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IMPROVING COMPLIANCE OF MANUFACTURED HOMES INSTALLED IN FLOODPLAINS

Arizona Department of Water Resources

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Introduction

ADWR is the State-coordinating agency for the NFIP and responsible for the following:

- CAV (Community Assistance Visit)
- CAC (Community Assistance Contact)
- GTA (General Technical Assistance)
- Training/Workshops
- Outreach



Arizona Facts

- In Arizona, every county and all but one incorporated city or town has adopted Floodplain Management Regulations (Ordinances) per the Code of Federal Regulations Title 44 (44CFR) and Arizona Revised Statutes (A.R.S.) for development standards in floodplains, including installation of manufactured homes (MH)



Arizona Facts

- Arizona Office of Manufactured Housing (OMH) is responsible for permitting MH installations
- IGA - Certain local jurisdictions have an Intergovernmental Agreement with OMH that allows them to issue the MH installation permit, collect the fees, and conduct the inspections



Local Jurisdiction Ordinances

- All new and replacement MH to be elevated so that the bottom of the structural frame is at or above the Regulatory Flood Elevation (RFE), which is a minimum 1.0 ft. above the Base Flood Elevation
- Service equipment and machinery attached to the building must be elevated to or above the RFE or flood-protected
- Rigid skirting and stemwall foundations require flood openings
- Other local requirements may include erosion setback, orientation, and wildlife and/or riparian habitat provisions.



Record Keeping

All MH are required to have the elevation certified by one of the following:

- An Arizona-registered engineer
- An Arizona-registered land surveyor
- The local jurisdiction official as authorized by the local Ordinance

Certifications of elevation are required to be submitted to the local jurisdiction for approval, usually on the Elevation Certificate form.



Background

To improve floodplain compliance and record-keeping for MH installations, ADWR initiated a series of steps to standardize the process of MH permitting by:

- Coordinating with numerous local jurisdictions (LJ) and OMH on existing procedures for MH permitting
- Developing a flowchart of steps
- Multiple follow-up meetings with selected LJ and OMH for flowchart review



Background

The final result:

- OMH revised their internal Factory Built Building Installation Plan checklist AND developed a new internal Flood Zone Installation Plan checklist for permit review
- ADWR developed standardized Suggested Permitting Steps for LJ



Background

To communicate these standardized steps to the appropriate parties, ADWR prepared two presentations*
- one for floodplain managers, one for MH installers

This presentation will focus on the standardized steps.

* The referenced presentations are available upon request by email:

slsarpong@azwater.gov



OMH Checklists

OMH has two checklists

- Factory Built Building Installation Plans
- Flood Zone Installation Plans

Factory Built Building Installation Plans checklist revised by adding at the very top of the form:

IS UNIT LOCATED IN A FLOODPLAIN:

Yes - See Checklist for Flood Zone Installation Plans

No - Proceed with this checklist



OMH CHECKLIST FOR FLOOD ZONE INSTALLATION PLAN SUBMITTAL

This form was created by OMH following discussions with ADWR to standardize OMH review of submittals for MH installs in floodplains

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CHECKLIST FOR FLOOD ZONE INSTALLATION PLAN SUBMITTAL

Item No.	Plan Review Requirement	Check Item
1	Plan review application completed, and plan review fee included	<input type="checkbox"/>
2	Minimum one original and one copy each of all documents included	<input type="checkbox"/>
3	Included self-addressed stamped envelope for plan documents or other means of return delivery if unable to retrieve plans/documents from office	<input type="checkbox"/>
4	Site plan with proposed structure identified	<input type="checkbox"/>
5	Copy of Floodplain Use Permit or Floodplain Conditions issued by Local Authority Having Jurisdiction (LAHJ) for Floodplain Management .	<input type="checkbox"/>
6	Flood zone type identified (ie. A, AE, AO...)	<input type="checkbox"/>
7	Regulatory Flood Elevation (RFE) noted	<input type="checkbox"/>
8	Base Flood Elevation (BFE) noted	<input type="checkbox"/>
9	Foundation Systems	
	Current State of Arizona licensed engineer's seal on plan and calculations	<input type="checkbox"/>
	Complete set of drawings indicating: A. Dimensions and details of the foundation footing and anchoring B. Complete list of materials C. A cross-identification of how materials will be used in the appropriate view D. Frame of structure noted at/or above RFE E. External utilities and equipment at/or above RFE Note: If an enclosed foundation system or skirting wall is provided, confirm need/use of openings	A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/>
10	Engineering calculations provided for all load conditions including: A. Wind loads for horizontal and uplift loads B. Overturning C. Horizontal and torsional earthquake effects on foundations	A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/>
	Approval* of the foundation system by the LAHJ for Floodplain Management (wet stamp or correspondence)	<input type="checkbox"/>

*Approval of design parameters in compliance with floodplain criteria

EXPEDITED Plan Review Submittal (check one): YES NO
If yes, Engineer's signature and seal required.

Engineer's Signature: _____ Engineer's Seal:

Per OMH Discussion

OMH does not determine, confirm or verify Floodplain conditions

- Flood Zone
- BFE
- RFE
- Elevation requirements
- Foundation design

OMH only checks to see if these have been included in the installation permit package



OMH Floodplain Submittal Requirements

- Flood Hazard Information Sheet
- Floodplain Use Permit or other document with floodplain conditions
- Site plan approved by the local jurisdiction
- Foundation plan approved by the local jurisdiction



Suggested Permitting Steps

1. Applicant applies for permit for MH installation, providing site plan and required zoning approval to LJ
2. LJ determines if proposed MH installation is in a floodplain by providing a Flood Hazard Information Sheet or similar document to the applicant
3. If located within a floodplain, LJ informs applicant of floodplain conditions for installation, including elevation requirements and foundation design
4. Applicant generates Plans & Specs per floodplain conditions, revising as appropriate



Suggested Permitting Steps

5. LJ reviews and approves Plans & Specs
 - ▶ Elevation requirements - bottom of frame, service equipment, ductwork
 - ▶ Foundation Design - engineer-sealed, site specific, some typical designs available
 - ▶ Flood opening requirements - rigid skirting or stemwall foundation
 - ▶ Local considerations, such as orientation or erosion-hazard setback limits



Suggested Permitting Steps

6. The applicant submits LJ-approved site plan, foundation design and floodplain conditions to OMH for review
7. OMH reviews submitted information for completeness and approval by LJ per OMH Checklist and adds conditions for OMH requirements with applicant revising as appropriate
8. If OMH proposes to make elevation or foundation design changes to the LJ-approved design, these are submitted back to LJ for review and re-approval, then returned to OMH
9. OMH approves application packet



Special Permitting Notes

Does LJ and OMH have an Intergovernmental Agreement (IGA)?

Yes - LJ issues installation permit and performs inspections

No - OMH issues installation permit and performs inspections



Inspections

IGA -

- LJ performs in-progress inspections
- Installation is complete when all grading is done and service equipment is installed
- LJ holds Final Inspection for return of a Elevation Certificate
- LJ reviews Elevation Certificate, requesting corrections from installer or Elevation Certificate preparer as appropriate
- LJ approves Elevation Certificate, keeping approved form with permit file
- LJ releases hold and performs Final Inspection



Inspections

Non-IGA -

- OMH performs in-progress inspections per approved plans
- Installation is complete when all grading is done and service equipment is installed
- OMH performs Final Inspection but does not hold inspection for return of Elevation Certificate to LJ
- Installer provides Elevation Certificate to LJ for review
- LJ reviews Elevation Certificate, requesting corrections from installer or Elevation Certificate preparer as appropriate
- LJ approves Elevation Certificate, keeping approved form with permit file



Tips to Obtain Elevation Certificate

- Make sure return of Elevation Certificate is a condition of the permit
- Place hold on electric service
- Place hold on septic clearance
- Place hold on issuance of Certificate of Occupancy
- “Tickler” file



Ongoing Outreach

- Specific MH installation discussions with Suggested Permitting Steps and development of Flood Hazard Information Sheet with LJ during CAV/CAC/GTA
- Installer training sessions
- Presentations at AFMA Conferences and Roadshows



ADWR Contact Information

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Questions?

