



Cumberland County Multi-Hazard Mitigation Plan Update
Participating Jurisdiction Appendices

Appendix 4
Deerfield Township, New Jersey

Preliminary Draft

September 7, 2021

Notes to Preliminary Draft Reviewers

This Preliminary Draft of the Deerfield Township Appendix to the Cumberland County Multi-Hazard Mitigation Plan Update (CC HMPU) includes:

Updated tables containing information available as of September 7th for the community's:

- Working Group
- Critical Facilities
- Mitigation Measures included in the 2016 Mitigation Plan for Four New Jersey Counties (NJ4 HMP)
- Plan Review and Integration document status

In addition, the Preliminary Draft contains:

- Preliminary Hazard Identification and Risk Assessment (HIRA) Update – including mapping and data tabulations regarding vulnerability to natural hazards and social vulnerability considerations
- Hazard Priorities – as determined by the Working Group
- Goals and Strategies

Finally, the Preliminary Draft includes initial lists of proposed Municipal and Multi-Jurisdictional Mitigation Measures to be included in the CC HMPU.

Text highlighted in **yellow** indicates information requested of the community's Working Group as part of this review.

Text highlighted in **blue** indicates information to be provided and/or actions to be taken at a later date.

Please provide any questions, input, or comments to your community's Emergency Management Coordinator:

Andrew Tartaglia
atag3341@comcast.net

This review period will close on Friday, October 1st. However, there will be additional opportunities to participate in the development of the CC HMPU. These opportunities will be identified on the project website (<https://cchmpu21.com>).

Table of Contents

Table of Contents	4-i
Part 1 Overview	4-1
1.1: Cumberland County Multi-Hazard Mitigation Plan Update	4-1
1.2: Deerfield Township Municipal Appendix	4-1
Part 2 Participation	4-2
2.1: Municipal Working Group Participation	4-2
2.2: Public Participation	4-5
Part 3 Hazard Identification and Risk Assessment	4-6
3.1: Profile	4-6
3.2: General Building Stock	4-8
3.3: Critical Facilities	4-9
3.4: Hazard Exposure Assessment	4-11
3.5: Demographic Considerations	4-14
3.6: Observations	4-15
3.7: Hazard Priorities	4-16
Part 4 Mitigation Measures	4-17
4.1: Mitigation Goals and Strategy	4-17
4.2: NJ4 HMP Mitigation Measures	4-18
4.3: Municipal Mitigation Measures – Identification	4-20
4.4: Municipal Mitigation Measures – Implementation	4-21
4.5: Multi-Jurisdictional Mitigation Measures	4-22
4.6: Authorities, Policies, Programs, Resources, and Plan Integration	4-24

Table of Contents

List of Figures

Figure 4-1: Deerfield Township Location Map	4-6
Figure 4-2: Deerfield Township Base Map	4-7
Figure 4-3: Deerfield Township Building Footprints	4-8
Figure 4-4: Deerfield Township Critical Facilities	4-11
Figure 4-5: Deerfield Township Critical Facilities and 1% Annual Chance Flood Zone	4-12
Figure 4-6: Cumberland County Social Vulnerability Index: Overall Scores	4-14
Figure 4-7: Deerfield Township Mitigation Project Locations	4-23

List of Tables

Table 4-1: Deerfield Township Working Group	4-2
Table 4-2: Public Participation	4-5
Table 4-3: Deerfield Township Buildings per Land Use Type	4-8
Table 4-4: Deerfield Township Critical Facilities Inventory	4-9
Table 4-5: Deerfield Township General Building Stock Hazard Exposure	4-13
Table 4-6: Deerfield Township Critical Facilities Hazard Exposure	4-13
Table 4-7: Deerfield Township General Population Demographics	4-14
Table 4-8: Deerfield Township Social Vulnerability Considerations	4-15
Table 4-9: Status of Deerfield Township NJ4 HMP Mitigation Measures	4-18
Table 4-10: Deerfield Township Municipal Mitigation Measures Identification	4-20
Table 4-11: Deerfield Township Municipal Mitigation Measures Implementation	4-21
Table 4-12: Deerfield Township Multi-Jurisdictional Mitigation Measures	4-22

Attachments

Attachment 4.A: Public Review Comments	4.A-1
Attachment 4.B: Adoption Resolution	4.B-1
Attachment 4.C: Approval Letter	4.C-1

Part 1: Overview

Part 1.1: Cumberland County Multi-Hazard Mitigation Plan Update

The Cumberland County Multi-Hazard Mitigation Plan Update (CC HMPU) incorporates input from all 15 participating jurisdictions in Cumberland County, including Cumberland County and 14 separate municipalities.

The CC HMPU is an update of the Mitigation Plan for Four New Jersey Counties (NJ4 HMP) that was completed by all fifteen jurisdictions in Cumberland County along with over 70 additional jurisdictions from Camden, Gloucester, and Salem Counties. The Cumberland County portions of the NJ4 HMP were adopted by the participating jurisdictions and approved by the Federal Emergency Management Agency in 2016.

The CC HMPU has two main parts:

- Cumberland County Multi-Hazard Mitigation Plan Update, or the “Base Plan”.
- County and Municipal Appendices.

The Base Plan **will include** descriptions and information that is common to all 15 participating jurisdictions organized according to the following three focus areas:

- Planning Process
- Hazard Identification and Risk Assessment
- Mitigation Measures

The County and Municipal Appendices include specific information for these same three focus areas for each of the 15 participating jurisdictions. Detailed tabulations are included in these Municipal Appendices for critical facilities, the status of past mitigation activities, and proposed mitigation measures for each municipality.

Part 1.2: Deerfield Township Municipal Appendix

This Municipal Appendix is focused on Deerfield Township in Cumberland County, New Jersey.

The Deerfield Township Municipal Working Group **will recommend** the Deerfield Township Municipal Appendix for adoption to the Deerfield Township Executive Committee.

The Deerfield Township Executive Committee **will adopt** the Municipal Appendix by resolution (see Attachment B: Adoption Resolution).

Region II of the Federal Emergency Management Agency **will approve** the Municipal Appendix (see Attachment C: Approval Letter).

Part 2: Participation

Part 2.1: Municipal Working Group Participation

Part 2.1 includes:

- *Municipal Working Group members including positions in the community, meetings and work sessions attended, and specific contributions to the Municipal Appendix*
- *Municipal positions and organizations that were invited but were not able to participate in the plan update process*
- *Municipal positions and organizations that have been recommended by the Federal Emergency Management Agency (FEMA) as candidates for participation on Municipal Working Groups but do not exist in the municipality*

Table 4-1 identifies the Municipal Working Group members. As **will be** detailed in *Section 2: Planning Process* of the Base Plan, the Municipal Working Groups are comprised of community representatives who worked to make sure mitigation measures included in the Municipal Appendix addressed the risks faced by residents, businesses, and property owners and reflected the priorities of the community.

Municipal Working Group members reviewed briefing materials and contributed during Work Sessions and Meetings and **will review** the Preliminary Draft and Draft versions of the CC HMPU Base Plan and Appendices. The Working Group will also continue to stay involved during the implementation and maintenance of the CC HMPU.

Due to the on-going COVID-19 pandemic during the plan update process, Working Group meetings were conducted in a variety of ways including virtual meetings. However, when local conditions permitted, in-person meetings were conducted.

Note: Five members of the Working Group also participated in the development of the 2016 NJ4 HMP. These members are indicated with an () following their last names.*

Table 4-1: Deerfield Township Working Group

First Name	Last Name	Department	Position	Kickoff Meeting ¹	Work Session 1 ²	Public Meeting ³	Work Session 2 ⁴	Round 1 Meeting ⁵	Round 2 Meeting ⁶	Contribution ⁷
Andrew	Tartaglia	OEM	Emergency Management Coordinator	☑	☑	☑	☑	☑		Organized Working Group and Work Sessions.
Bill	Miller	OEM	Deputy Emergency Management Coordinator							Organized Working Group and Work Sessions.
Abigail	O'Brien	Executive Committee	Mayor		☑	☑				
Anthony	Brago	Executive Committee	Committeeman			☑				

¹ The Project Kickoff Meeting was held on May 20, 2021.

² Work Session 1 was held on June 11, 2021.

³ Public Meeting was held on June 16, 2021.

⁴ Work Session 2 was held on June 24, 2021.

⁵ Round 1 Meeting was held on July 21, 2021.

⁶ Round 2 Meeting **will be** held on **[date to be determined]**.

⁷ Additional or unusual contributions are noted in the far-right hand column.

Part 2: Participation

First Name	Last Name	Department	Position	Kickoff Meeting ¹	Work Session 1 ²	Public Meeting ³	Work Session 2 ⁴	Round 1 Meeting ⁵	Round 2 Meeting ⁶	Contribution ⁷
Dominick	Patitucci	Executive Committee	Committeeman			<input checked="" type="checkbox"/>				
Karen	Seifrit *	Administration	Clerk / Administrator		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Provided information on Township Plans.
Brenda	Closser *	Administration	Administrative Secretary / Land Use Board Secretary / Floodplain Administrator							
Ronald	Shinn, Jr. *	Public Works	Public Works Manager		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Melissa	Exten	Public Works	Public Works Secretary		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Corey	Gaskill	Engineering	Township Engineer							
Mark	Cifaloglio	Fire Department	Fire Chief							
Chad	McMahon	Emergency Medical Services	Rescue Chief							
Chris	MacNeill	New Jersey State Police	Assistant Station Commander		<input checked="" type="checkbox"/>					
Matt	Callahan *	Major Employers and Businesses	EH&S Manager at National Refrigerants, Inc.		<input checked="" type="checkbox"/>					
Melanie	Allen	School Administration	Chief School Administrator							
Noah	Hetzell *	Cumberland County Health Department	Assistant Health Officer		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		

Part 2: Participation

The following lists candidate positions and organizations within the community that were extended invitations but could not participate during the development of the Municipal Appendix. These positions and organizations will continue to be extended invitations to participate during subsequent plan implementation and maintenance activities.⁸

- [to be completed pending Working Group participation throughout the plan update process]

The following lists positions and organizations that are generally recommended for consideration as members of the Municipal Working Groups by FEMA but do not currently exist within the community. An invitation to participate will be extended if positions are created or filled and as organizations are formed.

- GIS / IT Specialist
- Transportation Department Directors / Supervisors
- Police
- Business Associations (typically functioning at the county level)
- Community / Faith-Based Organizations (typically functioning at the county level)
- Healthcare Institutions
- Environmental Organizations
- Non-Governmental Organizations

⁸ Plan implementation and maintenance activities [will be] described in *Section 4: Mitigation Measures* of the CC HMPU Base Plan.

Part 2: Participation

Part 2.2: Public Participation

Part 2.2 **will include** all opportunities provided to the public and interested parties in the municipality to participate during the plan update process.

Table 4-2 **will identify** the date, type of involvement, and location (where applicable) for all opportunities provided to the public and interested parties to participate in the development of the plan update.

Table 4-2: Public Participation

Date	Type of Involvement	Location
June 2021	Link to Project Website ⁹ established and maintained.	Township website / Town Clerk page, "Public Meeting" notices ¹⁰
June 16, 2021	Public meeting with presentation and open discussion.	Municipal Building
September 8, 2021	Preliminary Municipal Appendix available for public comment.	Project Website
[insert date link was established]	Notice posted re: Preliminary Municipal Appendix review period with link to Project Website.	[insert municipal website URL]
[date(s) to be determined]	Public outreach via [insert audience(s) and outreach method(s)] .	[insert location(s)]
[date to be determined]	Draft Municipal Appendix will be available for public comment.	Project Website
[date to be determined]	Public hearing regarding the Draft Municipal Appendix will be conducted providing for open discussion and public comment.	[insert location]

Public comments and input received for the Preliminary Draft and Draft versions of the Municipal Appendix **will be**:

- Considered by the Municipal Working Group and **will be** incorporated into the Municipal Appendix where appropriate.
- Included in Attachment A to the Municipal Appendix along with a brief explanation of if and how the comments were addressed in the Municipal Appendix.

In addition, the Municipal Appendix **will be** adopted as part of a regularly scheduled public meeting (see Attachment B: Adoption Resolution).

Public education and outreach is an on-going mitigation measure included in the Municipal Appendix.¹¹ In addition, public participation will continue to be encouraged during subsequent plan implementation and maintenance activities.¹²

⁹ <https://cchmpu21.com/documents>

¹⁰ <https://sites.google.com/view/deerfieldtownship/departments/township-clerk?authuser=0>

¹¹ See Mitigation Measure M-1 in Part 4 of the Municipal Appendix.

¹² Public education and outreach **will be** described in *Section 4: Mitigation Measures* of the CC HMPU Base Plan.

Part 3: Hazard Identification and Risk Assessment

Part 3: Hazard Identification and Risk Assessment

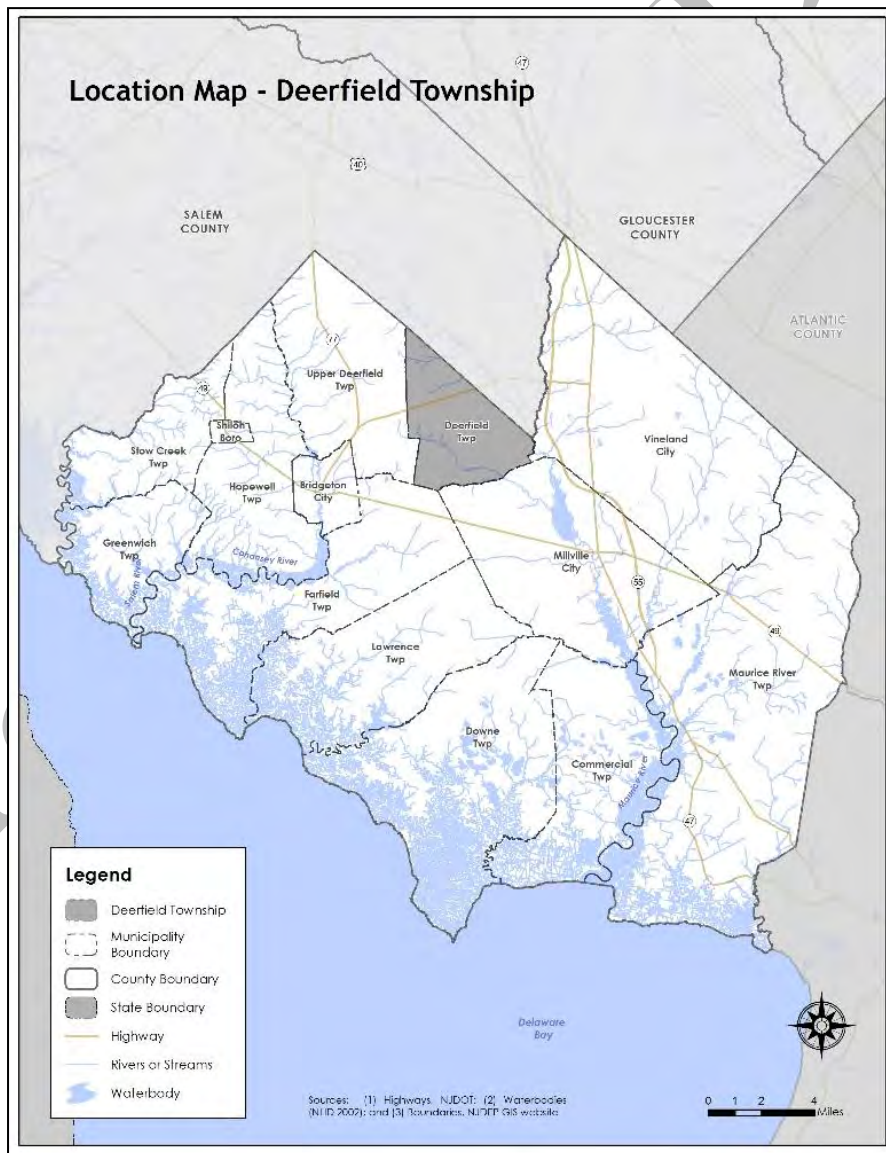
Part 3 includes seven subparts:

- Part 3.1: Profile
- Part 3.2: General Building Stock
- Part 3.3: Critical Facilities
- Part 3.4: Hazard Exposure Assessment
- Part 3.5: Demographic Considerations
- Part 3.6: Observations
- Part 3.7: Hazard Profiles

Part 3.1: Municipal Profile

Deerfield Township is in the north-central portion of Cumberland County (See Figure 4-1).

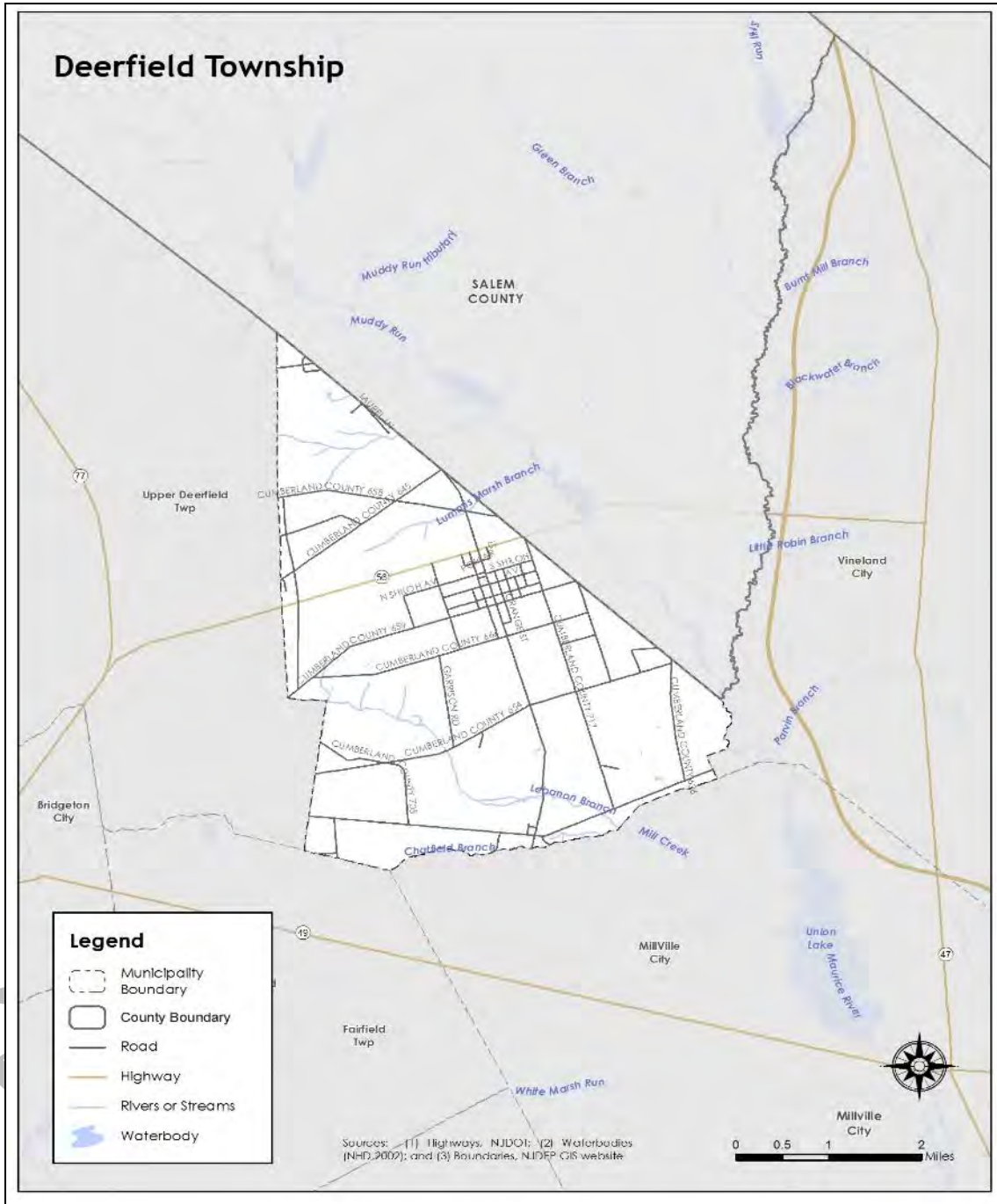
Figure 4-1: Deerfield Township Location Map



Part 3: Hazard Identification and Risk Assessment

Deerfield Township is a rural agricultural community with a growing commercial and residential area. Per Figure 4-2, major water courses include the Lummis Marsh Branch and Lebanon Creek Branch. Major transportation routes include State Highway 56 and 55, and Cumberland County Routes 654, 552, and 634. The land is gently rolling, and land cover consists primarily of agricultural and forested areas.

Figure 4-2: Deerfield Township Base Map



Part 3: Hazard Identification and Risk Assessment

Part 3.2: General Building Stock

As of 2015, there are 2,126 buildings in Deerfield Township with a total assessed value of improvements of \$149,849,700. Figure 4-3 shows the footprints of these buildings.

Figure 4-3: Deerfield Township Building Footprints¹³

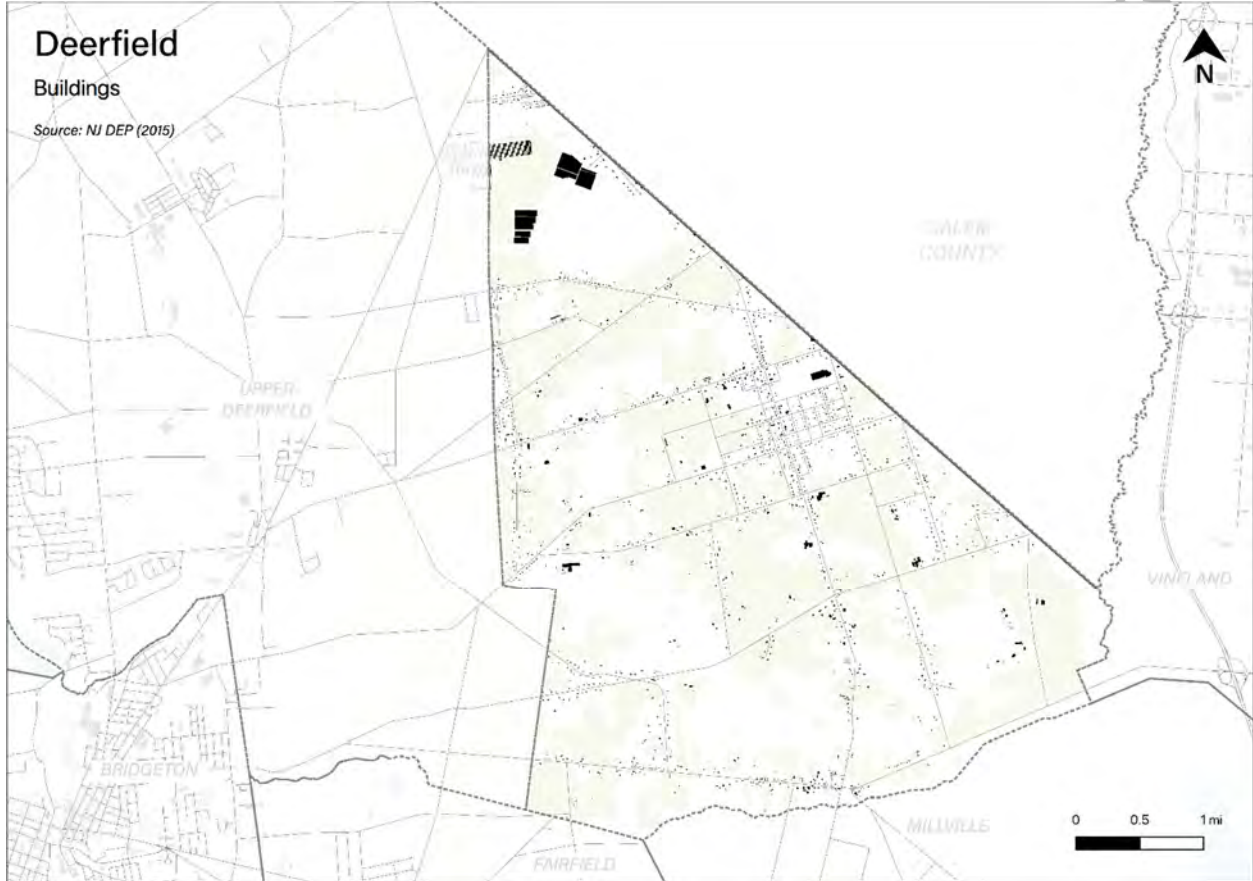


Table 4-3 will show the distribution of these structures according to land use distinctions.

Table 4-3: Deerfield Township Buildings per Land Use Type¹⁴

Land Use Type	Number of Buildings
Residential	TBD
Commercial	TBD
Industrial	TBD

¹³ Building footprint data was isolated from “Impervious Surfaces” data (2015) per <https://gisdata-njdep.opendata.arcgis.com/>. Note: This (map/publication/report) was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized or endorsed.

¹⁴ Land use types will be isolated from MOD-IV Parcels and Tax Assessor data composite (2021) per <https://njogis-newjersey.opendata.arcgis.com/documents/parcels-and-mod-iv-of-cumberland-county-nj-shp-download/about> from the New Jersey Office of GIS

Part 3: Hazard Identification and Risk Assessment

Part 3.3: Critical Facilities¹⁵

As of July 2021, there are thirteen critical facilities in Deerfield Township.

Critical facilities are prime candidates for mitigation measures due to important functions staged from these facilities prior to, during, and after natural hazards including emergency services and housing vulnerable populations.

Table 4-4 includes current inventory information for municipal critical facilities [and will include] cross-references to related mitigation measures [to be] identified in Part 4 of the Municipal Appendix. Figure 4.4 shows the location of these critical facilities.

Table 4-4: Deerfield Township Critical Facilities Inventory

CF #	Name	Type	Sub-Type	Address	Co-located CF #	Shelter (Y/N)	Generator (Y/N)	Comments	Mitigation Measure #
CF-1	Deerfield Township Municipal Building	Municipal	Administrative Offices	736 Landis Avenue, Rosenhayn		N	Y ¹⁶		[TBD]
CF-2	Emergency Operations Center	EOC	Co-located Facilities	736 Landis Avenue, Rosenhayn	CF-1	N	Y ¹⁹		[TBD]
CF-3	Rosenhayn Fire & Rescue	FireStation/EMS	Stations	678 Morton Avenue, Bridgeton		N	N		[TBD]
CF-4	Lobiondo Park Fire Well	FireStation/EMS	Wells	678 Morton Avenue, Bridgeton	CF-4	N/A	N		[TBD]
CF-5	Deerfield Township Elementary School	Schools	Public Schools	375 Morton Avenue, Rosenhayn		Y ¹⁷	N		[TBD]

¹⁵ Critical facility definitions and considerations [will be] described in *Section 3: Hazard Identification and Risk Assessment* of the CC HMPU Base Plan.

¹⁶ Access to portable generator.

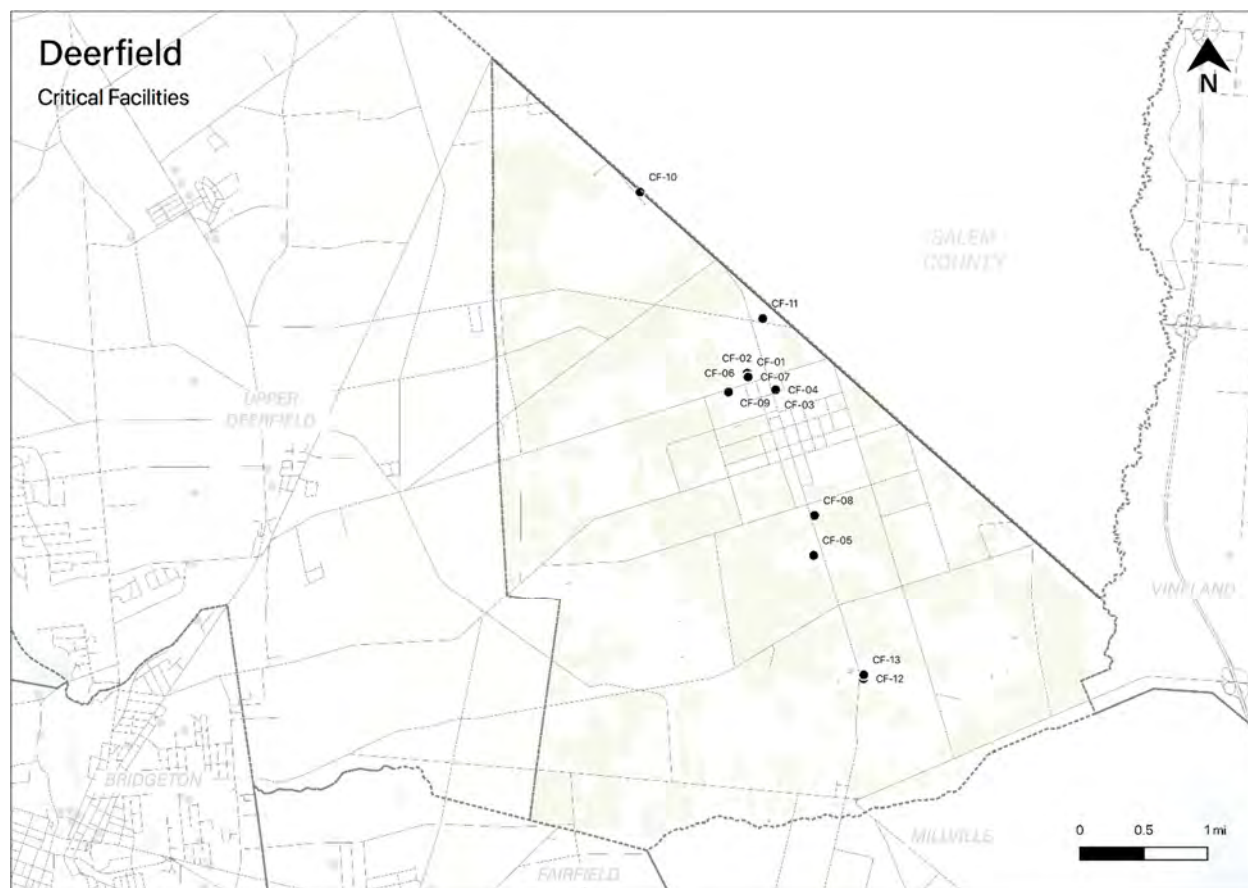
¹⁷ As of January 22, 2019, a MOU was agreed upon by the American Red Cross, Deerfield Township Elementary School and Deerfield Township to use the school as a shelter if needed. The Red Cross committed to staff and operate the shelter. The MOU is in effect until January 22, 2023.

Part 3: Hazard Identification and Risk Assessment

CF #	Name	Type	Sub-Type	Address	Co-located CF #	Shelter (Y/N)	Generator (Y/N)	Comments	Mitigation Measure #
CF-6	Deerfield Township Department of Public Works	Public Works	Combined Administrative Office, Maintenance / Work Area, Equipment / Material Storage, and Fueling Station	736 Landis Avenue, Rosenhayn	CF-1	N	Y ¹⁹		[TBD]
CF-7	Deerfield Township Senior Center	Vulnerable Populations Facilities	Senior Centers	736 Landis Avenue, Rosenhayn	CF-1	N	Y ¹⁹		[TBD]
CF-8	Elwynn Group Home	Vulnerable Populations Facilities	Private / Non-Profit Group Holmes	468 Morton Avenue, Millville		N ¹⁸	N		[TBD]
CF-9	Elwynn Group Home	Vulnerable Populations Facilities	Private / Non-Profit Group Holmes	721 Landis Avenue, Bridgeton		N ²¹	N		[TBD]
CF-10	Caring Group Home	Vulnerable Populations Facilities	Private / Non-Profit Group Holmes	1040 Laurel Lane, Bridgeton		N ²¹	N		[TBD]
CF-11	REM Group Home	Vulnerable Populations Facilities	Private / Non-Profit Group Holmes	724 Big Oaks Road, Bridgeton		N ²¹	N		[TBD]
CF-12	Oaks Integrated Care Group Home	Vulnerable Populations Facilities	Private / Non-Profit Group Holmes	262 Morton Avenue, Bridgeton		N ²¹	N		[TBD]
CF-13	Oaks Integrated Care Group Home	Vulnerable Populations Facilities	Private / Non-Profit Group Holmes	268 Morton Avenue, Bridgeton		N ²¹	N		[TBD]

¹⁸ Shelter in place.

Figure 4-4: Deerfield Township Critical Facilities



Note: All mapping corresponding to results described in Parts 3.3 through 3.5 can be viewed in .pdf format at: https://www.dropbox.com/sh/d9pc9j4y0539u45/AACeOFuPHxYVtu_nCRVulHsCa?dl=0.

Part 3.4: Hazard Exposure Assessment

Hazard exposure assessments **will be completed** for the twelve (12) natural hazards identified in the CC HMPU Base Plan¹⁹.

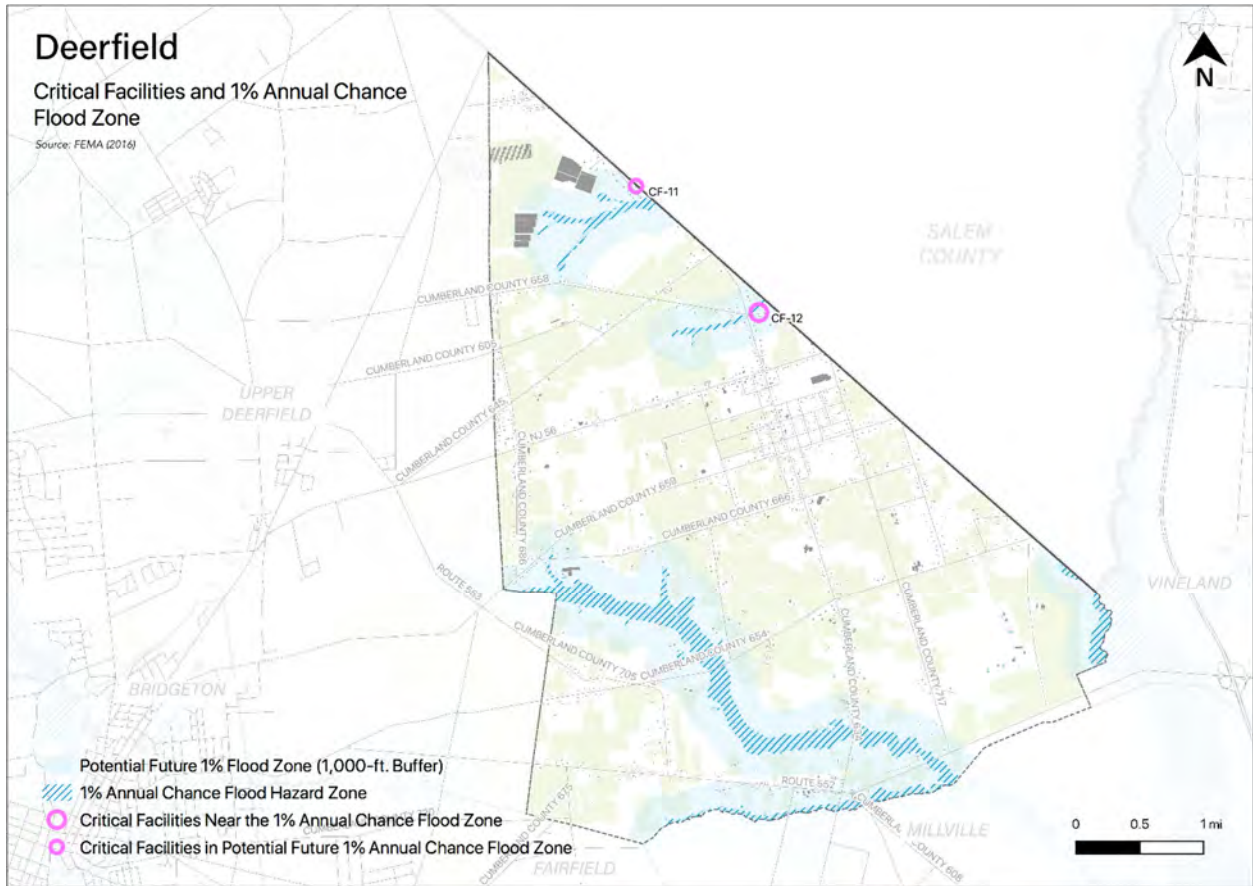
Key results for Deerfield Township are depicted in the following.

Mapping: Figure 4-5 is illustrative of the type of mapping available as a result of the hazard exposure assessment. This figure shows critical facilities that are located in or near (i.e., within 500 feet) the 1% annual flood zone on FEMA's Flood Insurance Rate Maps (FIRMs) or within a potential future 1% annual chance flood zone (i.e., within 1,000 feet).

¹⁹ Hazard profiles **will be** included for all twelve natural hazards in *Section 3: Hazard Identification and Risk Assessment* of the CC HMPU Base Plan.

Part 3: Hazard Identification and Risk Assessment

Figure 4-5: Deerfield Township Critical Facilities and 1% Annual Chance Flood Zone



Mapping results are available for the following hazards (where applicable for individual jurisdictions):

- Coastal Erosion & Sea Level Rise
- Dam Failure [pending data from NJDEP]
- Earthquake
- Extreme High Temperature
- Flood – per FEMA FIRM mapping
- Flood - per National Flood Insurance Program data [pending data from FEMA Region II]
- Geologic Hazards
- High Wind and Severe Weather (heavy summer rains and winter snow loads)
- Levee Failure [pending data from NJDEP]
- Wildfire

Tabulations: Selected data culled from the hazard exposure assessment process is displayed in the following tables:

- Table 4-5 indicates hazard exposure for general building stock
- Table 4-6 indicates hazard exposure for critical facilities

Part 3: Hazard Identification and Risk Assessment

Table 4-5: Deerfield Township General Building Stock Hazard Exposure

Hazard	Number of Exposed Buildings	Percent of Total Buildings in the Jurisdiction	Value of Exposed Buildings	Percent of Total Value in the Jurisdiction
Coastal Erosion ²⁰	0	N/A	0	N/A
Sea Level Rise - 3 feet increase	0	N/A	0	N/A
Flood - Within 1 % Annual Chance Zone	3	-	\$ 200,400	-
Flood - Near (within 500 feet) of 1% Annual Chance Zone	146	7%	\$ 13,771,400	7%
Earthquake – Structure built before 1927 ²¹	152	10%	\$12,009,800	8%
High Winds / Severe Weather – Structure built before 1975	860	58%	\$65,634,100	44%
Wildfire – Composite score > 2.5 ²²	2	-	\$213,700	-

Table 4-6: Deerfield Township Critical Facilities Hazard Exposure²³

Hazard	Number of Critical Facilities	CF #s
Coastal Erosion	None	N/A
Sea Level Rise	None	N/A
Flood - Within 1 % Annual Chance Zone	None	N/A
Flood - Near (within 500 feet) of 1% Annual Chance Zone	None	N/A
Flood – Future potential (within 1,000 feet) 1% Annual Chance Zone	1	CF-10
Wildfire	5	CF-5, CF-10, CF-11, CF-12. CF-13

In addition, all critical facilities in Cumberland County are exposed to the following hazards and potentially subject to power outages, and structural and/or contents damage:

- Earthquake
- Extreme Temperatures
- Severe Weather – Summer (including heavy rains)
- Severe Weather – Winter (including heavy snow loads)

²⁰ All supporting data for Coastal Erosion, Sea Level Rise (3-foot rise), Flood (all) can be viewed at https://docs.google.com/spreadsheets/d/1fcN5hL3Jz4X7mldFyKs6wol6J6IAR9bSsvJPIqE_A0Q/edit?usp=sharing

²¹ All supporting data for Earthquake, High Winds, and Severe Weather can be viewed at <https://docs.google.com/spreadsheets/d/1Zx1LZwKQ8esqdv4c9hbbSZurtMjH4UITQWJY1LrZezc/edit?usp=sharing>

²² All supporting data for Wildfire can be viewed at https://docs.google.com/spreadsheets/d/1JAbfd3A-eCHI93pZFaPVuM_H2yvuUzeHCmoijv-oxsw/edit?usp=sharing

²³ All supporting data for critical facility hazard exposure can be viewed at <https://docs.google.com/spreadsheets/d/1MPLiOANm7fHoyKuxyWqyang26LTSPayTxJvLmK5IGPg/edit?usp=sharing>

Part 3: Hazard Identification and Risk Assessment

Part 3.5: Demographic Considerations

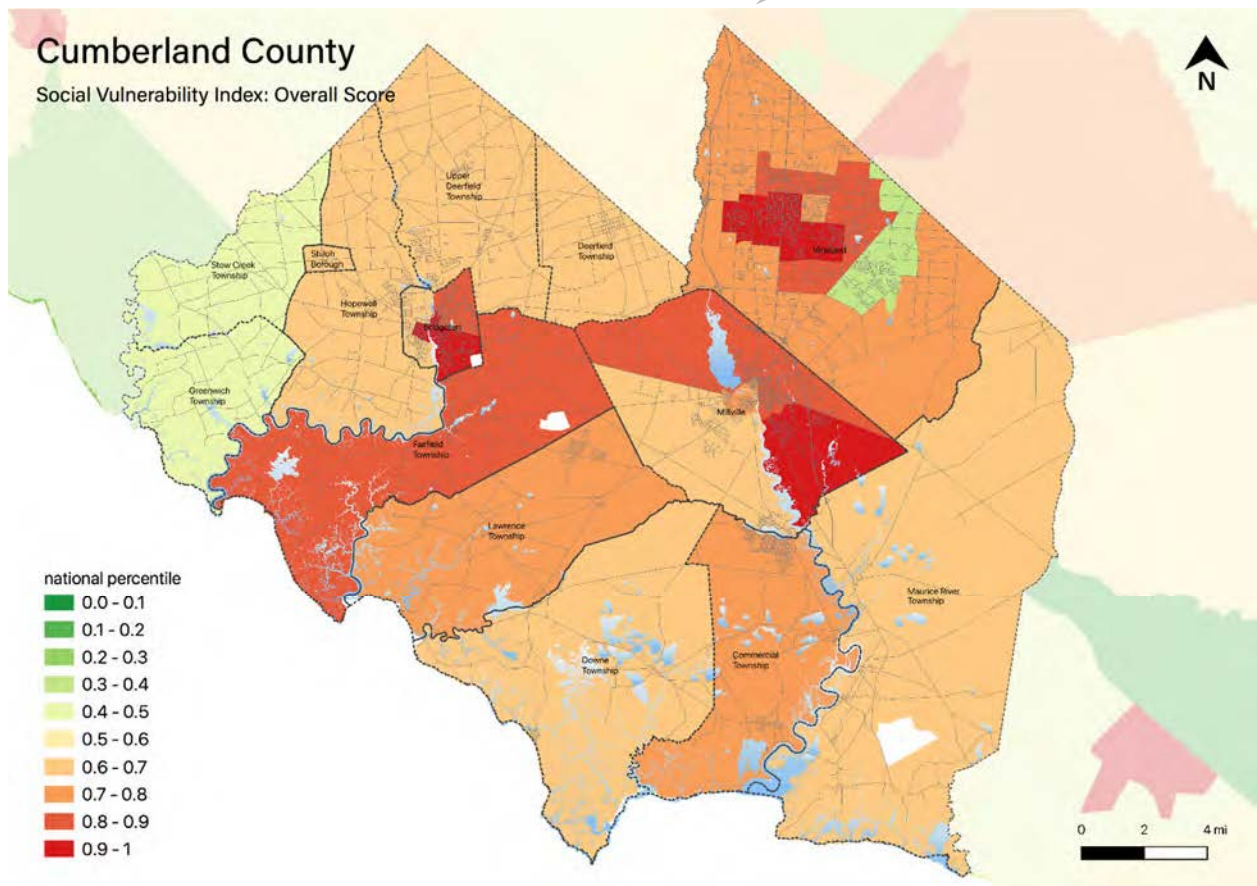
Demographic considerations include general population and land use factors. Table 4-7 includes current population estimates and changes since the previous US Census²⁴:

Table 4-7: Deerfield Township General Population Demographics

Metric	Current Estimates
2010 Population	3,119
2019 Population	3,053
Percent Population Change (2010-2019)	- 2.12%
Land Area	16.76 sq. miles
Population Density	182.2 / sq. mile

Demographic considerations also include differences in social vulnerability²⁵. Figure 4-6 shows the overall Social Vulnerability (SVI) Index overall scores for Cumberland County.

Figure 4-6: Cumberland County Social Vulnerability Index: Overall Scores



²⁴ US Census, 2019 ACS 5 Year Estimates, Table ID DP5

²⁵ Social vulnerability considerations **will be** described in *Section 3: Hazard Identification and Risk Assessment* of the CC HMPU Base Plan.

Part 3: Hazard Identification and Risk Assessment

For Deerfield Township, Table 4-8 includes selected metrics where social vulnerability considerations are notably higher when compared with all national census tracts:

Table 4-8: Deerfield Township Social Vulnerability Considerations²⁶

Metric	Percentile
Percentage of persons: With a disability	90 th
Percentage of persons: Living in group quarters	88 th
Percentage of persons: Older than 65 years of age	80 th

In addition, the percentage of residents earning below poverty level = 12.1% (compared with the average in New Jersey of 10.4%).

Part 3.6: Observations

- Outreach and guidance should be provided for residents, business owners, and property owners for:
 - Properties in or near flood zones or wildfire hazard areas.
 - Older buildings to help evaluate potential risk of damage due to hazards such as Earthquake, High Winds, and Severe Winter Weather (i.e., heavy snow loads).
- All critical facilities are potentially vulnerable to Earthquake, High Winds, and Severe Weather (heavy rains in summer and snow loads in winter).
- A few critical facilities are potentially vulnerable to Flood and Wildfire and will be identified as priorities for follow-up critical facility field evaluations.
- Priority for follow-up should also be focused on critical facilities housing vulnerable populations related to Extreme Temperature and Severe Weather hazards. For example, determining and documenting (cross referencing EOP) how residents will be moved to facilities providing shelter including cooling and warming centers (all of which would need adequate back-up power and hardening).

²⁶ All supporting data for SVI can be viewed at https://docs.google.com/spreadsheets/d/10zb_Qlg2CqGxb45_fcKiP46swaC16-fORxYTIOiAkP0/edit#gid=1481479799

Part 3: Hazard Identification and Risk Assessment

Part 3.7: Hazard Priorities [review / confirm or revise highlighted entries]

As a key step in the Hazard Identification and Risk Assessment (HIRA) process, the twelve (12) natural hazards identified in the CC HMPU Base Plan were discussed during the Municipal Working Group Work Sessions and the relative priority of these hazards was identified.

Based on their personal experience as well as the results of the HIRA, the Municipal Working Group rated the hazards as follows:

High Priority

- None

Moderate Priority

- Extreme Temperature: Hot & Cold
- Flood
- High Wind
- Severe Weather – Summer
- Severe Weather – Winter

Low Priority

- Drought
- Earthquake
- Wildfire

Four additional hazards were identified but were not considered applicable to the municipality:

- Coastal Erosion & Sea Level Rise
- Dam Failure
- Geologic Hazards
- Levee Failure

Part 4: Mitigation Measures

Part 4: Mitigation Measures

Part 4 includes six subparts:

- *Part 4.1: Mitigation Goals and Strategy*
- *Part 4.2: NJ4 HMP Mitigation Measures*
- *Part 4.3: Municipal Mitigation Measures – Identification*
- *Part 4.4: Municipal Mitigation Measures – Implementation*
- *Part 4.5: Multi-Jurisdictional Mitigation Measures*
- *Part 4.6: Authorities, Policies, Programs, Resources, and Plan Integration*

Part 4.1: Mitigation Goals and Strategy [review / confirm or revise highlighted entries]

Goals were originally established by the SDVR Hazard Mitigation Steering Committee and validated by the four County Hazard Mitigation Working Groups in response to risk and capability assessment results.

As part of the NJ4 HMP plan update process, these goals were reviewed and edited by the Municipal Working Groups for use in the Municipal Appendices. In addition, the Municipal Working Groups for the CC HMPU reviewed and [reaffirmed/edited] these goals for continued use in the Appendices.

All mitigation measures in the Municipal Appendix are related to at least one of these four goal statements.

- **Goal 1: Improve education and outreach efforts** regarding potential risk of natural hazards and appropriate mitigation measures that can be used to reduce risk (including programs, activities, and projects)
- **Goal 2: Improve data collection, use, and sharing** to reduce the risk of natural hazards
- **Goal 3: Improve capabilities and coordination** at municipal, county, and state levels to plan and implement hazard mitigation measures
- **Goal 4: Plan and implement projects** to mitigate identified natural hazards, known problems, and areas of concern

Based on these goals, the results of the HIRA, and experience of participants in the plan update process, the Municipal Working Group identified an overarching strategy for mitigation:

- Identify and address known problems or areas of concern for critical facilities and vulnerable populations
- Provide opportunities for residents and property owners to access available information about risk reduction and mitigation measures, in particular for Repetitive Flood Loss properties
- Institutionalize hazard mitigation into municipal activities and programs through regular interactions of the Municipal Working Group and integration of related regulatory programs and planning initiatives
- Stay informed regarding changing conditions and related improvements in hazard and risk data due to future natural hazard events and increasing understanding of the effects of climate change and use the information as part of periodic evaluations of and refinements or additions to the municipality's mitigation program

The mitigation measures [to be] described in Parts 4.3 through 4.5 of the Municipal Appendix reflect this strategy.

Part 4: Mitigation Measures

Part 4.2: NJ4 HMP Mitigation Measures

Known problems and areas of concern were the basis for mitigation measures identified in the NJ4 HMP. In cases where these problems and concerns still exist at the time of the CC HMPU, the related NJ4 HMP mitigation measures [will be] candidates for inclusion in the Municipal Appendix.

Table 4-9 identifies the status of mitigation measures included in the NJ4 HMP. These entries were based on information provided by the Municipal Working Group. In some cases, the NJ4 HMP mitigation measures [will be] carried over as part of the Municipal Appendix as [will be] indicated in the “Comments” column and the far right-hand column of Table 4-9.

Table 4-9: Status of Deerfield Township NJ4 HMP Mitigation Measures

Mitigation Action, Program, or Project	Status	Comments	Mitigation Measure # <small>2728</small>
M-1: Identify and pursue outreach and education opportunities to inform municipal residents, businesses, and property owners.	Work-in-progress	Work-in-progress included OEM Coordinator meetings with National Refrigerant, one of Deerfield’s largest employers to discuss updating EOP plans for the facility.	To be carried over as part of M-1
M-2: Prioritize critical facilities and complete site and facility surveys to identify vulnerabilities and potential mitigation measures.			
M-3: Prioritize recurrent drainage problem areas and initiate data collection to track unreimbursed damages and related response and recovery expenses.			
M-4: Conduct regular Municipal Working Group meetings.			
M-5: Install permanent backup emergency power generator for Township Municipal Building / Emergency Operating Center (EOC) / Senior Center and Services Facility (CF-1 / CF-2 / CF-7).	Work-in-progress	A \$400,000 “Small Cities Grant” was awarded in June 2021 from the New Jersey Department of Community Affairs to, in part, install a backup emergency power generator that will service both the EOC and the Senior Center (but not the Municipal Building)	To be carried over as [# TBD]
M-6: Install permanent backup emergency power generator for Rosenhayn Fire & Rescue facility and well (CF-3 / CF-4).	Not completed, not funded		To be carried over as [# TBD]
M-7: Install permanent backup emergency power generator at Deerfield Township Elementary School (CF-5).	Not completed, not funded		To be carried over as [# TBD]

²⁷ Detailed information for identification and implementation of municipal (M-#) mitigation measures [will be included] in Tables 4-10 and 4-11.

²⁸ Detailed information for identification and implementation of multi-jurisdictional (MJ-#) mitigation measures [will be included] in Table 4-12.

Part 4: Mitigation Measures

Mitigation Action, Program, or Project	Status	Comments	Mitigation Measure # 2728
M-8: Cedar Street drainage improvement.	Work-in-progress	Vineland Avenue (CR 659) and Greenman Avenue intersection was reconstructed with improved drainage in 2017 by Cumberland County as part of repaving Vineland Avenue using general funding. However, the problem is not completely eliminated and may require participation by adjacent landowner regarding land management practices.	To be carried over as multi-jurisdictional mitigation measure [# TBD]
M-9: Address identified repetitive flooding on Morton Avenue.	Work-in-progress	Flooding on Morton Avenue as well as Kenyon Avenue between Bridgeton Avenue and Lebanon Avenue, were partially alleviated by Cumberland County work on drainage culvert. However, the problem is not completely eliminated.	To be carried over as multi-jurisdictional mitigation measure [# TBD]
M-9: Address FEMA designated Repetitive Flood Loss Properties (RF).	Work-in-progress	Addressing FEMA-designated RF properties [pending NFIP data from FEMA Region II]	[TBD]
M-10: Harden / retrofit Public Works facility, to include upgrade to roof (CF-6).	Completed	Installation of steel roof resistant to high winds and wildfire was completed in November 2016 using Township Funds.	
MJ-1: Communications / coordination plan regarding dam releases during natural events.	Resolved	The dam, located in Salem County, was replaced in 2007 as part of a New Jersey Department of Transportation project with a spillway that is self-regulating.	
MJ-2: Alleviate flooding at County Route 686 (Garton Road) / County Route 645 (Parvin's Mill).	No progress		To be carried over as multi-jurisdictional mitigation measure [# TBD]
MJ-3: Alleviate flooding on County Route 552 (Sherman Avenue).	No progress		To be carried over as multi-jurisdictional mitigation measure [# TBD]

Part 4: Mitigation Measures

Part 4.3: Municipal Mitigation Measures – Identification

Table 4-10 [will include] the list of mitigation measures that are considered the responsibility of the municipality. These mitigation measures:

- Reflect the goals and strategy identified in Part 4.1
- Include projects carried over from NJ4 HMP as detailed in Part 4.2
- Include new projects, programs or activities identified by the Municipal Working Groups including measures to address known problems or areas of concern for critical facilities and vulnerable populations
- Address Repetitive Flood Loss (RL) and Severe Repetitive Flood Loss Properties (SRL)²⁹ if applicable

Table 4-10 [will include]:

- Brief description of the mitigation action, program, or project
- Hazard(s) addressed by the measure
- Relevant goal(s) addressed by the measure
- Whether the measure pertains to existing or new structures or both

Note: Mitigation measures with discrete locations [will be] shown in Figure 4-7.

Table 4-10: Deerfield Township Municipal Mitigation Measures Identification

#	Mitigation Action, Program, or Project	Hazard(s)	Goal (s)	Existing or New Structures
M-1	<p><u>Municipal Mitigation Program</u> – including sustained efforts in cooperation with Cumberland County Office of Emergency Management (CC OEM) to:</p> <ul style="list-style-type: none"> ▪ Conduct outreach and education for residents, businesses, and property owners ▪ Complete critical facility field evaluations to identify potential vulnerabilities and mitigation measures ▪ Compile relevant data regarding hazard impacts ▪ Support regular interactions of the Municipal Working Group ▪ Seek integration of hazard mitigation with other parallel planning initiatives 	All	All	All

²⁹ Section 3: Hazard Identification and Risk Assessment of the CC HMPU Base Plan [will include] a description of RL and SRL properties.

Part 4: Mitigation Measures

Part 4.4: Municipal Mitigation Measures – Implementation

Table 4-11 [will include] information identified by the Municipal Working Group:

- Part(ies) responsible for following up with implementation of the measure
- Priority for implementation considering a range of criteria³⁰
- Project Type to help determine funding options and implementation mechanisms at the municipal level³¹
- Estimated Cost, including estimates provided by the Municipal Working Group or approximate ranges for projects that are in early stages of development
- Target Date, indicating desired completion dates assuming availability of funding
- Next step(s) anticipated to implement the identified mitigation measures at the municipal level

Table 4-11: Deerfield Township Municipal Mitigation Measures Implementation

#	Mitigation Action, Program, or Project	Responsible Part(ies)	Priority	Project Type	Estimated Cost (\$)	Target Date	Next Step(s)
M-1	Municipal Mitigation Program	Office of Emergency Management	High	Program	Staff Time	On-going, sustained effort	<ul style="list-style-type: none"> ▪ Identify outreach and education objectives and methods (working with CC OEM) ▪ Set priorities (if necessary) and initiate critical facility field assessments ▪ Identify schedule for plan updates (for plan integration efforts)

³⁰ Section 4: Mitigation Measures of the CC HMPU Base Plan [will include] a description of evaluation criteria considered by the Municipal Working Group.

³¹ Section 4: Mitigation Measures of the CC HMPU Base Plan [will include] a description of project types and related information regarding funding options and implementation mechanisms.

Part 4: Mitigation Measures

Part 4.5: Multi-Jurisdictional Mitigation Measures

During the Municipal Working Group Work Sessions, the Municipal Working Group **[will identify]** some NJ4 HMP mitigation measures that need to be carried over, as well as new areas of concern, as mitigation measures where implementation requires participation or leadership from other levels of government, including county, state, and federal agencies. These multi-jurisdictional mitigation measures **[will be]** included in Table 4-12.

Section 4: Mitigation Measures of the CC HMPU Base Plan **[will describe]** multi-jurisdictional implementation strategies in detail. Section 4 **[will identify]** multi-jurisdictional mitigation measures that Municipal Working Groups believe are partly or wholly the responsibility of County agencies. These measures **[will be]** referred to the County Working Group for consideration. As part of the mitigation measures in the County Appendix to the NJ4 HMP Regional Hazard Mitigation Plan, the County Working Group will be working with the municipalities to identify:

- Specific responsibilities amongst different level(s) of government to address these problem areas
- Mitigation measures or related projects which may address the described problem areas that are already acknowledged as County responsibilities including identifying the appropriate County agency or department taking the lead role and status of implementing these mitigation measures
- Which, if any, additional mitigation measures the member agencies of the County Working Group will assume responsibility to implement

Note: Multi-jurisdictional mitigation measures with discrete locations **[will be]** shown in Figure 4-7.

Table 4-12: Deerfield Township Multi-Jurisdictional Mitigation Measures

#	Problem Description	Hazard(s) Addressed	Goal Addressed	Applies to Existing or New Structures	Potential Partners	Priority

Figure 4-7: Deerfield Township Mitigation Project Locations

Preliminary Draft

Part 4: Mitigation Measures

Part 4.6: Authorities, Policies, Programs, Resources, and Plan Integration

Part 4.6 includes three (3) subparts:

- Authorities, Policies, and Programs - Cross referencing relevant information and recommendations in the CC HMPU Base Plan regarding existing authorities, policies, and programs in the region and specific information about the jurisdiction's participation and continued compliance in the National Flood Insurance Program (NFIP)
- Capabilities and Coordination - Cross referencing relevant information and recommendations in the CC HMPU Base Plan regarding improving capabilities and coordination at the municipal level and specific information about the jurisdiction's available resources
- Plan Review and Integration – Identifying plans and programs included in the development of Plan Integration recommendations in the CC HMPU Base Plan

Authorities, Policies, and Programs

Section 1.3: Existing Authorities, Policies, Programs, and Resources of the CC HMPU Base Plan **will summarize** relevant authorities, policies, and programs related to hazard mitigation in the County including the NFIP.

Continuing municipal participation in the NFIP as part of the implementation of the CC HMPU by the municipality, includes:

- Involvement of Floodplain Manager / Administrator during the CC HMPU implementation process
- Commitment to adopt updated FIRMs and evaluate / update the municipality's Flood Management Plan and/or Ordinance as appropriate per recommendations **to be included** in Section 4.6 of the CC HMPU Base Plan

Capabilities and Coordination

The update of the NJ4 HMP **will include** reexamining municipal hazard mitigation capabilities; potential for improving capabilities and coordination within and between jurisdictions; and plan integration considerations, including:

- *Section 1.3: Existing Authorities, Policies, Programs, and Resources* of the CC HMPU Base Plan **will include** summary statements regarding county and municipal resources and the impact of resource limitations on the overall approach to the CC HMPU mitigation strategies.
- *Section 4: Mitigation Measures* of the CC HMPU Base Plan **will include** summary observations and recommendations concerning:
 - Hazard mitigation planning and mitigation measure implementation capabilities and coordination at the county and municipal levels
 - Coordination within municipal governments, between municipal governments and their communities, and between municipal, county, and state agencies responsible for hazard mitigation

Plan Review and Integration

Specific documents obtained during the plan update process from the Municipal Working Group include:

- Emergency Operations Plan (2021)
- Floodplain Development Ordinance (2006)
- Master Plan (2018)
- Land Development Ordinance (2002) ³²
- Stormwater Management Plan (2005)
- Cumberland County Delaware Bayshore Recovery Plan (2013)

Table BP.4-4 in *Section 4.6: Plan Review and Integration* of the CC HMPU Base Plan:

- **[Will identify]** the primary plans and documents collected from each of the participating municipalities.
- **[Will include]** the results of reviewing the primary plans and documents to determine the extent to which these documents reflect up-to-date hazard risk and mitigation.
- **[Will include]** recommendations for integrating the results of the CC HMPU, including hazard mitigation data, goals, measures, and/or recommendations with existing plans and programs at the municipal level that are relevant to all participating municipalities and incorporated by reference in each of the jurisdiction-specific Appendices including:
 - Hazard Assessments
 - Emergency Operations Plans
 - Floodplain Management Ordinances
 - Master Plans and Reexamination Reports
 - Other plans and documents

The plan maintenance process **[will articulate and specify]** a commitment to review and follow these recommendations during future scheduled updates of these various documents as considered appropriate by the Working Group and the governing body of the municipality.

³² <http://www.deerfieldtownship.org/>

Attachment A: Public Review Comments

Public review comments [will be] recorded during the public review of the Deerfield Township Preliminary Draft and Draft versions of the Municipal Appendix on [dates to be determined]:

Table 4.A-1: Public Review Comments

Comment Date and Time	Comment	Response

Preliminary Draft

Attachment B: Adoption Resolution

Following this page [will be] the Adoption Resolution for the Deerfield Township Municipal Appendix as approved by the Deerfield Township Executive Committee.

Preliminary Draft

Attachment C: Approval Letter

Following this page [will be] the Approval Letter for the Deerfield Township Municipal Appendix.

Preliminary Draft