

ORANGE COUNTY, FL





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Background

The Community Rating System (CRS) is a part of the National Flood Insurance Program (NFIP). It provides reductions to flood insurance premiums in participating communities. The reductions are based on community floodplain management programs, including public information activities. To keep those discounts, communities must continue to implement their programs and provide status reports to the NFIP each year. Orange County (the "County") has been an active participant of the CRS since 1991. The County is currently rated as a Class 5 which provides policyholders with a 25 percent reduction in their flood insurance premiums.

A Program for Public Information (PPI) is an ongoing effort to prepare, implement, and monitor a range of public information activities. The objective of CRS credit for a PPI is to provide additional credit for information programs that are designed to meet local needs and that are monitored, evaluated, and revised to improve their effectiveness. The County has developed its PPI in accordance with the CRS credit criteria found within Activity 330 of the 2017 CRS Coordinator's Manual.

Over the years, the County, through numerous departments and in coordination with stakeholder groups and outside agencies, has prepared multiple outreach messages to educate the public on the hazards associated with flooding. With advances in technology and greater familiarity with web-based services, the County has realized that mailing information directly to property owners may not be the most effective method to get certain messages across. The PPI planning process provided an opportunity for the County to consider other options for disseminating messages about the flood hazard to the community.

This PPI was created in coordination with a Floodplain Management Plan (FMP). A Floodplain Management Planning Committee (FMPC) was establish to oversee the development of not only the FMP, but also the PPI. This single committee had the opportunity to learn more detail about the major flooding problems in the County along with the unique problems associated with repetitive loss properties. Therefore; this committee will be referred to as the PPI Committee throughout this document.

Step 1: Establish a PPI Committee

A PPI should assess all the community's needs for flood-related information and coordinate all the resources that can deliver information. It should recommend a range of activities that convey information to residents, businesses, tourists, school children, and other audiences in and around the community. It should have an objective review of what is being done and how public information activities could be improved. Therefore, a PPI needs to be developed by a committee that consists of members from both inside and outside local government. The committee could be an existing committee, such as a mitigation planning committee or advisory board, or a subcommittee of an existing group, as long as it meets the membership criteria found within Activity 330.

1.1 Membership and Stakeholders

The PPI Committee's membership must meet the following CRS criteria:

- There must be at least five people on the committee;
- There must be representation from the community's floodplain management office;
- There must be representation from the community's public information office (if one exists); and,
- At least half of the members must be from outside the local government ("stakeholders").



The CRS encourages engagement of groups and people outside the local government in planning and conducting outreach projects. As outlined above, at least one-half of the members of the PPI committee must be representatives from outside the local government. These could be members of the public, representatives of key community organizations, and/or agencies and organizations that would likely implement the recommended outreach projects.

The participants comprising the PPI Committee for the County were selected in accordance with the above CRS criteria and included the following:

1. John Muhall – Orange County Emergency Management

potential outreach projects and dissemination methods

Review and update of outreach projects and the draft PPI

- 2. Daniel Negron Orange County Stormwater (Floodplain Manager)
- 3. Darrell Moody Orange County Communications (Public Information Officer)
- 4. Vargas Alberto Orange County Planning
- 5. Janice Moran American Red Cross Central Florida & U.S. Virgin Islands
- 6. Michelle Cechowski East Central Florida Regional Planning Council (ECFRPC)
- 7. Eric Alberts Orlando Health, Inc
- 8. Bryan Garey University of Central Florida

In addition to these committee members, another representative of the Orange County Stormwater Division, Dr. Liuliu Wu, served in an advisory capacity to the committee.

Committee Meetings

The PPI committee met four times during the planning process to complete the outreach program. During the planning process, the PPI Committee communicated through face-to-face meetings, email and telephone conversations. The meeting dates and topics discussed are detailed below in Table 1.

	Meeting Topic	Meeting Date	Meeting Location
PPI #1	Assessment of the community's current public information needs, overview of the PPI planning process, and review of existing target areas	September 8, 2022	Microsoft Teams
PPI #2	Assessment of the flood hazard, exposed buildings, flood insurance coverage, and review and update of target areas, audiences, topics, and messages	January 31, 2023	Microsoft Teams
PPI #3	Inventory of existing outreach efforts and discussion of other	June 7, 2023	Microsoft Teams

Table 1 – Summary of PPI Committee Meeting Dates

Goals for the PPI

PPI #4

The PPI committee developed three primary goals to guide the overall implementation of this document to better educate the public about the flood risks affecting the County and how to protect themselves as well as their homes and businesses from flood damage; and to understand the importance of obtaining and maintaining flood insurance.

September 13, 2023

Microsoft Teams

Goal 1: Recognize the risk associated with flooding and what individuals can do to reduce damage to property and save lives.

Goal 2: Promote the purchase of flood insurance to ensure greater protection of property within the County.

Goal 3: Increase the preparedness capability of the public to respond to and recover from flood events.



Step 2: Assess the Community's Public Information Needs

Orange County is an inland county in central Florida, home to 45 unincorporated communities in addition to the City of Orlando and 12 other incorporated municipalities. As of 2022 American Community Survey estimates from the U.S. Census Bureau, the population was 1,427,403, making it the fifth-most populous county in Florida. The county seat is Orlando. Orange County covers 903 square miles of land and 100 square miles of water. The floodplains of Orange County consist of lowlands adjacent to rivers, streams, and lakes. The topography of Orange County is relatively flat with some gently rolling hills.

According to the 2021 Flood Insurance Study (FIS) Report for Orange County, flooding results from heavy rainfall over large areas, primarily during thunderstorms in the summer months and from June to October during hurricane season. However, flooding can occur at any time of year. Flooding occurs along the County's lakes and streams. Orange County lies far enough inland that coastal flooding and storm surge pose no threat. Flooding is more severe when the ground has been saturated due to previous heavy rainfall and a high the ground water table. Major storms affecting the Orange County area include Hurricanes Donna (1960), Frances (2004), Jeanne (2004), Irma (2017), and Ian (2022). Not only can hurricanes cause floods, but they may cause erosion along the banks of rivers and streams.

2.1 Delineate Target Areas

In order to develop an effective local outreach program that raises public awareness about flood related issues, it is necessary to identify and assess the areas within the community that are considered to be flood-prone. The PPI Committee identified the following target areas and concluded that outreach projects should be directed to all properties (residential, commercial and public) within these areas:

Target Area #1: Special Flood Hazard Areas within the County

According to the 2021 Flood Insurance Study prepared by FEMA, approximately 36.6% of the County is located within a Special Flood Hazard Area (SFHA). Figure 1 reflects the mapped flood insurance zones for the County. Figure 2 depicts the depth of flooding that can be expected within the County during the 1%-annual-chance flood event.



Canave Nation Seash 19 4 46 Seminole Winter Springs 434 1 Oviedo Titusville Minneola Clermont 50 Lake Louisa State Park 474 522 Flood Hazard Area Map ORANGE COUNTY GOVERNMENT FLORIDA Date: 1/10/2023 **Source:** FEMA, Orange County, Esri **Scale:** 1 in = 5 mi Legend County Zone AE (100yr) Shaded X (500yr) Effective Flood Hazard Areas (FEMA) Zone AH (100yr) Zone D (Undetermined) Projection: NAD 1983 Florida Prepared By: LW Note: This map is for wood. reference only. Zone A (100yr) Floodway Municipalities

Figure 1 – Orange County Special Flood Hazard Areas



Canaver Nationa Seashor Rock Springs Run State Reserve 19 437 4 [441] Wekiwa Springs

State Park 46 Seminole Winter Springs 434 Oviedo Titusville 310 ft Minneola Clermont 405 434 95 State Pres Lake Louisa 474 441 Miles 532 100yr Flood Depth Map Date: 8/24/2022 Source: FEMA, Orange County, Legend **Scale:** 1 in = 5 mi County 1 - 5 ft 100yr Flood Depth (ft) 5 - 10 ft Projection: NAD 1983 Florida Prepared By: GC wood. Note: This map is for East State Plane reference only. < 1 ft > 10 ft

Figure 2 – Orange County 100-year Flood Depths



Table 2 is a summary table that shows the building count and improved value of parcels by FEMA flood zone. Based on this analysis, 12,993 improved parcels fall within the 1% annual chance floodplain for a total structure value of \$22,120,705,430. Additionally, there are 219,645 improved parcels outside of the SFHA with a total structure value of \$68,816,778,284. Note: Improved parcels indicate that a structure is present; however, the structure may or may not be insurable.

Table 2 – Building Count by FEMA Flood Zone

Occupancy Type	Total Building Count	Improved Value	Estimated Content Value	Total Value
Zone AH	•	•		
Agricultural	0	\$0	\$0	\$0
Commercial	0	\$0	\$0	\$0
Education	0	\$0	\$0	\$0
Government	1	\$26,298	\$26,298	\$52,596
Industrial	0	\$0	\$0	\$0
Religion/Non-Profit	0	\$0	\$0	\$0
Residential	2	\$639,129	\$319,565	\$958,694
Total	3	\$665,427	\$345,863	\$1,011,290
Zone A	_		, , , , , , , , , , , , , , , , , , , ,	
Agricultural	200	\$7,194,157	\$7,194,157	\$14,388,313
Commercial	87	\$292,650,921	\$292,650,921	\$585,301,841
Education	24	\$54,181,792	\$54,181,792	\$108,363,584
Government	863	\$2,320,672,126	\$2,320,672,126	\$4,641,344,251
Industrial	292	\$345,810,200	\$518,715,301	\$864,525,501
Religion/Non-Profit	98	\$94,357,439	\$94,357,439	\$188,714,879
Residential	15,404	\$5,774,693,729	\$2,887,346,864	\$8,662,040,593
Total		\$8,889,560,363	\$6,175,118,599	\$15,064,678,962
Zone AE	10,000	+ + + + + + + + + + + + + + + + + + + +	40/110/110/000	+ 15/00 1/01 0/0 0 <u>-</u>
Agricultural	52	\$4,786,263	\$4,786,263	\$9,572,527
Commercial	120	\$629,283,644	\$629,283,644	\$1,258,567,287
Education	38	\$59,946,528	\$59,946,528	\$119,893,056
Government	358	\$918,833,841	\$918,833,841	\$1,837,667,682
Industrial	447	\$886,137,702	\$1,329,206,553	\$2,215,344,254
Religion/Non-Profit	148	\$80,960,301	\$80,960,301	\$161,920,603
Residential	20,845	\$10,650,531,219	\$5,325,265,610	\$15,975,796,829
Total		\$13,230,479,499	\$8,348,282,740	\$21,578,762,238
Zone D	,			
Agricultural	0	\$0	\$0	\$0
Commercial	11	\$50,101,571	\$50,101,571	\$100,203,142
Education	0	\$0	\$0	\$0
Government	0	\$0	\$0	\$0
Industrial	0	\$0	\$0	\$0
Religion/Non-Profit	0	\$0	\$0	\$0
Residential	2	\$595,599	\$297,800	\$893,399
Total		\$50,697,170	\$50,399,371	\$101,096,541
Zone X Shaded	•			· · ·
Agricultural	0	\$0	\$0	\$0
Commercial	6	\$4,964,686	\$4,964,686	\$9,929,372
Education	0	\$0	\$0	\$0
Government	1	\$921,894	\$921,894	\$1,843,788
Industrial	3	\$88,681,535	\$133,022,303	\$221,703,838



	Total Building		Estimated Content	
Occupancy Type	Count	Improved Value	Value	Total Value
Religion/Non-Profit	5	\$657,371	\$657,371	\$1,314,742
Residential	1,481	\$351,984,666	\$175,992,333	\$527,976,999
Total	1,496	\$447,210,152	\$315,558,587	\$762,768,739
Zone X Unshaded				
Agricultural	507	\$25,955,726	\$25,955,726	\$51,911,451
Commercial	1,819	\$2,475,672,003	\$2,475,672,003	\$4,951,344,005
Education	96	\$64,396,974	\$64,396,974	\$128,793,948
Government	1,092	\$3,041,676,458	\$3,041,676,458	\$6,083,352,915
Industrial	2,421	\$3,094,776,040	\$4,642,164,059	\$7,736,940,099
Religion/Non-Profit	738	\$377,189,553	\$377,189,553	\$754,379,106
Residential	212,972	\$59,737,111,531	\$29,868,555,765	\$89,605,667,296
Total	219,645	\$68,816,778,284	\$40,495,610,538	\$109,312,388,822

Source: Orange County Tax Assessor's Data, FEMA DFIRM (Preliminary 10/30/15)

Target Area #2: Repetitive Loss Areas

Properties categorized as repetitive loss properties have a greater need for flood protection. According to 2023 NFIP records, there are 5 mitigated repetitive loss properties and 30 unmitigated repetitive loss properties in Orange County unincorporated areas.

Since FEMA wants communities to address their repetitive loss problems because of the large drain on the NFIP Fund, the PPI committee wanted to take further action to specifically target repetitive loss areas. The committee identified 29 repetitive loss areas within the County with a total of 181 properties. These designated areas consist of repetitive loss properties, historical claims properties, and properties without any claims but with similar flood conditions to the repetitive loss and historical claims properties. Figure 3 on the following page illustrates the location of the repetitive loss areas and historical claims in relation to areas of localized flooding and major flooding problems noted by the County. The details of the repetitive loss areas are included within the County's Repetitive Loss Area Analysis (RLAA).

¹Total value does not include land value.



Sub Area 1 Orange County, FL Repetitive Loss Areas Legend RLA Delineations [Municipalities Source: Orange County, FEMA, Census, ESRI Date: 7/10/2023 wood. Scale: RLA Sub Area Zone A (100 yr) Zone X Shaded (500 yr) 1 in = 3.67 mi Florida (East) State Plane (NAD83) County Boundary Zone AE (100 yr) Prepared By: MC Projection:

Figure 3 – Repetitive Loss Properties and FEMA Flood Zones



An analysis of repetitive loss was completed to examine the number of insured repetitive loss properties against FEMA flood zones. According to 2023 NFIP records, there are 30 unmitigated properties and 5 mitigated properties within unincorporated Orange County. Unmitigated repetitive loss properties have received a total of \$1,985,181 in paid claims. Of the 30 unmitigated repetitive loss properties, only 60% are insured. Table 3 details unmitigated repetitive loss properties by FEMA flood zone, building type and current insurance coverage status.

Table 3 - Repetitive Loss Buildings by Flood Zone

Flood	Building Type		Insuranc	e Coverage	Total	Total	
Zone ¹	Commercial	Residential	Insured	Uninsured	Building Payment	Content Payment	Total Paid
С		X		X	\$46,135.36	\$0.00	\$46,135.36
AE		X		X	\$19,699.53	\$0.00	\$19,699.53
Χ		X	Χ		\$220,389.95	\$30,688.36	\$251,078.31
Χ		Х		Х	\$3,192.28	\$000	\$3,192.28
AE		Х		Х	\$20,878.61	\$1,106.73	\$21,985.34
С		Х		Х	24,028.53	\$0.00	\$24,028.53
ΑE		Х		Х	\$8,224.20	\$0.00	\$8,224.20
AE		Х		Х	\$59,329.27	\$18,675.82	\$78,005.09
AE		Х		Х	\$112,804.53	\$43,882.24	\$156,686.77
Х	Х			Х	\$112,481.30	\$30,313.03	\$142,794.33
С		Х		Х	\$3,491.43	\$0.00	\$3,491.43
Χ		Х		Х	\$14,314.78	\$76.93	\$14,391.71
AE		Х	Χ		\$179,187.73	\$0.00	\$179,187.73
Χ		Х	Χ		\$16,037.20	\$9,628.72	\$25,665.92
Χ		Х		Х	\$12,126.91	\$0.00	\$12,126.91
Χ		Х	Χ		\$11,805.13	\$5,870.63	\$17,675.76
Χ	Χ		Χ		\$90,457.85	\$1,062.25	\$91,520.10
Х		Х	Х		\$6,362.88	\$0.00	\$6,362.88
ΑE		Х	Χ		\$7,424.31	\$0.00	\$7,424.31
AE		Х	Χ		\$7,420.30	\$0.00	\$7,420.30
Χ		Х	Χ		\$174,844.65	\$51,465.84	\$226,310.49
AE		Х	Х		\$7,850.01	\$0.00	\$7,850.01
AE		Х	Х		\$92,429.15	\$14,184.02	\$106,613.17
Χ		Х	Χ		\$10,809.22	\$1,805.12	\$12,614.34
AE		Х	Χ		\$67,233.00	\$0.00	\$67,233.00
Х		Х	Х		\$42,316.92	\$1,135.29	\$43,452.21
Х		Х	Х		\$124,413.88	\$4,733.14	\$129,147.02
Χ		Х	Х		\$88,345.41	\$24,062.68	\$112,408.09
AE		Х	Х		\$7,049.82	\$11,976.65	\$19,026.47
ΑE		Х	Х		\$143,429.41	\$0.00	\$143,429.41
Total	2	28	18	12	\$1,734,513.55	\$250,667.45	\$1,985,181.00

Source: NFIP Repetitive Loss Data, January 2023

1Flood Zone is based on the Effective DFIRM at the time of the most recent claim.

Target Area #3: Realtors, Lenders, and Insurance Agents

The Bureau of Economic and Business Research at the University of Florida provides population projections for Florida counties; BEBR's medium range projection for Orange County estimates that the County's population will increase by 39.8 percent between 2021 and 2050. Additionally, U.S. Census Bureau's Building Permit Survey Data shows that from 2010 through 2021, Orange County has added 112,103 housing units,



including 57,245 single family buildings. This growth and development presents an opportunity for outreach and education on flood risk.

When people buy a new home, realtors, lenders, and insurance agents play an essential role in delivering information about flood insurance and flood risk to the prospective homeowners. The PPI committee will ensure that this group obtains essential knowledge and has the tools with which to communicate flood risk and insurance information to citizens. Additionally, real estate agents, insurance agents and banks and mortgage companies are most involved in the transaction of buying and selling of properties that may require flood insurance.

Summary

An analysis of the three target areas described above concluded the following which was considered in the formulation of messages for the PPI:

- 1. The entire County and all flood zones are subject to flooding. The PPI should strive to reach all residents and businesses within the County, especially within the SFHA.
- 2. Repetitive loss locations are distributed across flood zones with over 56% of repetitive loss properties located outside of the SFHA in Zone X.
- 3. Orange County is experiencing a great deal of population growth and residential development, and realtors, lenders, and insurance agents can help the County build flood risk awareness with this trend by educating prospective homebuyers about flood risk and flood insurance.



2.2 Assess Flood Insurance Coverage

One valuable source of information on flood hazards is current flood insurance data for active policies and past claims. Flood insurance is required as a condition of federal aid or a mortgage or loan that is federally insured for a building located in a FEMA flood zone. NFIP data for the County was analyzed to examine the following points:

- 1. Where do active flood insurance policies exist?
- 2. Where have flood insurance claims been paid in the past?
- 3. How many buildings are exposed to the flood hazard versus how many buildings have coverage?
- 4. How does the average amount of coverage compare to the amount of expected flood damage from the 1%-annual-chance flood?

Orange County has been a Regular participant in the NFIP since December 1982. The following tables reflect NFIP policy and claims data for the County categorized by structure type, flood zone, Pre-FIRM and Post-FIRM.

Table 4 – NFIP Policy and Claims Data by Occupancy Type

Occupancy	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Single Family	6,422	\$3,256,969	\$1,864,821,400	716	\$3,908,075.19
2-4 Family	81	\$40,689	\$17,544,700	6	\$28,318.99
All Other Residential	488	\$125,178	\$123,036,700	34	\$163,077.65
Non-Residential	297	\$644,488	\$154,271,700	41	\$2,052,216.43
Total	7,288	\$4,067,324	\$2,159,674,500	797	\$6,151,688.26

Source: FEMA Community Information System as of 05/2/2022

Table 5 - NFIP Policy and Claims Data by Flood Zone

Flood Zone*	Number of Policies in Force	Total Premium	Total Coverage	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	1,667	\$1,117,186	\$420,519,800	278	\$1,820,714.99
A Zones	626	\$508,016	\$158,945,000	130	\$735,175.06
AH Zones	0	\$0	\$0	0	\$0
D Zones	0	\$0	\$0	0	\$0
B, C & X Zone					
Standard	712	\$462,982	\$213,668,800	115	\$1,081,361.56
Preferred	4,715	\$2,176,377	\$1,494,159,000	269	\$2,618,209.93
Total	7,720	\$4,264,561	\$2,287,292,600	792	\$6,255,461.54

Source: FEMA Community Information System as of 05/2/2022

Table 6 - NFIP Policy and Claims Data Pre-FIRM

Flood Zone*	Number of Policies in Force	Total Premium	Total Coverage	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	747	\$717,879	\$167,131,600	155	\$917,528.82
A Zones	184	\$219,233	\$39,450,000	49	\$442,069.14

 $^{^{\}star}$ Flood zone is indicative of historic policy zone. Zones B and C are historic policy zones.



Flood Zone*	Number of Policies in Force	Total Premium	Total Coverage	Number of Closed Paid Losses	Total of Closed Paid Losses
AH Zones	0	\$0	\$0	\$0	\$0
D Zones	0	\$0	\$0	\$0	\$0
B, C & X Zone					
Standard	253	\$163,709	\$67,459,300	61	\$802,410.18
Preferred	792	\$367,545	\$236,887,000	98	\$1,795,293.69
Total	1,976	\$1,468,366	\$510,927,900	363	\$3,957,301.83

Source: FEMA Community Information System as of 05/2/2022

Table 7 – NFIP Policy and Claims Data Post-FIRM

Flood Zone*	Number of Policies in Force	Total Premium	Total Coverage	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	920	\$399,307	\$253,388,200	123	\$903,186.17
A Zones	442	\$288,783	\$119,495,000	81	\$293,105.92
AH Zones	0	\$0	\$0	\$0	\$0
D Zones	0	\$0	\$0	\$0	\$0
B, C & X Zone					
Standard	459	\$299,273	\$146,209,500	54	\$278,951.38
Preferred	3,923	\$1,808,832	\$1,257,272,000	171	\$822,916.24
Total	5,744	\$2,796,195	\$1,776,364,700	429	\$2,298,159.71

Source: FEMA Community Information System as of 05/2/2022

Table 8 compares the policies in force with the number of buildings located within each flood zone and identifies the percent of buildings insured.

Table 8 - Percentage of Buildings Insured

Flood Zone Number of Policies in Force		Number of Buildings	% Insured	
A01-30 & AE Zones	1,667	22,008	7.6%	
A Zone	626	16,968	3.7%	
AH Zones	0	3	0%	
D Zones	0	13	0%	
B, C & X Zone	5,427	221,141	2.5%	
Total	7,720	258,637	3.0%	

Source: FEMA Community Information System, May 2022

Table 9 compares number of buildings present, number of policies in force, total coverage and a calculation of loss estimate values for the 1% annual chance flood hazard area.

Table 9 – Flood Loss Estimates by Flood Zone

Flood Zone	Number of Buildings	Number of Policies in Force	Total Value ¹	Total Coverage	Loss Estimate
A01-30 & AE Zones	22,008	1,667	\$21,578,762,238	\$420,519,800	\$324,035,337
A Zone	16,968	626	\$15,064,678,962	\$158,945,000	n/a*
AH Zones	3	0	\$1,011,290	\$0	n/a*
Total	38,979	2,293	\$36,644,452,490	\$579,464,800	n/a*

Source: Orange County Tax Assessor's Data, FEMA DFIRM, 2021

^{*}Flood zone is indicative of historic policy zone. Zones B and C are historic policy zones.

^{*}Flood zone is indicative of historic policy zone. Zones B and C are historic policy zones.



¹Total value does not include land value.

The notable statistic in Table 8 is that while there are 38,979 buildings located within the 1% annual chance flood zone, only 6% of these buildings carry an active flood insurance policy. Furthermore, only 2.5% of buildings within the X Zone are insured, but as the repetitive loss figures previously showed, flooding is not limited to the 1% annual chance flood zone.

An analysis of existing flood insurance coverage for Zone AE shows that existing building coverage does meet the loss estimate for the 1% annual chance flood zone, however the loss estimate only accounts for 2,654 buildings within the 1%-annual chance flood zone. Moreover, this statistic does not take into account the large number of uninsured proprieties (92%) that would have no coverage in the event of a flood loss. Therefore, there is a need to increase the flood insurance coverage in the County by increasing the number of policyholders. Total building content value within the 1% annual chance flood zone is currently estimated at \$36,644,452,490.

Insurance Assessment Conclusions:

- 1. 3% of all flood zones are covered by a flood insurance policy; therefore, 97% are not.
- 2. Only 2.5% of the buildings in the X Zones have a flood insurance policy and 72% of those policies are preferred risk policies.
- 3. A higher percentage of buildings located in the AE Zone are insured as compared to the entire floodplain.

Insurance Assessment Recommendations

- 1. Increase the number of Flood Insurance Policies in AE and A Zones.
- 2. Concentrate on retention of flood policies in the AE and A Zones.
- 3. Increase the number of Standard and Preferred Risk Flood Insurance Policies in the Shaded X and X Zones.

Repetitive Flooding: An analysis of repetitive loss was completed to examine the number of insured repetitive loss properties against FEMA flood zones. According to 2023 NFIP records, there are 30 unmitigated properties with a total payment of \$1,985,181.00. Of the 30 unmitigated repetitive loss properties, only 18 of the properties are insured. Table 3 details repetitive loss building counts, FEMA flood zones and total payment.

^{*}Loss estimates could not be calculated because flood depths were not available for Zones A and AH.



2.3 Determine Target Audiences

According to the 2020 US Census, 33.1% of County residents are Hispanic or Latino and 37% of residences have a language other than English spoken in the home. The 2022 American Community Survey 5-Year Estimate reports that 26.2% of the population speaks Spanish and 10.5% of those Spanish speakers speak English "less than 'very well'". Approximately 13.5% of the population is considered as living below the poverty level. These social and economic factors were considered by the committee in ensuring that the right messages, tools and resources were used to overcome obstacles. The committee recognized that messages would need to be distributed in different forms and using different sources in order to reach all target audiences. The following groups have been identified as target audiences who need special messages on flood protection:

Target Audience #1: Homeowners Associations

Homeowners Associations have access to entire neighborhoods and often host neighborhood events. Educating and partnering with this audience would be an efficient way to reach large groups of residents at one time.

Target Audience #2: Spanish Speaking Population

With nearly a quarter of the population speaking Spanish and so many of those Spanish-speakers having a low proficiency in English, the PPI committee recognized that providing Spanish materials and messaging targeted toward the Spanish-speaking population will ensure that this large portion of the population does not miss important flood-related information due to a language barrier.

Target Audience #3: Landscapers

There has been a consistent problem with landscapers sweeping vegetation/debris into nearby storm drains which clogs the system and causes stormwater to back-up and overflow into the surrounding area.

Target Audience #4: Real Estate, Lending and Insurance Companies

This group plays a key role in conveying information about flood insurance to homebuyers. The PPI Committee will make sure this group is informed and equipped with the tools needed to convey flood risk and flood insurance information to residents.



2.4 Inventory of Other Public Information Efforts

A key part of developing a public information program is becoming aware of other public information activities targeted at County residents. The information in Table 10 came from past projects, staff research, and PPI Committee members. Knowing what messages are currently reaching the residents of the County is essential in determining what types of projects or messages are effective and which ones may need to be revised or what new projects are necessary to encourage residents and businesses to adopt behaviors to protect their property and their lives and to make the County more resilient.

Table 10 – Existing Public Information Efforts

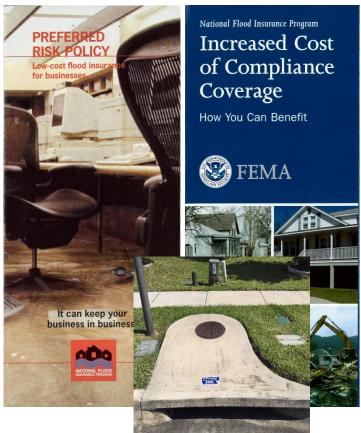
Organization	Project	Subject Matter	Frequency
Stormwater Management Division	Distribute rain gauges	Flood awareness; Protect water resources	Year-Round
Stormwater Management Division	"A Citizen's Guide to Flood Protection" brochure, mailed to all properties in community	Various flood-related topics	Annually
Stormwater Management Division	"Retention Pond Maintenance" brochure, available at Public Works Department	Protect natural floodplain functions; Protect your property from the hazard	Year-Round
Stormwater Management Division	Hurricane Expo	Hurricane preparedness; General preparedness	Annually
St. Johns River Water Management District	"Neighborhood Guide to Stormwater Systems" pamphlet, available at Public Works Department	Know your flood hazard; Protect natural floodplain functions; Protect your property from the hazard	Year-Round
Stormwater Management Division	"Why You Need Flood Insurance" brochure, copy available in Public Works Dept.	Insure your property; (also available in Spanish)	Year-Round
Stormwater Management Division	"Floodsmart.gov Know Your Risk" NFIP Guide mailed upon request; copy available in Public Works Dept.	Know your flood hazard; Insure your property	Year-Round
Stormwater Management Division	"Preferred Risk Policy" brochure targeting business owners; copy available in Public Works Dept.	Insure your property	Year-Round
Stormwater Management Division	"Nothing Can Dampen the Joy of Home Ownership" brochure targeting homeowners; copy available in Public Works Dept.	Insure your property	Year-Round
Stormwater Management Division	"Flood Preparation and Safety" brochure, copy available in Public Works Dept.	General preparedness; Know your flood hazard; Protect yourself and your family	Year-Round
Stormwater Management Division	"Increased Cost of Compliance Coverage" brochure; copy available in Public Works Dept.	Flood protection options and ICC coverage for these options	Year-Round

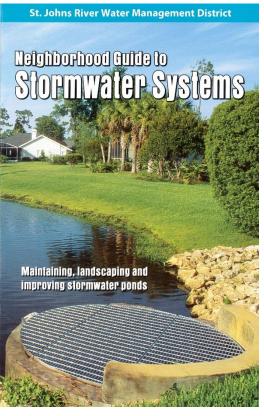


Organization	Project	Subject Matter	Frequency	
Stormwater Management Division	"Flood Insurance Requirements for Recipients of Federal Disaster Assistance" pamphlet; copy available in Public Works Dept.	Insure your property; Anyone can get flood insurance	Year-Round	
Stormwater Management Division	One-on-one technical assistance and advice regarding flooding and drainage issues on private property	Flood protection, Build responsibly	Year-Round	
County Public Library	Various Publications	Various flood-related topics	Year-Round	
County website	Website	Various flood-related topics	Year-Round	
Stormwater Management Division	····· = apg - gag · ag · aa.		Year-Round	
Florida Division of Emergency Management	Website and Various Publications	Hurricane Preparedness, Response, Recovery and Mitigation and various flood-related topics and brochures, Get a Family and Business Plan	Year-Round	
Florida – Ready.Gov	Website	Hurricane Preparedness, Preparing Your Home, After a Hurricane, Hurricane Plan, Flood Safety, Flood Preparedness, Flood Plan, Flood Insurance	Year-Round	
Stormwater Management Division	Annual ASCE Event - annual conference that provides outreach and information about flood hazards	Flood awareness; Protect water resources	Annually	









Examples of Existing Outreach Projects



Step 3: Formulate Messages

After reviewing the Community Needs Assessment, the PPI Committee reviewed the existing outreach projects and their dissemination methods and developed the following priority messages. Table 11 summarizes each message and the desired outcome. Topics A through F are the CRS Activity 330 Priority Topics and Topics G through J are the additional topics which were identified by the PPI Committee.

The 10 topics identified below are covered by various projects which are listed in Table 12. In addition, the seven Target Audiences are addressed through the projects as well.

Table 11 – Messages and Desired Outcomes

	Topic	Message	Outcome(s)		
A.	Know your	1.Your property is subject to flooding	Increase number of FIRM inquires		
	flood hazard	2. Your property is in a repetitively flooded area	Reduce future repetitive loss properties		
		1.You need to buy flood insurance	Increase number of flood insurance policies		
В.	B. Insure your property	2 .Your homeowner's policy does not cover flood damage	Increase number of flood insurance policies		
	property	3. Buy renters contents insurance to protect your valuables from flood damage	Reduce damage to contents		
C.	Protect yourself	1.Turn around don't drown	Reduce rescues and deaths		
	and your family	2.Know the flood warning signals	Reduce rescues and deaths		
D.	Protect your	1.Elevate HVAC exterior units	Reduce number of flood damaged HVAC units		
	property from the hazard	2 .Grant monies are available to help elevate your home	Increase financial opportunities		
		1 .Get a permit before you start construction	Reduce citations		
E.	E. Build	2.Know the substantial damage rules	Reduce citations		
	responsibly	3. Keep areas open (setbacks) between homes and property lines	Maintain proper drainage		
F.	Protect natural	1.Don't dump in storm drains or streams, channels, or open bodies of water	Reduce pollution and improve water quality		
	floodplain functions	2.Report erosion control measures not working	Contain erosion on construction sites		
	ranetions	3 .Don't disturb natural floodplain areas	Reduce grading, fill, and earth movement		
G.	Hurricane Preparedness	1. Prepare a safety checklist and emergency supply Kit	Protect family and reduce damage		
Н.	Be aware of other hazards (Sinkholes)	Check for cracks in pavement and yards and know risks of Karsts soils	Reduce potential damage to life and property		
I.	Reduce stormwater runoff	1. Protect your property in low risk flood zones from localized stormwater flooding	Reduce new drainage-related flooding and associated complaint calls		
J.	Work with your neighbors on drainage issues	1. Contact your neighbors before altering drainage patterns on your property.	Reduce new drainage-related flooding and associated complaint calls		



Step 4: Identify Outreach Projects to Convey the Messages

The overall strategy is to make information available to target audiences in a manner that will encourage each audience to adapt behaviors to improve preparedness and decrease future flood damage. The PPI Committee identified 18 existing and new projects and initiatives that would be implemented during 2023/2024. These projects are further organized by target area, audience and message in Table 12.

In addition to projects that are implemented every year, the PPI Committee recommends Flood Response Projects which are projects that will be implemented during and after a flood. These projects are drafted and made ready for production and dissemination after a flood warning. These projects are listed at the end of Table 12.

Existing public outreach efforts are identified in Section 2.4. In addition to projects that are implemented every year, the PPI Committee recommends Flood Response Projects which are projects that will be implemented during and after a flood. These projects are drafted and made ready for production and dissemination after a flood warning. The PPI Committee and County staff will review and evaluate these projects annually to ensure that they are still current and appropriate for dissemination during flood response. Flood Response Projects are listed at the end of Table 12.

Step 5: Examine Other Public Information Initiatives

The PPI Committee and County staff worked together to identify other Public Information Initiatives (PII) which provide additional information to citizens in the County and to improve access to information and services provided by the County. Those other public information initiatives include:

Activity 310: Make all Elevation Certificates accessible on the County's website. See **OP# 6** on page 23. EC's can be retrieved via this link https://fasttrack.ocfl.net/OnlineServices/PermitsAllTypes.aspx. This project will allow insurance and real estate professionals along with lenders and property owners to access important elevation information about a particular property in a more expedient manner.

Activity 320: Publicize Activity 320 on the County's website to encourage more map inquiry requests from the public by listing the types of information and the benefits of this information to the public. The service is already publicized annually in a community-wide outreach brochure. However, this information will be also added to the community's website to make it more visible to the public as a service the County offers. See **OP# 4** on page 23.

Activity 350: Enhancement of the County's website to house all Elevation Certificates, all LOMA's, and updated Activity 330 brochure with the six priority topics and four additional topics along with the publication of activities 320 and 360. This updated website will also have a dedicated Hurricane Preparedness page with such topics as "Managing Stormwater and Debris Cleanup." Additionally, provide links to various stakeholder groups such as Floodsmart, FEMA, Orange County Emergency Management, Florida Emergency Management, etc. See **OP# 6** on page 23.

Activity 360: Publicize Activity 360 on the County's website so a wider audience is aware of this service. Additionally, this service will be discussed at homeowner association meetings so that an even wider audience is aware that the County provides this service. Therefore, residents will have 3 different ways to remind them that they can call Orange County if they are experiencing flooding conditions on their property and the Public Works Department can respond and provide a resolution to the property owner. See **OP# 6** on page 23 and **OP# 12** on page 24.

Flood Response Preparations: Orange County has pre-planned and developed a set of public information projects that will be implemented during and after a flood. See the set of projects (FRP #1-9) on pages 25-26. Implementation procedures are as follows:



- FRP #4, FRP #5, and FRP #8 will be publicized on the County's website and on social media. These projects are already developed and available in digital format to be shared on these platforms.
- FRP #1, FRP #2, FRP #3, FRP #6, FRP #7, and FRP #9 are available in paper and digital formats. These documents will be on hand to make available for download from the County website, provide to flooded property owners, and/or distribute from locations throughout the County.

Step 6: Implement, Monitor and Evaluate the Program

6.1 Adoption: This document will become effective when it is adopted by the County Board of Commissioners.

6.2 Evaluation: The PPI Committee along with County Staff will monitor the projects as they are developed, as well as the results. They will record inputs from PPI Committee members and suggestions from other County employees and stakeholders participating in the activities. That input will be sent by e-mail to committee members for consideration and evaluation.

The PPI Committee will meet once per year to review the implementation of these projects and initiatives. At that time, the status of the projects will be explained and progress toward the outcomes will be discussed. The Committee will recommend to the appropriate County offices and the stakeholders who implement projects whether the projects should be changed or discontinued. The Committee will meet and review the outcomes of each individual activity to change, add, or approve them. Table 12 will be revised as needed. The Committee will post the updated PPI on the County website and provide the PPI to local media and the County Board of Commissioners for informational purposes annually. The outcomes and revisions will be submitted as part of the County's annual recertification package to the Community Rating System.



Table 12 – PPI Projects and Initiatives

Target Area & Audience(s)	Topic(s) (See Table 11)	Message(s) (See Table 11)	Project(s)	Assignment	Schedule	Stakeholder		
Outreach Projects								
Target Area #1: Special Flood Hazard Area (SFHA)		A. 1, 2 B. 1, 2, 3 C. 1, 2 D. 1, 2 E. 1, 2, 3 F. 1, 2, 3 G. 1 H. 1 I. 1	OP #1 Updated Flood Protection Brochure will be mailed to all property owners in SFHA annually	Orange County Stormwater Management	April/May	N/A		
			OP #2 Updated Flood Protection Brochure placed at 5 different locations in the County (see page 25)	Orange County Stormwater Management	Year-Round	N/A		
			OP #3 Publicize the Floodsmart.gov website on the County's website and on the Flood Protection Brochure that is distributed to SFHA, Repetitive Loss Areas, and Realtors, Lenders, and Insurance Agents	Orange County Stormwater Management	Year-Round	N/A		
			OP #4 Map Inquiry Service (CRS Activity 320): Provide information on the FIRM, floodway info, and areas that have local stormwater flooding, repetitive loss, and flood depths, and publicize this service on website (see PII #2).	Orange County Stormwater Management; Orange County GIS	Year-Round	N/A		
			OP #5 Flood Protection Assistance (CRS Activity 360): Publicize this service on County's website, updated Flood Protection Brochure and in meetings with HOA's (see OP #12)	Orange County Stormwater Management	Year-Round	Homeowner's Associations		
			OP #6 Update County's website to include flood outreach information (10 topics), elevation certificates, LOMAs and Hurricane Preparedness page, links to Floodsmart.gov, Orange County Emergency Management, State of Florida Emergency Management, and FEMA.	Orange County Stormwater Management; Orange County Office of Public Engagement & Citizen Advocacy	Annually	State of Florida, and FEMA		
			OP #7 Brochure for Orange County to distribute to HVAC contractors on benefits of elevating HVAC Units and brochure on benefits of building responsibly in the SFHA placed at 5 locations (see page 25)	Orange County Stormwater Management	Year-Round	General contractors and HVAC contractors		
			OP #8 Signage placed throughout the community and SFHA which says don't throw trash and debris down storm drainage inlets and signage along canals which says don't throw trash and debris into canals.	Orange County Stormwater Management/Public Works	Year-Round	N/A		
Target Area #2: Repetitive Loss Properties/Areas	Topic A Know Your Flood Hazard Topic B Insure Your Property Topic C Protect Yourself and Your Family Topic D Protect Your Property from the Hazard	A. 1, 2 B. 1, 2, 3 C. 1, 2 D. 1, 2	OP #9 Updated Flood Protection Brochure mailed each year to all properties in Repetitive Loss Areas	Orange County Stormwater Management	April	N/A		



Target Area & Audience(s)	Topic(s) (See Table 11)	Message(s) (See Table 11)	Project(s)	Assignment	Schedule	Stakeholder
	Topic E Build Responsibly Topic F Protect Natural Floodplain Functions Topic I Reduce Stormwater Runoff	E. 1, 2, 3 F. 1, 2, 3 I. 1	OP #10 See projects OP #3 through OP #6 above as they also apply in Repetitive Loss Areas	Orange County Stormwater Management	Various	Various
Target Area #3/Audience #4: Realtors, Lenders, and Insurance Agents (and Surveyors)	Topic A Know Your Flood Hazard Topic B Insure Your Property Topic C Protect Yourself and Your Family Topic D Protect Your Property from the Hazard Topic E Build Responsibly Topic F Protect Natural Floodplain Functions Topic G Hurricane Preparedness Topic H Be Aware of Other Hazards Topic I Reduce Stormwater Runoff	A. 1, 2 B. 1, 2, 3 C. 1, 2 D. 1, 2 E. 1, 2, 3 F. 1, 2, 3 G. 1 H. 1 I. 1	OP #11 Provide the updated Flood Protection Brochure to Realtors, Lenders, and Insurance Agents , to be mailed with the Activity 320 mailing.	Orange County Stormwater Management	Мау	Real Estate Agents, Lenders, Insurance Agents
Target Audience #1: Homeowners Associations	Topic A Know Your Flood Hazard Topic B Insure Your Property Topic C Protect Yourself and Your Family Topic D Protect Your Property from the Hazard Topic E Build Responsibly Topic F Protect Natural Floodplain Functions Topic G Hurricane Preparedness Topic H Be Aware of Other Hazards Topic I Reduce Stormwater Runoff Topic J Work with Your Neighbors on Drainage Issues	A. 1, 2 B. 1, 2, 3 C. 1, 2 D. 1, 2 E. 1, 2, 3 F. 1, 2, 3 G. 1 H. 1 I. 1	OP #12 Speak to a Homeowner's Association each year on topics of Flood Hazard, Flood Insurance, Property Protection, Family Protection, Building Responsibly, Protection of Natural Floodplain Functions, Sinkholes, Hurricane Preparedness, LID techniques, and Collaborating on Drainage Problems (All topics on the updated Flood Protection Brochure)	Orange County Stormwater Management	April and September	Homeowner's Associations/State of Florida
Target Audience #2: Non-English Population	Topic A Know Your Flood Hazard Topic B Insure Your Property Topic C Protect Yourself and Your Family Topic D Protect Your Property from the Hazard Topic E Build Responsibly Topic F Protect Natural Floodplain Functions Topic G Hurricane Preparedness Topic H Be Aware of Other Hazards Topic I Reduce Stormwater Runoff Topic J Work with Your Neighbors on Drainage Issues	A. 1, 2 B. 1, 2, 3 C. 1, 2 D. 1, 2 E. 1, 2, 3 F. 1, 2, 3 G. 1 H. 1 I. 1	OP #13 FEMA NFIP Insurance Brochure in Spanish available at 5 locations in County (see page 25) and 311 reporting line has Spanish speaking operators to report any flooding issues	Orange County Stormwater Management	Year-Round	FEMA/Spanish speaking population in County



Target Area & Audience(s)	Topic(s) (See Table 11)	Message(s) (See Table 11)	Project(s)	Assignment	Schedule	Stakeholder
Target Audience #3: Landscapers	Topic F Protect Natural Floodplain Functions	F. 1, 2, 3	OP #14 Develop information brochure to inform landscapers not to blow grass clippings or leaves into storm drains	Orange County Stormwater Management; Orange County Office of Public Engagement & Citizen Advocacy	October	Landscapers in County
			Flood Response Projects			
Flooded property owners and residents	Topic A Know Your Flood Hazard Topic B Insure Your Property Topic C Protect Yourself and Your Family Topic D Protect Your Property from the Hazard Topic E Build Responsibly	A. 1, 2 B. 1, 2, 3 C. 1, 2 D. 1, 2 E. 1, 2, 3 F. 1, 2, 3	FRP #1 Provide "After a Flood: The First Steps" brochure to flooded property owners which provides information on the dangers of flood water, listen for local warnings, don't drive through flooded streets, stay healthy (emotional stress), and cleaning up and repairing your home	Orange County Stormwater Management	Ready to go before, during and after a flood	FEMA and American Red Cross
			FRP #2 Provide copies of "Repairing your flooded home" FEMA 234 publication to flooded property owners which provides information on protecting your home from further damage, getting organized, drying out your flooded home, restoring utilities, clean up, rebuilding and preparing for the next flood.	Orange County Stormwater Management	Ready to go before, during and after a flood	FEMA and American Red Cross
			FRP #3 Provide information on the County's Substantial Damage rules	Orange County Stormwater Management	Ready to go before, during and after a flood	N/A
	Topic F Protect Natural Floodplain Functions Topic G Hurricane Preparedness Topic H Be Aware of Other Hazards Topic I Reduce Stormwater Runoff Topic J Work with Your Neighbors on Drainage Issues	G. 1 H. 1 I. 1 J. 1	FRP #4 Provide information on the need for a building permit on the County's website and on social media Orange County Stormwater Management	Orange County Stormwater Management	Ready to go before, during and after a flood	N/A
			FRP #5 Promote the availability and benefits of flood insurance on the County's Website and on social media	Orange County Stormwater Management	Ready to go before, during and after a flood	N/A
			FRP #6 FEMA Brochures for residents and businesses on Flood Preparation and Safety, Nothing can Dampen the Joy of Home Ownership, Flood Insurance Requirements for Recipients of Federal Disaster Assistance, Increased Cost of Compliance Coverage, Preferred Risk Policy	Orange County Stormwater Management	Ready to go before, during and after a flood	FEMA and Floodsmart



Target Area & Audience(s)	Topic(s) (See Table 11)	Message(s) (See Table 11)	Project(s)	Assignment	Schedule	Stakeholder
			FRP #7 Updated Flood Protection Brochure for residents and business before, during and after a flood event	Orange County Stormwater Management	Ready to go before, during and after a flood	
			FRP #8 Links on website for sandbag pick up locations, FEMA Video on Preparedness and FEMA & CDC Video Mold Safety after a Disaster	Orange County Stormwater Management	Ready to go before, during and after a flood	FEMA and Centers for Disease Control
			FRP #9 Provide FEMA's Homeowner's Guide to Retrofitting including the flood hazards, protecting people, protecting property & building responsibly	Orange County Stormwater Management	Ready to go before, during and after a flood	FEMA
			Public Information Initiatives			
	Topic A Know Your Flood Hazard Topic B Insure Your Property Topic C Protect Yourself and Your Family Topic D Protect Your Property from the Hazard	A. 1, 2 B. 1, 2, C. 1, 2 D. 1, 2,	PII #1 Continue to hold the Hurricane Expo annually to provide preparedness, response, and recovery information to all County residents including information on the 10 topics in the updated Flood Protection Brochure	Orange County Stormwater Management	June	Florida Department of Emergency Management
All Orange County Residents	Topic E Build Responsibly Topic F Protect Natural Floodplain Functions Topic G Hurricane Preparedness Topic H Be Aware of Other Hazards Topic I Reduce Stormwater Runoff Topic J Work with Your Neighbors On Drainage Issues	E. 1, 2, 3 F. 1, 2 G. 1 H. 1 I. 1 J. 1	PII #2 Publicize Map Information Service (CRS Activity 320): Publicize on website	Building & Permitting Division	Year-Round	N/A

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Brochure Locations:

1) Orange County Public Works Complex

4200 S. John Young Pkwy Orlando, FL 32839

2) Orange County Administration Building

450 E. South St. Orlando, FL 32801

3) Orange County South Econ Community Park / Renaissance Senior Center

3800 S. Econlockhatchee Trl Orlando, FL 32829

4) UF/IFAS Extension Orange County

6021 S. Conway Rd. Orlando, FL 32812

5) Meadow Woods Recreation Center

1751 Rhode Island Woods Cir Orlando, FL 32824