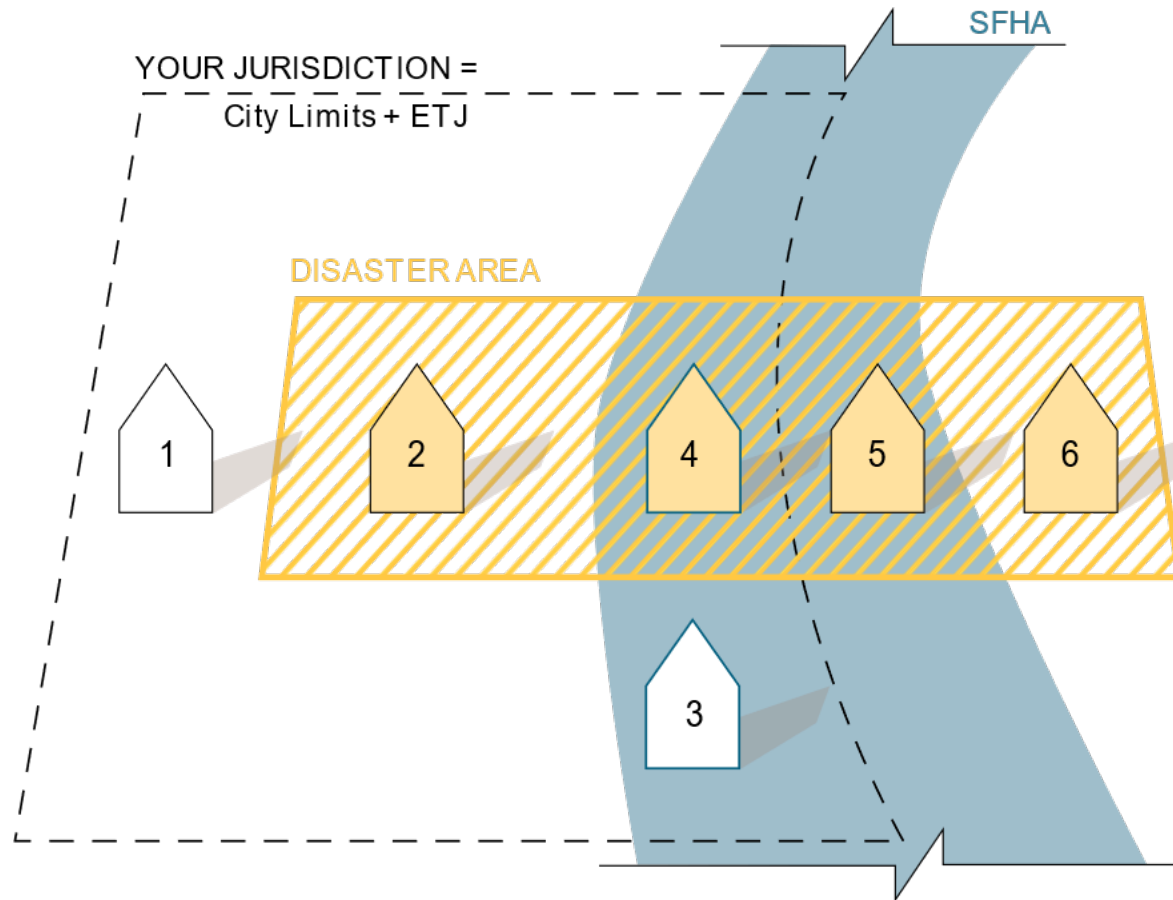


1. Office Review & Prerequisites

- Before leaving your office, determine where SDAs are required:
 - Areas of SFHA *not* impacted by the disaster won't have damaged structures
 - Damaged structures located *outside* of the SFHA won't need floodplain development permits to repair
 - Structures in compliance with the current floodplain ordinance



1. Office Review and Prerequisites



1. In jurisdiction, not impacted

Not under Floodplain Administrator purview; Handbook does not apply.

2. In jurisdiction, impacted, not in SFHA

3. In jurisdiction, not impacted, in SFHA

Handbook applies; use guidance in "Pre-Disaster" section.

4. In jurisdiction, impacted, in SFHA

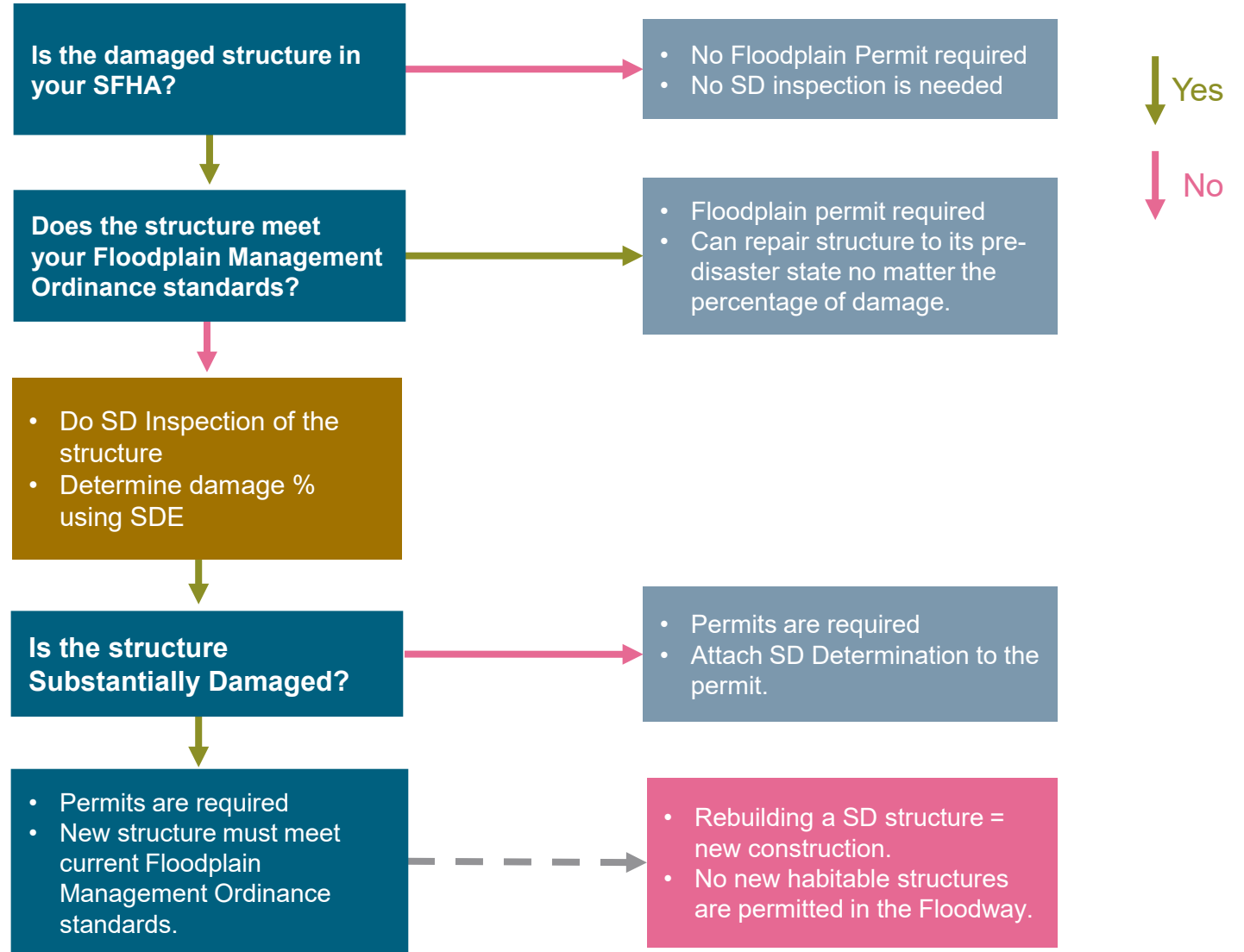
This Handbook Applies. See the "SD Assessment and Permit Requirement Decision Tree."

5. Not in jurisdiction, impacted, in SFHA

Not under Floodplain Administrator purview; Handbook does not apply.

6. Not in jurisdiction, impacted, not in SFHA

SDA Decision Tree



1. Office Review & Prerequisites

Example Press Release

RESIDENTS IN [JURISDICTION] WITH DISASTER DAMAGE REMINDED OF PERMIT REQUIREMENTS

As property owners in [jurisdiction] contemplate clean up and repairs following the recent [disaster], the [jurisdiction permit office] is reminding residents to obtaining local permits before repairing or rebuilding damaged structures in the special flood hazard area.

The permits are required as part of local government participation in the National Flood Insurance Program (NFIP), providing eligibility for flood insurance, flood disaster assistance, state and federal grants and loans, and buyout funds for flood-prone properties throughout the community.

Local floodplain management ordinances require that permits be obtained for any construction or development activity in a floodplain area, including the repair or reconstruction of structures damaged by a disaster.

Repairs to damaged buildings can be permitted, however, special conditions apply to substantially damaged buildings (those in which the total cost of repairs is ≥ 50% of the structure's pre-disaster market value). If a building is found to be substantially damaged, regulations require that repairs include bringing the structure into full compliance with the local floodplain ordinance. In some cases, doing so may require repairs that include elevating or flood proofing the structure to reduce the potential for future flood damage.

The cost to repair must be calculated for full repair to "pre-damaged" condition, even if the owner elects to do less. The total cost to repair includes structural and finish materials as well as labor. If labor and materials have been donated, they must still be assigned a value. If local building codes require the structure to be repaired according to certain standards, these additional costs must be included in the full repair cost for the structure.

State and federal assistance may be available to property owners to reduce the chances of future flood damage. Mitigation assistance may cover costs of relocation, or for elevating or purchasing flood-damaged structures. If damage is caused by a flood, flood insurance may also provide up to \$30,000 to protect a structure from future flooding through a claims process known as ICC (Increased Cost of Compliance). The property owner must have had flood insurance for ICC to become available.

Property owners and residents with [disaster]-damaged buildings should contact [local building, zoning or floodplain administrator] for more information on repair and reconstruction permits.

- Once you know the area, immediate outreach is key
- **Community officials** should be prepared to answer questions throughout the post-disaster recovery phase
- **Public** needs to understand the recovery process
 - Press releases to radio, newspaper, etc.
 - Connect with the Public Information Officer for social media announcements
 - Print notices to place on doors as you complete your disaster area tour

NeDNR Example Press Release, p. 43

1. Office Review & Prerequisites

- **“The Public”** includes property owners, contractors, volunteers, etc.
- These groups need to know:
 - Structures need inspection before repair work starts, and repairs need permits
 - Substantial Damage process and requirements
 - Availability of Increased Cost of Compliance (ICC) coverage with NFIP flood insurance policies for SFHA structures
 - Caution about unlicensed contractors & fraudulent entities that may take advantage of disaster victims
 - Opportunity to implement mitigations not required by ordinance

Consider sharing this info on an annual basis

“Somebody Already Inspected My House”

- A disaster event may trigger multiple forms of damage-scoping assessments:
 - Rapid Needs Assessment - FEMA
 - Preliminary Damage Assessment – FEMA, NEMA, NWS, and local entities
 - Damage Assessment* - Evaluation of structural loss
 - Public Assistance Damage Assessment – Public facility/infrastructure damage inspections
 - Substantial Damage Assessment* - Floodplain Management
 - Insurance Claims Adjustments – Insurance Agencies
 - Others? Fire department, local law enforcement, etc.

2. The Curbside Review

- Contact your county emergency manager before entering a disaster area at any time (check-in with Incident Command)
- What to bring:
 - Camera
 - Safety gear: hi-vis vest, hard hat, gloves
 - Photo ID or badges
 - Radios and spare batteries
 - Substantial damage educational materials

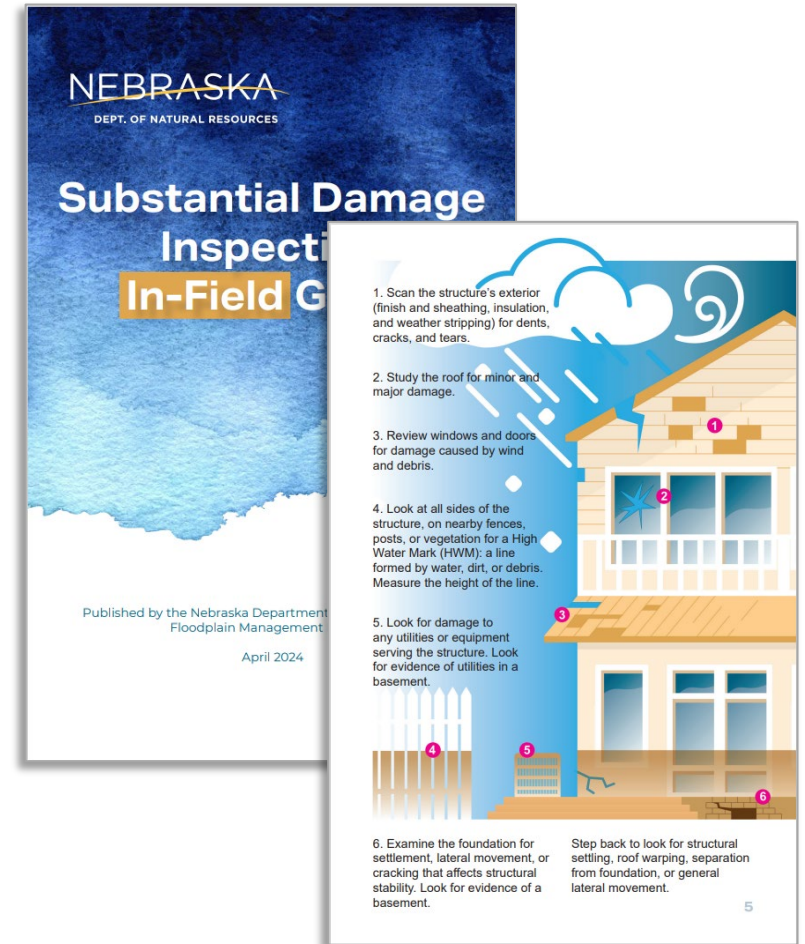
Checklist 2 - Field Preparations			
Need	Have	Item	Notes
1.	___	___	Flood maps such as FIRMs, FIRMets, clips of NeDNR Interactive Flood Maps, or other floodplain or flood risk maps.
2.	___	___	Assessor's map or other address map with flood boundaries.
3.	___	___	Route or area map showing proposed areas and sequence for data collection.
4.	___	___	Tax data: structure owner name, structure address, mailing address, number of stories, and dimensions or habitable area.
5.	___	___	Copies of blank SDE Damage Inspection Worksheets.
6.	___	___	Copies of blank photo log sheets (if needed).
7.	___	___	Photo ID badges for inspectors.
8.	___	___	Letter of Introduction with community point of contact (name and telephone number).
9.	___	___	Clip boards, pens/pencils, steno pad or notebook, highlighter.
10.	___	___	100 ft tape measure (to obtain or verify structure dimensions).
11.	___	___	Address board and dry erase markers.
12.	___	___	Hard hat, gloves, safety glasses and vest, steel-toe and steel-shank shoes, safety vest, and flashlight.
13.	___	___	Cell phones or walkie-talkies.
14.	___	___	Digital camera, primary and alternate memory cards, and extra batteries.
15.	___	___	Verification that police, fire, and emergency management agencies have been advised of SDE inspections.
16.	___	___	Laptop computers or tablets with SDE tool installed and power cords with plug adaptors for use and re-charging in field vehicles.
17.	___	___	Rain or cold-weather gear.

Checklist 2 is adapted from "Checklist 2 - Field Preparations" found in FEMA P-794, Substantial Damage Estimator User Manual and Field Workbook.

NeDNR Field Prep Checklist, p. 39

2. The Curbside Review

- Drive through damaged areas of SFHA
 - Record limits of disaster area
 - Record number of structures
 - Structure types
 - Estimated levels of damage (obvious SD?)
- Determine where full SD assessments are required
- Will you need help completing them all?
- Document areas with little to no apparent damage. Permits for minor repairs can be issued quickly



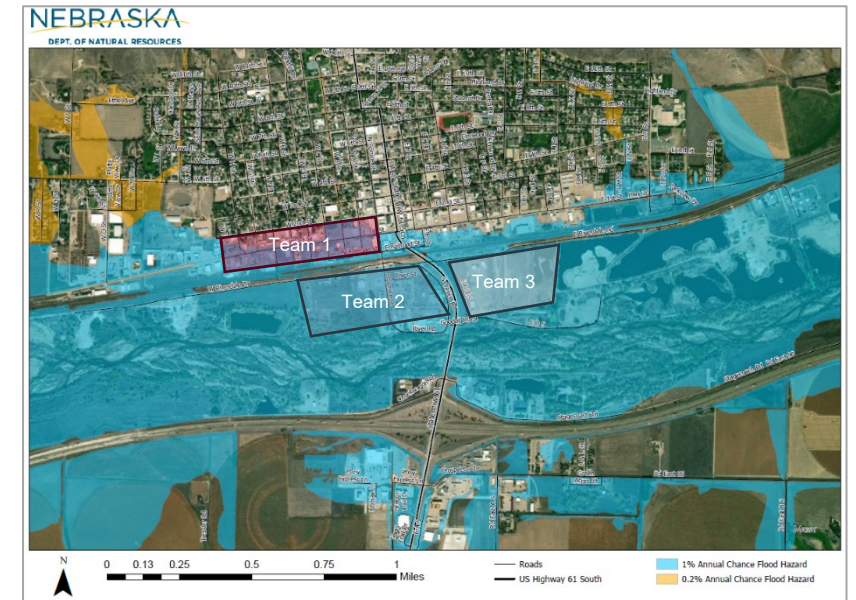
NeDNR SD Inspection In-Field Guide

3. Substantial Damage Inspections

- SD Inspections should collect *accurate data* as *quickly* as possible to complete an SD determination:
 1. Develop an inspection schedule
 2. Pull together a team to assist with inspections
 - If teams are deployed, perform “pilot” or “example” inspections to ensure they are completed consistently
 3. Conduct Substantial Damage Inspections

3. Substantial Damage Inspections

- Creating a schedule:
 - Start in areas where debris has been cleared allowing for faster inspections
 - Note areas with high development density and many structures
 - Residential inspections can be completed at a rate of around 20-35 per day for walkable areas
 - Non-residential around 3-15 per day
 - Areas with temporary or permanent access issues may require additional planning (debris removal, access to private lots/subdivisions)
 - Assign teams to areas with similar damages
 - Where will the teams regroup? At what time?



3. Substantial Damage Inspections



- Pilot Inspections:
 - Arrange for up to three pilot inspections
 - Vary the pilots to include both residential and non-residential structures with various levels of damage
 - Demonstrate the consistent field procedure for performing SDA
 - What elements to capture in photos
 - How to document damages
 - Calculating damage percentages for each structural element
 - Explain how to clearly communicate with property owners
 - Using the SDE 3.0 tool (up next)

3. Substantial Damage Inspections

- Calculate damage percentages using the tables in the SD handbook (ensures consistency)
- Use your best judgement, remember owner may appeal
- Record damages on inspection worksheets
- Be respectful to the property owner, but don't let them influence the inspection

Estimated Percentage Damage Range				
	0% - 25%	25% - 50%	50% - 75%	75% - 100%
FOUNDATION	<p>Continuous perimeter foundations, footings, and piers for internal beams and floor loads. Footing depth averages between 30 inches and 42 inches below ground level. Materials include unreinforced cast-in-place concrete, unreinforced masonry or concrete masonry units (CMUs), concrete slab on grade, or raised slab construction.</p>	<ul style="list-style-type: none"> • Water level does not rise to the level of the bottom of the first floor of the structure. • No scouring at the footings. • Some undermining but no visible cracking at concrete slab. 	<ul style="list-style-type: none"> • Water level rises just above first floor level. • Limited scouring at the footings. • Soils are saturated. • Undermining of the concrete slab, especially at corners - hairline cracks only. 	<ul style="list-style-type: none"> • Water level is 4-7 feet against the outside of the building. • Limited scouring at the footings. • Soils are saturated and unstable. • Cracks noted on or along the foundation walls. • Significant undermining of the concrete slab - significant cracking is visible.
SUPERSTRUCTURE	<p>For wood frame & masonry. The wall support systems that extend from the foundation wall to the roof structure. Superstructures include the exterior wall sheathing panels, shear panels, or braced wall panels. This section also includes structural members that support the roof (rafters and trusses), but does not include the roof sheathing.</p>	<ul style="list-style-type: none"> • Water level does not rise to the level of the bottom of the first floor of the structure. • No damage to the roof framing. 	<ul style="list-style-type: none"> • Water level rises just above first floor level. • Damage to the exterior walls is limited. • Damage to the roof framing is limited. 	<ul style="list-style-type: none"> • Water level is up to 3 feet high on the first floor level. • Some damage to exterior walls. • Significant damage to sections of the roof framing.

The "Estimated Percent Damage Range" tables are adapted from "Guidance for Estimating Percent Damaged for Residential Structures," found in FEMA P-784, Substantial Damage Estimator User Manual and Field Workbook.

NeDNR Percent Damage Tables, p. 58

SDA Damage Inspection Worksheet
- Residential -

COMMUNITY	STRUCTURE	INSPECTION
NFIP Community ID (CID):	Structure Address:	Inspector Name:
NFIP Community Name:		Team #:
Latitude:	City:	Assessment Date:
Longitude:	Zip:	Date Damaged:
	County:	

PHOTOS	
Photo #:	Direction facing: <input type="radio"/> Northwest <input type="radio"/> North <input type="radio"/> Northeast <input type="radio"/> East <input type="radio"/> West <input type="radio"/> Southwest <input type="radio"/> South <input type="radio"/> Southeast
Photo #:	<input type="radio"/> Northwest <input type="radio"/> North <input type="radio"/> Northeast <input type="radio"/> East <input type="radio"/> West <input type="radio"/> Southwest <input type="radio"/> South <input type="radio"/> Southeast

STRUCTURE ATTRIBUTES	Year Constructed:
Residence Type: <input type="radio"/> Single Family Residence <input type="radio"/> Town or Row House <input type="radio"/> Manufactured House	
Exterior: <input type="radio"/> One Story <input type="radio"/> Two or More Stories	
Foundation: <input type="radio"/> Continuous Wall + Slab Piles <input type="radio"/> Basement <input type="radio"/> Slab-on-Grade <input type="radio"/> Crawlspace <input type="radio"/> Piers and Posts	
Superstructure: <input type="radio"/> Stud-Framed Common Brick <input type="radio"/> ICF <input type="radio"/> Masonry	
Roof Coverings: <input type="radio"/> Shingles <input type="radio"/> Clay Tile <input type="radio"/> Standing Seam (Metal) <input type="radio"/> Slate	
Exterior Finish: <input type="radio"/> Siding or Stucco <input type="radio"/> Brick Veneer <input type="radio"/> Exterior Insulated Finishing System (EIFS) <input type="radio"/> None (Common Brick or Structural)	
HVAC System: <input type="radio"/> None <input type="radio"/> Heating or Cooling	
Quality: <input type="radio"/> Low <input type="radio"/> Good <input type="radio"/> Budget <input type="radio"/> Excellent <input type="radio"/> Average	
Cause of Damage: <input type="radio"/> Fire <input type="radio"/> Seismic <input type="radio"/> Flood <input type="radio"/> Wind <input type="radio"/> Flood and Wind <input type="radio"/> Other	
Flood Duration:	<input type="radio"/> Hours <input type="radio"/> Days
Flood Depth Above Ground: (Decimal Ft.)	Flood Depth Above 1st Floor: (Decimal Ft.)

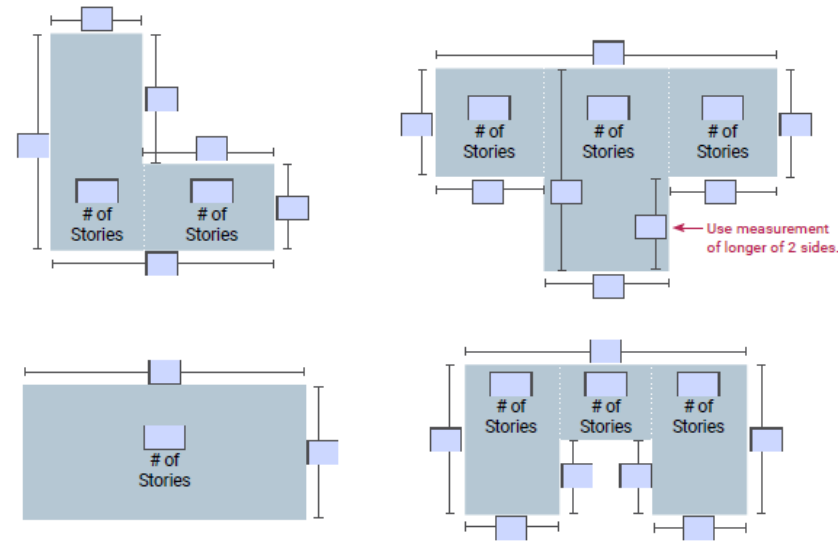
Worksheet adapted from "Residential SDE Damage Inspection Worksheet" found in Appendix B, FEMA P-784, Substantial Damage Estimator User Manual and Field Workbook.

SDA Damage Inspection Worksheet Cont.
- Residential -

DEPRECIATION RATING
<input type="radio"/> Very Poor Condition <input type="radio"/> Average Condition <input type="radio"/> Other:
<input type="radio"/> Requires Extensive Repairs <input type="radio"/> Above Average Condition
<input type="radio"/> Requires Some Repairs <input type="radio"/> Excellent Condition

ELEMENT PERCENTAGES			
Element	Percent Damaged	Element	Percent Damaged
Foundation:		Floor Finish:	
Superstructure:		Plumbing:	
Roof Covering:		Electrical:	
Exterior Finish:		Appliances:	
Doors & Windows:		Interior Finish:	
Cabinets & Countertops:		HVAC:	

SQ. FOOTAGE CALCULATOR

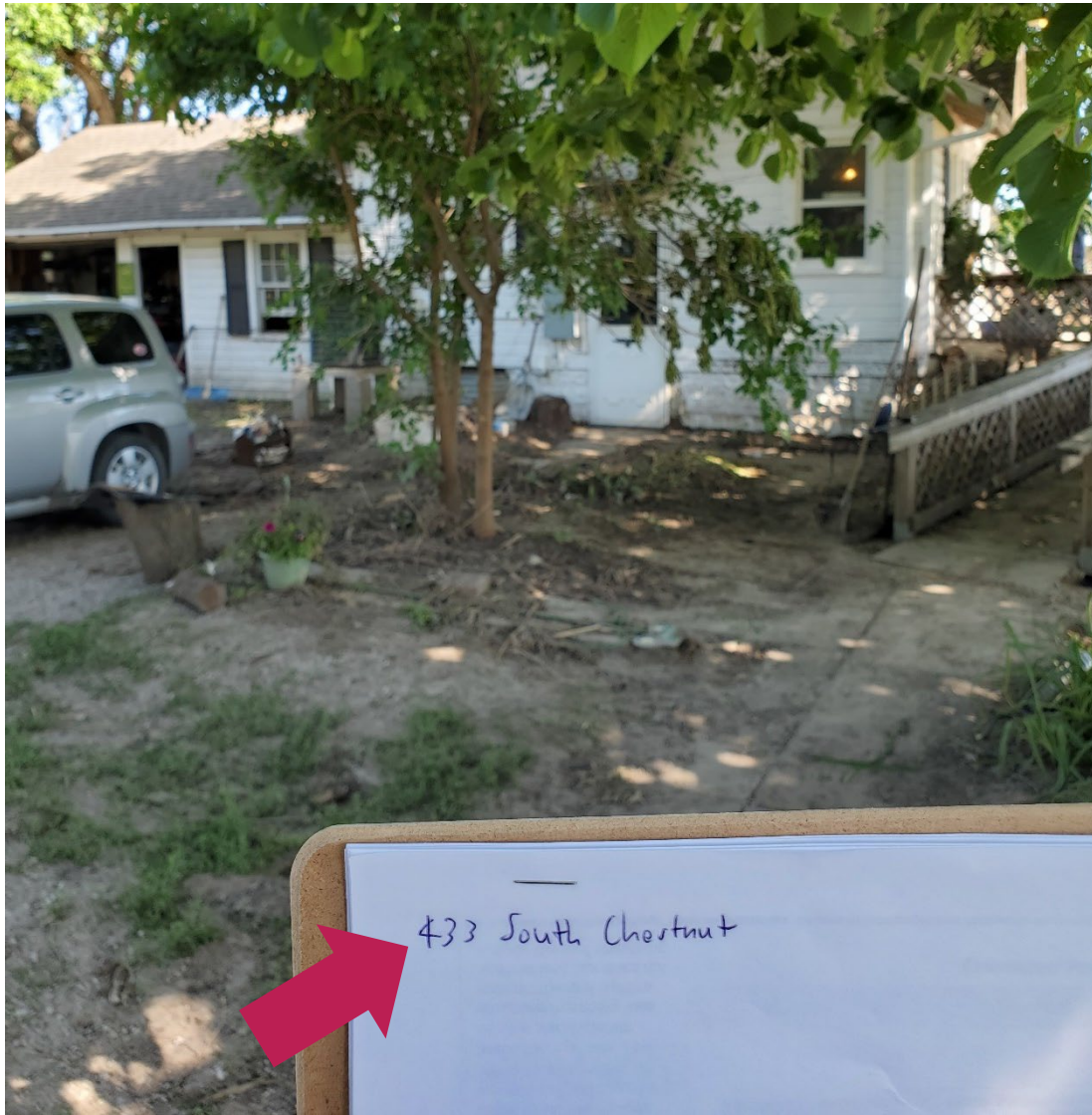


Worksheet adapted from "Residential SDE Damage Inspection Worksheet" found in Appendix B, FEMA P-784, Substantial Damage Estimator User Manual and Field Workbook.

3. Substantial Damage Assessments

- Take photos from multiple angles
 - Note water lines
 - Photograph damage to roof, foundation, A/C units, windows, siding
- Remember to step back from the structure to look for foundation shifting, sagging roofline





3. Substantial Damage Assessments

- If entry into the structure is necessary, notify the property owner and request permission
 - Talk with your legal counsel regarding right of entry protections
 - If you can't access the interior of the structure, complete your inspection from the outside as best you can
- Use caution when entering damaged structures due to the possibility of structural deficiencies

**PROPERTY OWNER'S RIGHT OF ENTRY CERTIFICATION
AND RELEASE**

A floodplain permit is required for all construction activity in the Special Flood Hazard Area (SFHA) or that area inundated by the 1% annual chance of a flood, as designated by the National Flood Insurance Program (NFIP). These SFHAs are designated as A, AE, A1-A30, AH, or AO Zones on the Flood Insurance Rate Maps (FIRMs). This includes construction for new or improved residential and non-residential structures, filling, and excavation.

I, the undersigned, being the owner of the land and all structures located at the address below

Address: _____

City, Zip: _____ Nebraska, _____

do hereby grant the local jurisdiction permission to inspect the property to determine the amount of damage and to comply with the National Flood Insurance (NFIP) Regulations for Substantial Damage Determinations, pursuant to Title 44 C.F.R., Section 60.3.

I, the undersigned, do hereby grant the local jurisdiction, its agents, servants, employees and assigns, for a period of 60 days or the completion of the substantial damage assessment, from the date of this document, permission to enter upon the above-identified land to accomplish substantial damage/improvement determinations.

In consideration of the substantial damage assessment conferred on me by the local jurisdiction, in said substantial damage/improvement determinations, I, the undersigned, do hereby release and forever discharge the local jurisdiction, its agents, servants, employees, and assigns from any and all claims, demands, or actions for damages for any and all personal injuries, or loss or damage to property sustained in or growing out of said inspections, and from complications arising therefrom. I also hereby agree to comply with the local jurisdiction's Ordinance/Resolution No. _____

It is understood that the above mentioned substantial damage assessment and the terms of the release are fully understood and voluntarily accepted.

I HAVE READ THE FOREGOING RELEASE AND FULLY UNDERSTAND IT.

Signature	Print Name	Date
Witness	Print Name	Date

NeDNR Right of Entry Notice Template, p. 51

4. Processing Field Data

- We recommend using FEMA's Substantial Damage Estimator 3.0 Tool
 - Assists state and community officials in estimating Substantial Damage to residential and non-residential structures
 - Works like a calculator, taking your field data and creating a “percent damage” calculation
 - Can create summary reports to provide to property owners with their permit documentation
 - We will cover this tool in detail later



The SDE is a tool to help local officials administer the Substantial Damage requirements of their floodplain management ordinances in keeping with the minimum requirements of the NFIP.



5. Review/Issue Substantial Damage Determinations

- To establish the “precent damage” for a structure, use the following calculation:

$$\left(\frac{\text{Cost to repair the structure to pre-damaged condition}}{\text{Pre-damage market value of the structure}} \right) \times 100$$

5. Review/Issue Substantial Damage Determinations

- To establish the “precent damage” for a structure, use the following calculation:

$$\left(\frac{\$25,000 \text{ repair cost}}{\$250,000 \text{ structure at market value}} \right) \times 100 = \text{10\% Damaged Not SD}$$

5. Review/Issue Substantial Damage Determinations

- Market value can come from 3 sources:
 - a. Tax assessed value (fastest to obtain)
 - b. Professionally appraised value
 - c. Estimated value using a geographically adjusted “base cost”
 - Base Cost = Cost per square foot to construct a building

**Key
Term:**

Market Value – *The price that the seller is willing to accept and the buyer is to pay on the open market and in an arm's length transaction.*

5. Review/Issue Substantial Damage Determinations

- Costs to repair can also come from 3 sources:
 - a. Calculated repair cost using SDE 3.0 (fastest to obtain)
 - b. Contractor estimate form by a licensed professional
 - c. Itemized list of materials and labor costs prepared by the property owner (must be reasonable and use current market rates)

**Key
Term:**

Cost to Repair – Includes the costs of all work necessary to restore a damaged building to its pre-damaged condition. Includes the costs of all materials, labor, and other items necessary to perform the proposed work.

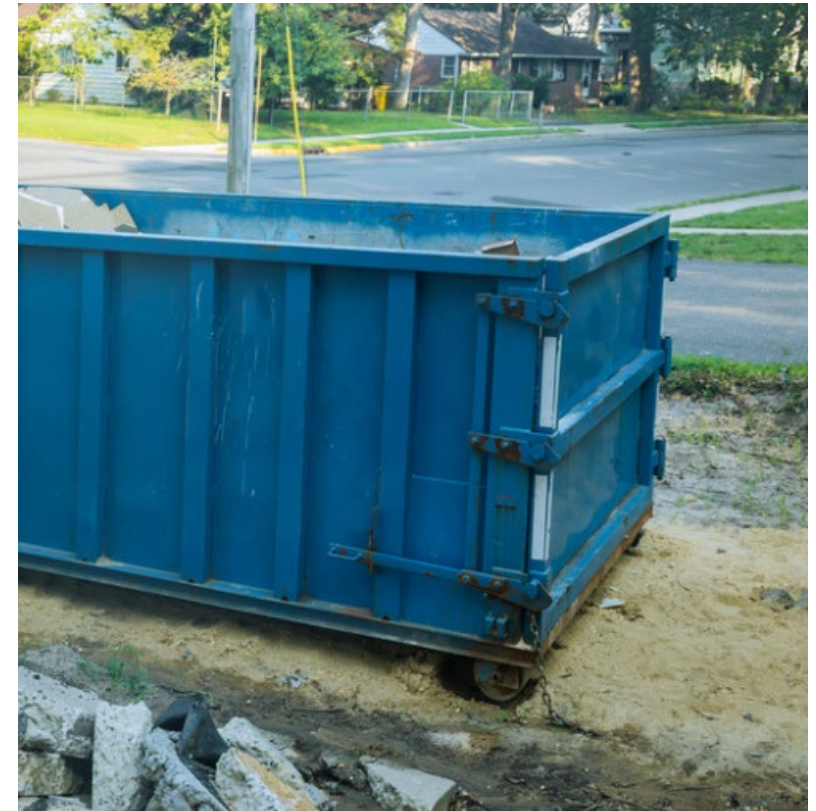
5. Review/Issue Substantial Damage Determinations

- Included costs for repair:
 - Market rate of materials and labor (even if volunteered/free)
 - Demolition costs including labor
 - Contractor's overhead/profit
 - All structural elements, including exterior finish, flooring, cabinets, electrical and HVAC, plumbing, trim, etc.
 - Built-in appliances



5. Review/Issue Substantial Damage Determinations

- Excluded costs for repair:
 - Trash removal and general cleanup
 - Temporary stabilization of the structure
 - Survey or engineering costs
 - Permit fees or inspection fees
 - Plug-in appliances
 - Correction of health, safety, or sanitary code violations



5. Review/Issue Substantial Damage Determinations

- Use the forms from the SD Handbook for any **appeals** to your calculations using the SDE 3.0 tool
 - Included and Excluded Costs Guide
 - Cost Estimate Form
- Ensures consistency, accuracy, and defensibility

Floodplain Damage / Improvement

Property Information	Cost Category
Owner Name	C
Property Address	C
City, State, Zip	A
Phone	C
Email	P
Disaster Name / Type	E

Costs That Must Be Included in Floodplain SI/SD Determination

Labor and materials, including sales tax

Exterior:		Util
\$	Site preparation	\$
\$	Foundation / slab	\$
\$	Beams, subflooring, & roof joists	\$
\$	Roof, gutters, & downspouts	\$
\$	Walls, tie beams, trusses	\$
\$	Exterior finishes	\$
\$	Windows & Exterior doors	\$
\$	Hardware	\$
\$	Attached decks & porches	\$
Interior:		Oth
\$	Flooring & subflooring	\$
\$	Bathroom fixtures	\$
\$	Drywall & Wall finished	\$
\$	Built-in cabinets	\$
\$	Interior doors	\$
\$	Interior finish carpentry	\$
\$	Built-in bookcases & furniture	\$
\$	Hardware	\$
\$	Insulation	\$

The Damage Improvement Cost Form is adapted from "Costs for Substantial Improvement Damage," and "Required and Recommended Elements to be Included in a Contractor or Cost Estimator's Estimate," both found in FEMA P-754, Substantial Damage Estimator User Manual and Field Workbook.

Included and Excluded Costs for Damage Repair Estimates

Included Costs

Items that must be included in the costs of improvement or costs to repair are those that are directly associated with the building. The following list of costs that must be included is not intended to be exhaustive, but characterizes the types of costs that must be included:

- Materials and labor, including the estimated value of donated or discounted materials and owner or volunteered labor
- Site preparation related to the improvement or repair (foundation excavation, filling in basements)
- Demolition and construction debris disposal
- Labor and other costs associated with demolishing, moving, or altering building components to accommodate improvements, additions, and making repairs
- Costs associated with complying with any other regulation or code requirement that is triggered by the work, including costs to comply with the requirements of the Americans with Disabilities Act (ADA)
- Costs associated with elevating a structure to an elevation that is lower than the base flood elevation (BFE)
- Construction management and supervision
- Contractor's overhead and profit
- Sales taxes on materials
- Structural elements and exterior finishes, including:
 - Foundations (e.g., spread or continuous foundation footings, perimeter walls, chainwalls, pilings, columns, posts, etc.)
 - Monolithic or other types of concrete slabs

- Bearing walls, tie beams, trusses
- Structural elements and exterior finishes (cont.):
 - Joists, beams, subflooring, framing, ceilings
 - Interior non-bearing walls
 - Exterior finishes (e.g., brick, stucco, siding, painting, and trim)
 - Windows and exterior doors
 - Roofing, gutters, and downspouts
 - Hardware
 - Attached decks and porches
- Interior finish elements, including:
 - Floor finishes (e.g., hardwood, ceramic, vinyl, linoleum, stone, and wall-to-wall carpet over subflooring)
 - Bathroom tiling and fixtures
 - Wall finishes (e.g., drywall, paint, stucco, plaster, paneling, and marble)
 - Built-in cabinets (e.g., kitchen, utility, entertainment, storage, and bathroom)
 - Interior doors
 - Interior finish carpentry
 - Built-in bookcases and furniture
 - Hardware
 - Insulation
- Utility and service equipment, including:
 - HVAC equipment
 - Plumbing fixtures and piping
 - Electrical wiring, outlets, and switches
 - Light fixtures and ceiling fans
 - Security systems
 - Built-in appliances
 - Central vacuum systems
 - Water filtration, conditioning, and recirculation systems

This list is adapted from "Costs for Substantial Improvements and Repair of Substantial Damage," found in FEMA P-758, Substantial Improvement / Substantial Damage Desk Reference. Appendix A | 49

NeDNR Cost Estimate Form and Included Costs List, p. 49 and 77

5. Review/Issue Substantial Damage Determinations

- Issue your determination to the property owner
 - Print the summary report from the SDE 3.0 tool
 - Send a letter with an official determination on your community's letterhead
- Should be attached to a blank floodplain development permit application

**Required documents to qualify for ICC or mitigation funding*

Substantial Damage Estimator		
Subdivision	Dev. of Lowest Floor	Community
Parcel # 480041628	ft.	NFP Community Name Fairbury, City of NFP Community ID# 310120 Longitude

Flood-Related Substantial Damage Determination Letter:

[Jurisdiction Name]
[Jurisdiction Address Line 1]
[Jurisdiction Address Line 2]

[Date]

[Property Owner Name]
[Property Owner Address Line 1]
[Property Owner Address Line 2]

Subject: Damage Estimation for Property Located at [Property Address and Parcel No.]

Dear [Property Owner],

On [date], the subject property was damaged by a flood. Your property is located in Flood Zone [A, AE, A1-30, AH, AO]. When a property in a special flood hazard area is damaged, the local jurisdiction is required to perform damage estimation in accordance with [Ordinance/Regulation/Resolution and No.]. The damage estimation for your property has been determined to be [percentage]. This number is based on the ratio of the cost to repair the structure to its pre-flood market value. The fair market value of your structure was determined to be [dollar amount]. The cost to repair is estimated to be [dollar amount]. Please see the documentation attached.

Prior to beginning repairs to your structure, please complete the required Floodplain Development Permit Application (enclosed). Failure to obtain a required permit is a violation of [Ordinance/Regulation/Resolution and No.]. We regret your loss and the damage you have sustained. We will try to make the permitting process as easy as we can for you.

Because the damage to your building has been determined to be greater than 50% of fair market value, your building has been determined to be *substantially damaged*. Substantially damaged properties are required to be brought into full compliance with floodplain regulations found in [Ordinance/Regulation/Resolution and No.]. Residential structures must be elevated [height freeboard] above the base flood elevation (BFE). Non-Residential structures must be flood-proofed or elevated to [height freeboard].

You are welcome to contact this office to schedule a consultation to discuss your options for bringing the building into compliance. Increased Cost of Compliance (ICC) funds could be available for those who have flood insurance through the National Flood Insurance Program (NFIP). Contact your claims adjuster for details. *NOTE: Buildings already in compliance will not qualify for ICC so do not include statements about ICC for those buildings.*

If you disagree with the damage estimation there is an appeal process. An appeal will require additional information such as [contractor's estimate/insurance adjusted claim/licensed

Available
Residence Information
Regulatory Floodway Yes
Basis for Cost of Repairs \$0.00 Computed Damages
\$558,015.00 ements and Repairs Pre- 0.0 % 0.0 %
Market Value
Contractor Estimate \$0.00 Community Estimate \$0.00
Printed Name Page 1 of 1

NeDNR Flood-Related SD Letter to Property Owner, p. 71

5. Review/Issue Substantial Damage Determinations

- Determination letters must include:
 - The date of the event
 - Percent damage and fair market value
 - FPA contact information
 - Appeals procedures
 - Specifically use the term “substantial damage”

Substantial Damage Estimator		
Subdivision	Dev. of Lowest Floor	Community
Parcel # 480041628	ft.	NFP Community Name Fairbury, City of NFP Community ID# 310120 Longitude

Flood-Related Substantial Damage Determination Letter:

[Jurisdiction Name]
[Jurisdiction Address Line 1]
[Jurisdiction Address Line 2]

[Date]

[Property Owner Name]
[Property Owner Address Line 1]
[Property Owner Address Line 2]

Subject: Damage Estimation for Property Located at [Property Address and Parcel No.]

Dear [Property Owner],

On [date], the subject property was damaged by a flood. Your property is located in Flood Zone [A, AE, A1-30, AH, AO]. When a property in a special flood hazard area is damaged, the local jurisdiction is required to perform damage estimation in accordance with [Ordinance/Regulation/Resolution and No.]. The damage estimation for your property has been determined to be [percentage]. This number is based on the ratio of the cost to repair the structure to its pre-flood market value. The fair market value of your structure was determined to be [dollar amount]. The cost to repair is estimated to be [dollar amount]. Please see the documentation attached.

Prior to beginning repairs to your structure, please complete the required Floodplain Development Permit Application (enclosed). Failure to obtain a required permit is a violation of [Ordinance/Regulation/Resolution and No.]. We regret your loss and the damage you have sustained. We will try to make the permitting process as easy as we can for you.

Because the damage to your building has been determined to be greater than 50% of fair market value, your building has been determined to be *substantially damaged*. Substantially damaged properties are required to be brought into full compliance with floodplain regulations found in [Ordinance/Regulation/Resolution and No.]. Residential structures must be elevated [height freeboard] above the base flood elevation (BFE). Non-Residential structures must be flood-proofed or elevated to [height freeboard].

You are welcome to contact this office to schedule a consultation to discuss your options for bringing the building into compliance. Increased Cost of Compliance (ICC) funds could be available for those who have flood insurance through the National Flood Insurance Program (NFIP). Contact your claims adjuster for details. *NOTE: Buildings already in compliance will not qualify for ICC so do not include statements about ICC for those buildings.*

If you disagree with the damage estimation there is an appeal process. An appeal will require additional information such as [contractor's estimate/insurance adjusted claim/licensed

Residence Information	Available
Regulatory Floodway	Yes
Basis for Cost of Repairs	\$0.00
Computed Damages	\$59,015.00
Repairs and Repairs Pre-	0.00 %
Market Value	0.00 %
Contractor Estimate	\$0.00
Community Estimate	\$0.00
Printed Name	Page 1 of 1

NeDNR Flood-Related SD Letter to Property Owner, p. 71

6. Floodplain Development Permitting

- Review permit applications for:
 - Appeals to your cost estimates
 - Additional work being proposed (converting rooms, redoing the kitchen)
 - All additional costs must be added to the SD determination
 - If SD, check for proof that they recognize the need to bring the structure into compliance
 - Pre-development elevations, contractor bid to elevate the structure, engineering certificates



6. Floodplain Development Permitting

- When reviewing appeals to repair cost estimates:
 - Check for contractor license number
 - Encourage or require second/third estimates
 - If property owner refuses other estimates, require owner and contractor to sign an affidavit certifying the costs
 - Costs must include materials AND labor, including demolition
 - Costs must be based on current market rates

Contractor's Affidavit: Substantial Improvement or Repair of Substantial Damage

Property Address:

Parcel ID Number:

Owner's Name:

Owner's Address/Phone:

Contractor:

Contractor's License Number:

Date of Contractor's Estimate:

I hereby attest that I have personally inspected the building located at the above-referenced address and discussed the nature and extent of the work requested by the owner, including all improvements, rehabilitation, remodeling, repairs, additions, and any other form of improvement.

At the request of the owner, I have prepared a cost estimate for all of the improvement work requested by the owner and the cost estimate includes, at a minimum, the cost elements identified by the [community] that are appropriate for the nature of the work. If the work is repair of damage, I have prepared a cost estimate to repair the building to its pre-damage condition. I acknowledge that if, during the course of construction, the owner requests more work or modification of the work described in the application, that a revised cost estimate must be provided to the [insert community], which will re-evaluate its comparison of the cost of work to the market value of the building to determine if the work is substantial improvement. Such re-evaluation may require revision of the permit and may subject the property to additional requirements.

I also understand that I am subject to enforcement action and/or fines if inspection of the property reveals that I have made or authorized repairs or improvements that were not included in the description of work and the cost estimate for that work that were the basis for issuance of a permit.

Owner's Signature:

Date:

Notarized:

6. Floodplain Development Permitting

- Remember to obtain proof of compliance upon completed construction
 - For elevated houses, obtain a new surveyed elevation of the lowest floor
 - For relocated or demolished structures, photographic evidence
 - For floodproofed structures, engineering certificates



Forms and Templates

- Worksheet Templates
- Exterior Inspection Guide
- Interior Inspection Guide
- Percent Damage Estimation Tables
- Determination Letter Templates
- Press Release Example

Substantial Damage Assessment Handbook: Forms and Templates

- 📄 Checklist 1 - Pre/Post Disaster Planning
- 📄 Checklist 2 - Field Preparations
- 📄 SDA Notice to Post on Structures
- 📄 Example Press Release
- 📄 NFIP and SD/SI Informational Handout
- 📄 Included and Excluded Costs for Damage Repair Estimates
- 📄 Right of Entry Certification and Release
- 📄 Exterior Inspection Guide
- 📄 Interior Inspection Guide
- 📄 Percent Damage Estimation Tables
- 📄 SDA Damage Inspection Worksheet - Residential
- 📄 SDA Damage Inspection Worksheet - Non Residential
- 📄 SDA and Permit Requirement Decision Tree
- 📄 SD Determination Letter - Flood-Related Damage
- 📄 SD Determination Letter - Not Flood-Related
- 📄 Non-SD Determination Letter
- 📄 Floodplain Damages/Improvements Cost Form
- 📄 NE Model Floodplain Development Permit Application Form

Curbside Review Practice













Disaster Preparedness

Latest observed value: 15.67 ft at 1:00 PM CDT 21-Jun-2024. Flood Stage is 30 ft

Record: 35.2'

Moderate: 33.0'

32.5 ft

Minor: 30.0'

Action: 25.0'

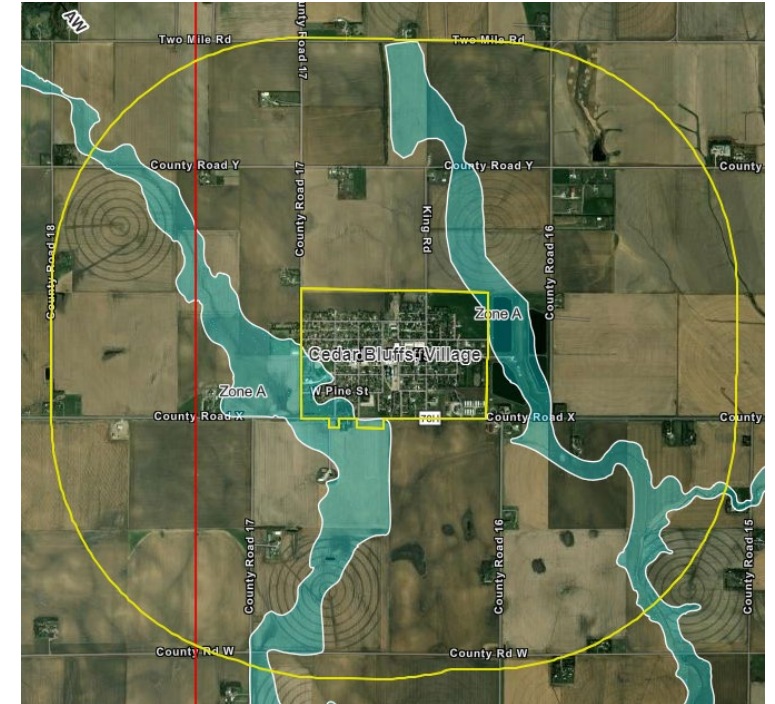
15.69 ft

Disaster Preparedness

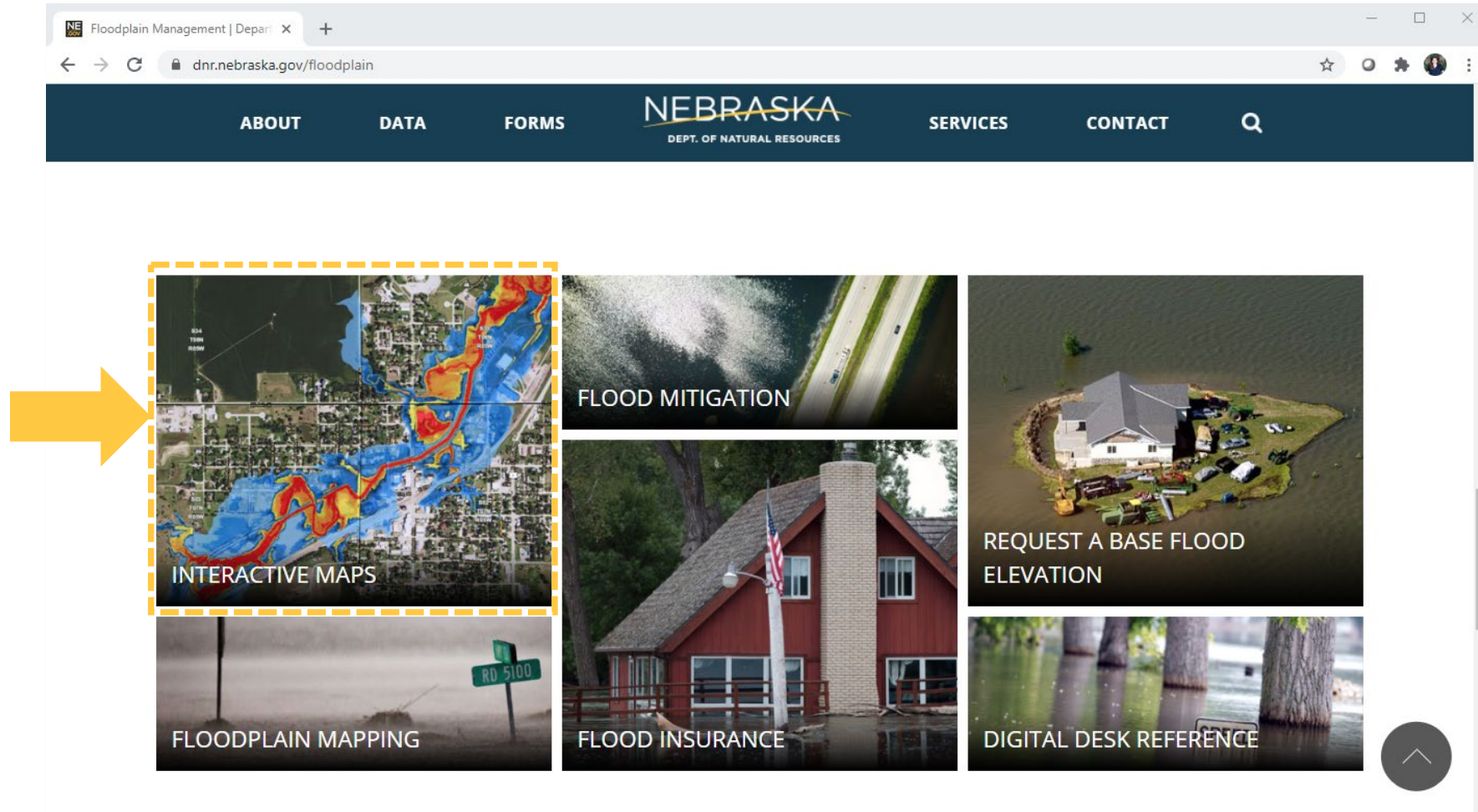
- Knowing what you've learned, what can you do to prepare for this process?
 - Know your regulatory jurisdiction
 - Know which structures are at risk
 - Build a database
 - Meet with your county/regional Emergency Manager
 - Make a plan

Know Your Hazard Zones

- Must be able to answer the following questions:
 - Where is my jurisdiction?
 - Where is your jurisdiction's SFHA located?
 - What structures exist in the SFHA?
- Resources available:
 - Printed FIRMs
 - NeDNR Interactive Map
 - FEMA's Map Service Center (<https://msc.fema.gov/portal/home>)



Using the Interactive Map



Using the Interactive Map – Live Demo

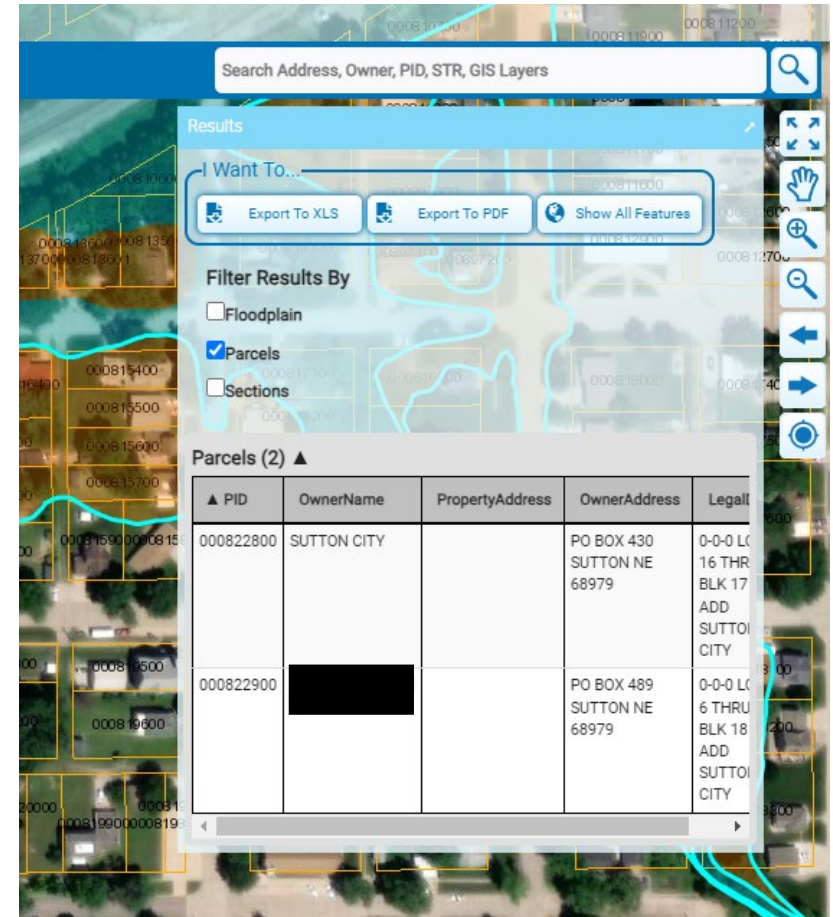
Identifying Floodplain Structures

- Before a disaster, take time to identify existing structures in the floodplain
- Create an inventory or database of structures in the floodplain
- Use this list to determine:
 - How long the SD process may take
 - How many staff or volunteers are needed
 - What compliance actions would need to take place if the structure is SD?

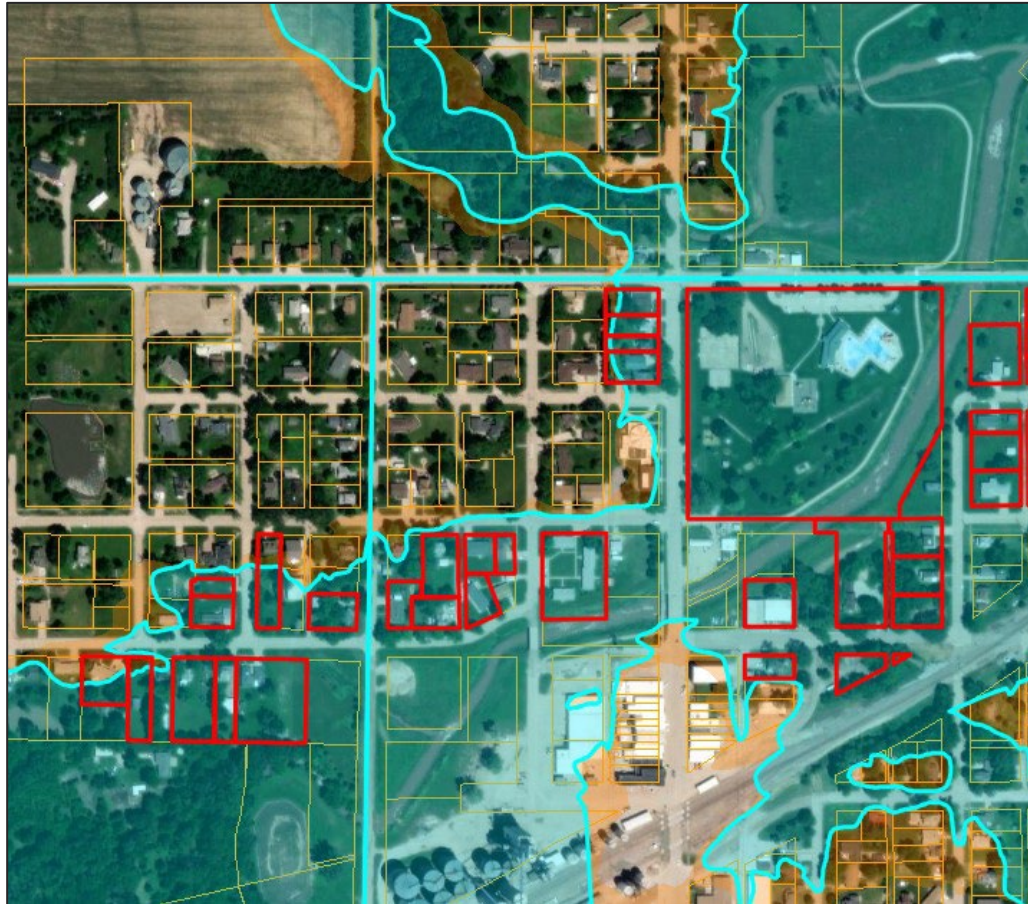


Identifying Floodplain Structures

- We recommend using your county assessor's G-works (or similar) website
 - Users can pull a list of properties into an excel sheet
 - Assessor's office may be able to help
 - Works best if your GIS page has a floodplain layer
 - Downloadable floodplain layers can be found on FEMA's Map Service Center



Identifying Floodplain Structures



PID	OwnerName	PropertyAddress	OwnerAddress
000846400	DOE,JOHN	410 W MAPLE SUTTON	31353 DEERFIELD CIRCLE CLAY CENTER NE 68933
000846300	DOE,JOHN	406 W MAPLE SUTTON	PO BOX 218 SUTTON NE 68979
000846100	DOE,JOHN	312 W MAPLE SUTTON	PO BOX 113 SUTTON NE 68979-0113
000864600	DOE,JOHN	207 N MYRA SUTTON	207 NORTH MYRA AVENUE SUTTON NE 68979
000864800	DOE,JOHN		506 WEST MAPLE SUTTON NE 68979
000845201	DOE,JOHN		101 LOCH VIEW DRIVE HASTINGS NE 68901
000808000	DOE,JOHN	205 W MAPLE SUTTON	PO BOX 93 SUTTON NE 68979
000864700	DOE,JOHN	506 W MAPLE SUTTON	506 WEST MAPLE SUTTON NE 68979
000865200	DOE,JOHN		612 WEST MAPLE SUTTON NE 68979
000865100	DOE,JOHN	512 W MAPLE SUTTON	PO BOX 145 SUTTON NE 68979
000845600	DOE,JOHN	403 W MAPLE SUTTON	PO BOX 273 SUTTON NE 68979
000803500	DOE,JOHN	411 N MAIN SUTTON	PO BOX 724 SUTTON NE 68979
000804000	DOE,JOHN	303 E BEECH SUTTON	PO BOX 695 SUTTON NE 68979
000803900	DOE,JOHN	408 WAY SUTTON	2831 TIERRA DRIVE APT 202 LINCOLN NE 68516
000807700	DOE,JOHN	203 W MAPLE SUTTON	PO BOX 102 SUTTON NE 68979
000807600	DOE,JOHN	201 W MAPLE SUTTON	201 WEST MAPLE SUTTON NE 68979
000807400	DOE,JOHN	204 W CEDAR SUTTON	204 WEST CEDAR STREET SUTTON NE 68979
000807300	DOE,JOHN	311 N BUTLER SUTTON	PO BOX 58 SUTTON NE 68979
000807900	DOE,JOHN	304 N JAMES SUTTON	PO BOX 134 SUTTON NE 68979
000808200	DOE,JOHN	208 W CEDAR SUTTON	31080 ROAD X SUTTON NE 68979
000812400	DOE,JOHN		302 NORTH BUTLER SUTTON NE 68979
000812500	DOE,JOHN		302 NORTH BUTLER SUTTON NE 68979
000864400	DOE,JOHN	204 N GRAND SUTTON	111 CRESTVIEW DRIVE SUTTON NE 68979
000864500	DOE,JOHN		207 NORTH MYRA AVENUE SUTTON NE 68979
000803400	DOE,JOHN		PO BOX 92 SUTTON NE 68979
000803700	DOE,JOHN		111 WEST FAIRFIELD CLAY CENTER NE 68933

Data to Collect

Owner Information

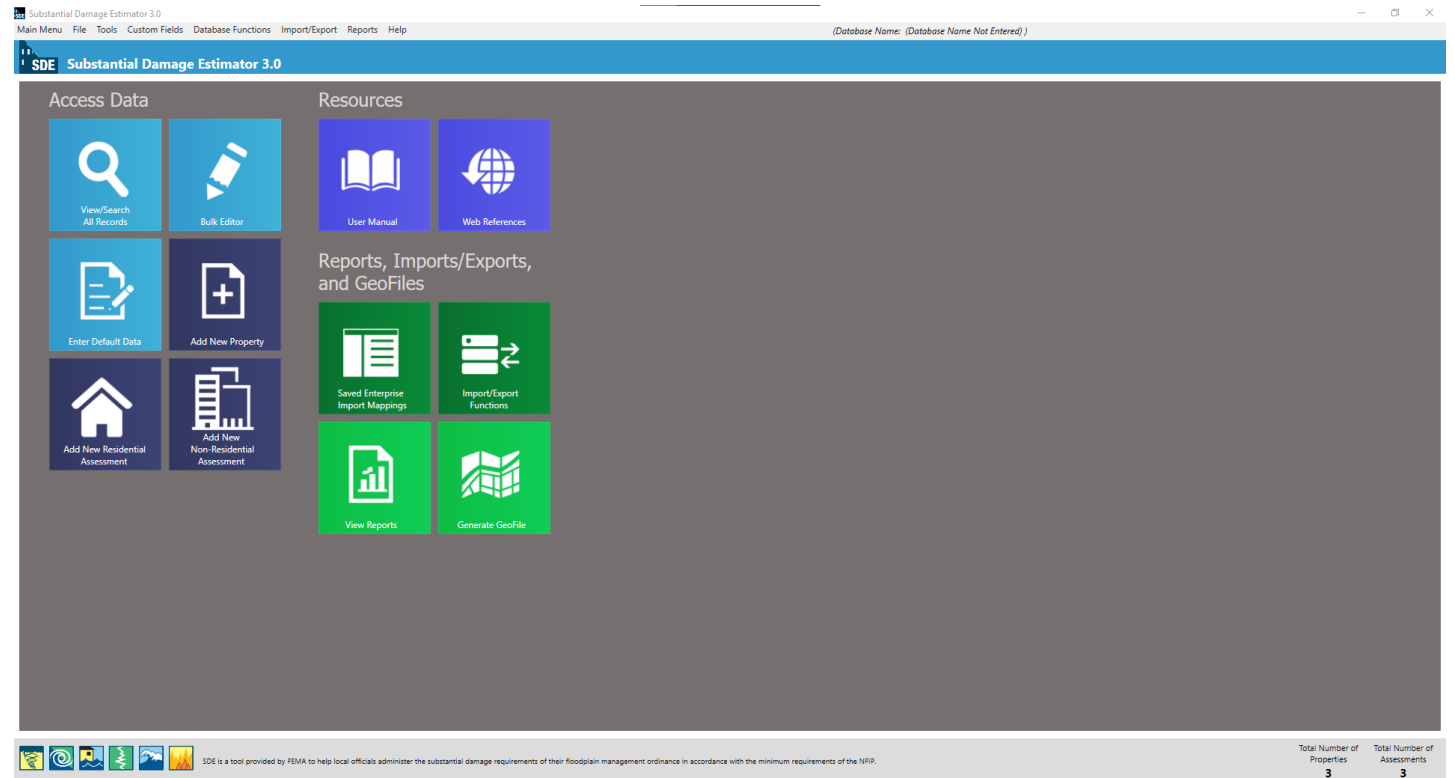
- Owner's first and last name
- Owner's telephone number
- Owner's mailing address
- Zip code
- Official structure address

Structure Information

- Date of construction
- Type and number of units on the property
- Habitable area (in square feet) per structure
- Structure use (a required field on the SDE 3.0 program)
- Number of stories
- Construction type (e.g., wood frame, masonry)
- Foundation type
- Exterior material type (e.g., vinyl siding, brick veneer)
- Attached or detached garage
- A picture of the structure or structures
- Adjusted tax assessed value of the structure

Substantial Damage Estimator (SDE) 3.0

- <https://www.fema.gov>
 - ❑ Search SDE 3.0
- Allows users to track properties
- Acts as a calculator for substantial damage assessment data

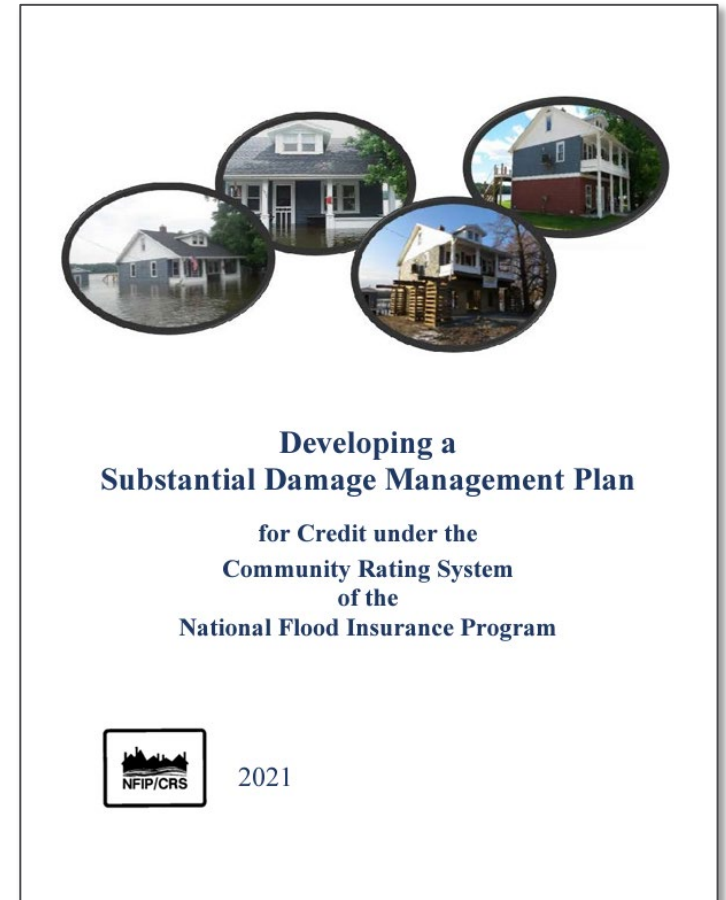


Communications with Your Community

- Garner support from community leadership, and have these tough conversations ahead of a major disaster
- Examples of pre-event activities:
 - Attend substantial damage training annually
 - Host a public meeting about substantial damage and mitigation options
 - Create a public outreach project such as; social media, information kiosks, newspaper releases, updated website, etc.
 - Distribute handouts to property owners directly (could include ads in a utility bill, or other community handouts)
 - Review substantial damage regulations with leadership, and consider updating regulations

Creating a Substantial Damage Management Plan

- The Substantial Damage Management Plan allows communities to think about these actions before a disaster
- Can be updated as part of your community's Emergency Action Plan and/or Hazard Mitigation Planning
- Template is available from https://crsresources.org/files/500/developing_subst_damge_mgmt_plan.pdf
- Communities not in CRS don't need to follow each step exactly in order



Creating a Substantial Damage Management Plan

- The best way to fight misinformation during a disaster is to have a clear, transparent planning process before one occurs
- This plan allows you to:
 - Identify at-risk structures
 - Develop outreach strategies to the public
 - Garner support from community leadership
 - Have mitigation projects ready if/when your community receives disaster funding
 - Be prepared






Exercise: Using the SDE 3.0 Tool

Creating Your Database

- Let's add the following addresses to the SDE 3.0 tool:
 - 2930 Dudley Street, Lincoln, NE
 - 2504 Old Mill Road, Albion, NE

For the purposes of the exercise, pretend both are residential addresses...

A blue-tinted photograph of a two-story house with a white SUV parked in the driveway. The house has light-colored siding and a dark roof. The SUV is parked on the left side of the driveway. The background shows trees and a clear sky.

Substantial Improvement & Additional Considerations

Substantial Damage

Nebraska establishes substantial improvement at 50% of the structure's market value:

002.22 “Substantial improvement” shall mean any reconstruction, rehabilitation, addition, or other improvement of an obstruction, the cost of which equals or exceeds 50 percent of the market value of the obstruction before “start of construction” of the improvement. This includes obstructions which have incurred “substantial damage,” regardless of the actual repair work performed.

Substantial Improvement

- Improvements are often made at time of damage repair, or shortly after
- Damage value needs to be incorporated, even if property owner elects not to repair all
 - Remember, the definition for SD includes all costs to return the structure to pre-damage condition, regardless of the work performed
- Watch for ‘phased improvement’ or ‘consecutive permits’
 - This can be avoided with language for “cumulative” SD/SI in your ordinance



Reviewing the Improvement Costs

- Again, the forms in the SD Handbook can be used for both SD and SI calculations
- Have the property owner review the following:
 - Included and Excluded Costs Guide
 - Cost Estimate Form
- Ensures consistency, accuracy, and defensibility

Floodplain Damage / Improvement		Included and Excluded Costs for Damage Repair Estimates																																																													
<table border="1"> <tr> <th>Property Information</th> <th>Code</th> </tr> <tr> <td>Owner Name</td> <td>C</td> </tr> <tr> <td>Property Address</td> <td>C</td> </tr> <tr> <td>City, State, Zip</td> <td>A</td> </tr> <tr> <td>Phone</td> <td>C</td> </tr> <tr> <td>Email</td> <td>P</td> </tr> <tr> <td>Disaster Name / Type</td> <td>E</td> </tr> <tr> <td></td> <td>C</td> </tr> <tr> <td></td> <td>R</td> </tr> </table>		Property Information	Code	Owner Name	C	Property Address	C	City, State, Zip	A	Phone	C	Email	P	Disaster Name / Type	E		C		R	<p>Included Costs</p> <p>Items that must be included in the costs of improvement or costs to repair are those that are directly associated with the building. The following list of costs that must be included is not intended to be exhaustive, but characterizes the types of costs that must be included:</p> <ul style="list-style-type: none"> ■ Materials and labor, including the estimated value of donated or discounted materials and owner or volunteered labor ■ Site preparation related to the improvement or repair (foundation excavation, filling in basements) ■ Demolition and construction debris disposal ■ Labor and other costs associated with demolishing, moving, or altering building components to accommodate improvements, additions, and making repairs ■ Costs associated with complying with any other regulation or code requirement that is triggered by the work, including costs to comply with the requirements of the Americans with Disabilities Act (ADA) ■ Costs associated with elevating a structure to an elevation that is lower than the base flood elevation (BFE) ■ Construction management and supervision ■ Contractor's overhead and profit ■ Sales taxes on materials ■ Structural elements and exterior finishes, including: <ul style="list-style-type: none"> - Foundations (e.g., spread or continuous foundation footings, perimeter walls, chainwalls, pilings, columns, posts, etc.) - Monolithic or other types of concrete slabs 																																											
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<p>Costs That Must Be Included in Floodplain SI/SD Determination</p> <p>Labor and materials, including sales tax</p> <table border="1"> <tr> <th colspan="2">Exterior:</th> <th>Unit</th> </tr> <tr> <td>\$</td> <td>Site preparation</td> <td>\$</td> </tr> <tr> <td>\$</td> <td>Foundation / slab</td> <td>\$</td> </tr> <tr> <td>\$</td> <td>Beams, subflooring, & roof joists</td> <td>\$</td> </tr> <tr> <td>\$</td> <td>Roof, gutters, & downspouts</td> <td>\$</td> </tr> <tr> <td>\$</td> <td>Walls, tie beams, trusses</td> <td>\$</td> </tr> <tr> <td>\$</td> <td>Exterior finishes</td> <td>\$</td> </tr> <tr> <td>\$</td> <td>Windows & Exterior doors</td> <td>\$</td> </tr> <tr> <td>\$</td> <td>Hardware</td> <td>\$</td> </tr> <tr> <td>\$</td> <td>Attached decks & porches</td> <td>\$</td> </tr> <tr> <th colspan="2">Interior:</th> <th>Unit</th> </tr> <tr> <td>\$</td> <td>Flooring & subflooring</td> <td>\$</td> </tr> <tr> <td>\$</td> <td>Bathroom fixtures</td> <td>\$</td> </tr> <tr> <td>\$</td> <td>Drywall & Wall finished</td> <td>\$</td> </tr> <tr> <td>\$</td> <td>Built-in cabinets</td> <td>\$</td> </tr> <tr> <td>\$</td> <td>Interior doors</td> <td>\$</td> </tr> <tr> <td>\$</td> <td>Interior finish carpentry</td> <td>\$</td> </tr> <tr> <td>\$</td> <td>Built-in bookcases & furniture</td> <td>\$</td> </tr> <tr> <td>\$</td> <td>Hardware</td> <td>\$</td> </tr> <tr> <td>\$</td> <td>Insulation</td> <td>\$</td> </tr> </table>		Exterior:		Unit	\$	Site preparation	\$	\$	Foundation / slab	\$	\$	Beams, subflooring, & roof joists	\$	\$	Roof, gutters, & downspouts	\$	\$	Walls, tie beams, trusses	\$	\$	Exterior finishes	\$	\$	Windows & Exterior doors	\$	\$	Hardware	\$	\$	Attached decks & porches	\$	Interior:		Unit	\$	Flooring & subflooring	\$	\$	Bathroom fixtures	\$	\$	Drywall & Wall finished	\$	\$	Built-in cabinets	\$	\$	Interior doors	\$	\$	Interior finish carpentry	\$	\$	Built-in bookcases & furniture	\$	\$	Hardware	\$	\$	Insulation	\$	<ul style="list-style-type: none"> ■ Bearing walls, tie beams, trusses ■ Structural elements and exterior finishes (cont.): <ul style="list-style-type: none"> - Joists, beams, subflooring, framing, ceilings - Interior non-bearing walls - Exterior finishes (e.g., brick, stucco, siding, painting, and trim) - Windows and exterior doors - Roofing, gutters, and downspouts - Hardware - Attached decks and porches ■ Interior finish elements, including: <ul style="list-style-type: none"> - Floor finishes (e.g., hardwood, ceramic, vinyl, linoleum, stone, and wall-to-wall carpet over subflooring) - Bathroom tiling and fixtures - Wall finishes (e.g., drywall, paint, stucco, plaster, paneling, and marble) - Built-in cabinets (e.g., kitchen, utility, entertainment, storage, and bathroom) - Interior doors - Interior finish carpentry - Built-in bookcases and furniture - Hardware - Insulation ■ Utility and service equipment, including: <ul style="list-style-type: none"> - HVAC equipment - Plumbing fixtures and piping - Electrical wiring, outlets, and switches - Light fixtures and ceiling fans - Security systems - Built-in appliances - Central vacuum systems - Water filtration, conditioning, and recirculation systems 	
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\$	Insulation	\$																																																													
<p><small>The Damage Improvement Cost Form is adapted from "Costs for Substantial Improvement Damage," and "Required and Recommended Elements to be Included in a Contractor or Cost Estimator's Estimate," both found in FEMA P-754, Substantial Damage Estimator User Manual and Field Workbook.</small></p>		<p><small>This list is adapted from "Costs for Substantial Improvements and Repair of Substantial Damage," found in FEMA P-758, Substantial Improvement / Substantial Damage Desk Reference.</small></p> <p style="text-align: right;"><small>Appendix A 49</small></p>																																																													

NeDNR Cost Estimate Form and Included Costs List, p. 49 and 77

Reviewing the Improvement Costs

- These documents also include an “excluded” costs list
 - Trash removal
 - Temporary stabilization
 - Permit fees and survey costs
 - Landscaping, sidewalk repair, or other outside costs that don’t include changes to the structure
 - Correcting health/safety code violations
 - Plug-in (not built-in) appliances

Excluded Costs

Items that should be excluded are those that are not directly associated with the building. The following list characterizes the types of costs that may be excluded:

- Clean-up and trash removal
- Costs to temporarily stabilize a building so that it is safe to enter to evaluate required repairs
- Costs to obtain or prepare plans and specifications
- Land survey costs
- Permit fees and inspection fees
- Carpeting and re-carpeting installed over finished flooring such as wood or tiling

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Floodplain Damage / Improvement Cost Form Cont.

Costs That May Be Excluded From Floodplain SI/SD Determination

Items that should be excluded are those that are not directly associated with the building. The following list characterizes the types of costs that may be excluded:

- Clean-up and trash removal
- Costs to temporarily stabilize a building so that it is safe to enter to evaluate required repairs
- Costs to obtain or prepare plans and specifications
- Land survey costs
- Permit fees and inspection fees
- Carpeting and re-carpeting installed over finished flooring such as wood or tiling
- Outside improvements, including landscaping, irrigation, sidewalks, driveways, fences, yard lights, swimming pools, pool enclosures, and detached accessory structures (e.g., garages, sheds, and gazebos)
- Costs required for the minimum necessary work to correct existing violations of health, safety, and sanitary codes
- Plug-in appliances such as washing machines, dryers, and stoves

Substantial Damage / Substantial Improvement Calculation

\$ _____ **Total Cost of Repairs** See preceding page

\$ _____ **Assessed or Appraised Value of the Structure***

* Attach to this form either a: _____ tax assessment, or an _____ appraisal from a licensed appraiser

Submitted by _____ Date _____

Substantial Damage / Substantial Improvement Determination

To be completed by staff

The damage / improvement has been determined to be: _____ Substantial
_____ Not substantial

Floodplain Administrator _____ Date _____

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NeDNR Excluded Costs List, p. 50 and 77

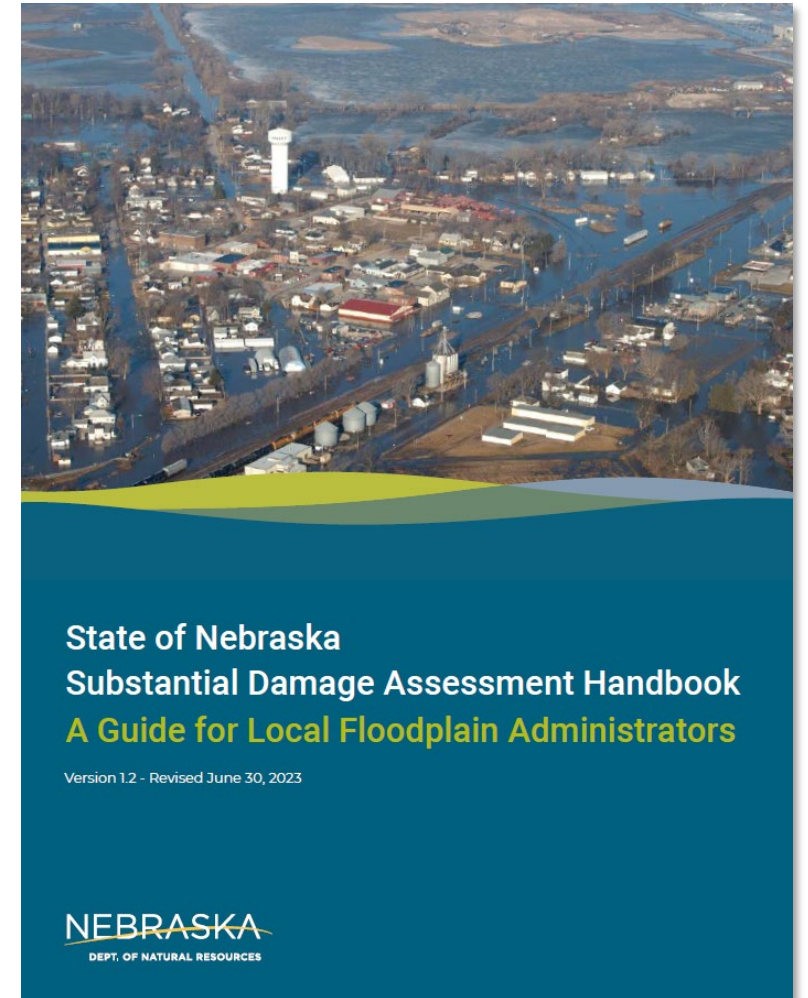
Record Keeping

- Permit documents related to floodplain management must be maintained in perpetuity
- This *especially* includes SD/SI documentation
 - Benefits community compliance, future property owners, and is needed for obtaining ICC or mitigation funding
- Documents to maintain include:
 - Development permit + all attachments (site plans)
 - SD determination + supporting docs
 - Building inspection records
 - Engineered openings design documents
 - Evidence historic structures will maintain status
 - Variance proceedings
 - Elevation certificate (before occupancy certificate)



Additional Handbook Resources:

- Field Data Processing Tips, p. 27-28
- Determination Letters, p. 29 & Appendix
- Determination Integrity Tips, p. 30
- Permitting Considerations, p. 31
- Infrastructure Repairs, p. 32
- Violations, p. 32
- Site Inspections, p. 33



FEMA SI/SD Resources



Substantial Improvement/ Substantial Damage Desk Reference

FEMA P-758 / May 2010



Answers to Questions About Substantially Improved/ Substantially Damaged Buildings

FEMA 213 / August 2018



SDE 3.0 Resources



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



Substantial Damage Estimator Best Practices

Approaches for Using FEMA's Substantial Damage Estimator Tool

Prepared for:



Federal Emergency Management Agency
500 C Street, SW
Washington, D.C. 20472

August 2017



Substantial Damage Forms and Templates

Post-Disaster Information

▶ Substantial Damage Assessment Handbook

▶ Substantial Damage Assessment Handbook: Forms and Templates

▶ SD Quick Guides

▶ Other Publications

SDA Damage Inspection Worksheet - Residential -

COMMUNITY	STRUCTURE	INSPECTION
NFIP Community ID (CID):	Structure Address:	Inspector Name:
NFIP Community Name:	City:	Team #:
Latitude:	Zip:	Assessment Date:
Longitude:	County:	Date Damaged:

PHOTOS

Photo #: _____ Direction facing: _____

Photo #: _____

STRUCTURE ATTRIBUTES

Residence Type: Single Family Multi-Family

Exterior: One Story Two Story

Foundation: Continuous Wall Piles

Superstructure: Stud-Framed Common Brick

Roof Coverings: Shingles Clay Tile

Exterior Finish: Siding or Stucco Brick Veneer

HVAC System: None Low Good

Quality: Low Good

Cause of Damage: Fire Seismic

Flood Duration: _____

Flood Depth Above Ground: _____ (Decimal Ft.)

Worksheet adapted from "Residential SDA Damage Inspection"

1. Scan the structure's exterior (finish and sheathing, insulation, and weather stripping) for dents, cracks, and tears.
2. Study the roof for minor and major damage.
3. Review windows and doors for damage caused by wind and debris.
4. Look at all sides of the structure, on nearby fences, posts, or vegetation for a High Water Mark (HWM): a line formed by water, dirt, or debris. Measure the height of the line.
5. Look for damage to any utilities or equipment serving the structure. Look for evidence of utilities in a basement.
6. Examine the foundation for settlement, lateral movement, or cracking that affects structural stability. Look for evidence of a basement.

Step back to look for structural settling, roof warping, separation from foundation, or general lateral movement.

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