

APPENDIX A
Development Plan Requirements

- Two (2) sets of plans showing the existing and proposed work (all rooms in structures must be identified).
- Elevation view of any structure.
- Specify materials, if any, used for fire rating (must be flood-proof)
- Structural details including foundation, floor, wall, ceiling, and roof assemblies.
- Anchoring details of foundation, floor, walls, and roof assembly. Building must be designed to resist all loads, including flood, wind, and uplift, during flooding.
- Location of all mechanical systems (boilers, furnaces, air-conditioning, water heaters, pumps, duct work, etc.); all must be above the Design Flood Elevation (DFE). Sunken tubs are prohibited below the DFE.
- All outdoor air-conditioning units, oil, or propane tanks, unless subsurface, must be elevated and anchored above the DFE.
- The enclosed area below the DFE may only be used for storage, parking, access to the home, or non-livable space.
- The finished ground level of an under-floor space such as a crawl space must be equal to or higher than the outside finished ground level.
- All building material used below the DFE must be of flood resistant material.
- Indicate the type of material used for foundation, floor framing, insulation, walls, and floor finishes.
- Structures in VE Zone and Coastal A Zone must be designed and certified by a licensed Professional Engineer or Architect including breakaway walls.
- Decks in a VE Zone and Coastal A Zone may not be lower than the lowest horizontal member of the main structure (if attached to the structure)
- Flood vents shall be provided for enclosed areas below the DFE including for breakaway walls. Flood vents shall have an opening of 1 square inch per every 1 square feet of enclosed area. Each enclosed area shall have a minimum of 2 flood vents. Flood vents must be installed no more than 12 inches above grade.
- Electrical meter: provide a landing with stairs where required by the utility company for reading the meter.
- All proposed development must comply with the applicable FEMA publications and ASCE 24.

APPENDIX B

Other Applicable Permits

All applicable federal, state, and local permits listed below shall be obtained and plans shall reflect compliance with state requirements.

Agency	Permit/Authorization	Regulatory Authority	Description	Links
Delaware and Raritan Canal Commission	Delaware and Raritan Canal Commission Approval	Regulations for the Review Zone of the Delaware and Raritan Canal State Park (N.J.A.C. 7:45)	Review any action in the Canal Park and Review Zones A and B depending on the activity. In general, all projects located within Zone A are reviewed. Projects in Zone B that do not meet the Commission's definition are a major project are exempt from review.	https://www.nj.gov/dep/drcc/regulatory.html
NJDEP – Division of Land Use Regulation (DLUR)	Freshwater Wetlands Protection Act Permit	Freshwater Wetlands Protection Act (N.J.S.A. 13:9B) and Rules (N.J.A.C. 7:7A)	Regulates activities within jurisdictional wetlands, their transition areas, and State open waters	https://www.nj.gov/dep/landuse/fww/fww_main.html https://www.nj.gov/dep/landuse/download/13_9b.pdf https://www.nj.gov/dep/rules/rules/njac7_7a.pdf
	*Flood Hazard Area Protection Act Permit	Flood Hazard Area Control Act (N.J.S.A. 58:16A) and Rules (N.J.A.C. 7:13)	Regulates activities within regulated waters, flood hazard areas, and riparian zones.	https://www.nj.gov/dep/landuse/fha/fha_main.html https://www.nj.gov/dep/landuse/download/58_16a_50.pdf https://www.nj.gov/dep/rules/rules/njac7_13.pdf
	**Coastal Area Facilities Review Act (CAFRA) Permit	CAFRA (N.J.S.A. 13:19) Coastal Zone Management Rules (N.J.A.C. 7:7)	Regulates activities within the CAFRA zone. Project must demonstrate compliance with the Coastal Zone Management Rules which defines Special Areas of environmental interest and compliance criteria.	https://www.nj.gov/dep/landuse/coastal/cp_main.html https://www.nj.gov/dep/landuse/download/13_19.pdf https://www.nj.gov/dep/rules/rules/njac7_7.pdf
	**Waterfront Development Act Permit	Waterfront Development Act (N.J.S.A. 12:5-3) Coastal Zone Management Rules (N.J.A.C. 7:7)	Regulates activities in the Waterfront area. The Waterfront area is divided into three sections. Details of each section can be found in the Coastal Permit Program Rules at N.J.A.C. 7:7-2.3. As well as all tidal waterways, the waterfront area includes all man-made waterways and lagoons subject to tidal influence found within any three of the geographical areas.	https://www.nj.gov/dep/landuse/coastal/cp_main.html https://www.nj.gov/dep/landuse/download/12_5_3.pdf https://www.nj.gov/dep/rules/rules/njac7_7.pdf
	**Coastal Wetlands Act Permit	Wetlands Act of 1970 (N.J.S.A. 13:9A) Coastal Zone Management Rules (N.J.A.C. 7:7)	Regulated activities in delineated and mapped coastal wetlands pursuant to the Wetlands Act of 1970.	https://www.nj.gov/dep/landuse/coastal/cp_main.html https://www.nj.gov/dep/rules/rules/njac7_7.pdf https://www.nj.gov/dep/landuse/download/13_9a.pdf
	Highlands Preservation Area Approval	Highlands Water Protection and Planning Act (N.J.A.C. 13:20) and Rules (N.J.A.C. 7:38)	Regulates all "major Highlands Developments" as defined by the Highlands Act, in the Preservation Area unless otherwise exempt by the Act. The Highlands Area is located in the northwestern portion of the state.	https://www.nj.gov/dep/landuse/highlands.html https://www.nj.gov/dep/landuse/download/13_20.pdf https://www.nj.gov/dep/rules/rules/njac7_38.pdf
	Water Quality Certification	Section 401 of the Federal Clean Water Act Freshwater Wetlands Protection Act (N.J.S.A. 13:9B) and Rules (N.J.A.C. 7:7A) Coastal Zone Management Rules (N.J.A.C. 7:7) NJ Water Pollution Control Act (N.J.S.A. 58:10A)	All projects requiring a Federal permit for the discharge of dredged or fill material into State waters and/or their adjacent wetlands also require the State Water Quality Certification which ensures consistency with State water quality standards. This also applies to Waters of the U.S.	None
	Tidelands Instruments	Tidelands Act (N.J.S.A. 12:3)	Tidelands are those lands now or formerly flowed by the mean high tide of a natural waterway. These lands are Stated owned or claimed to be owned. Activates on State owned tidelands requires a tidelands grant, lease or license.	https://www.nj.gov/dep/landuse/tl_main.html https://www.nj.gov/dep/landuse/download/12_3.pdf

Agency	Permit/Authorization	Regulatory Authority	Description	Links
NJDEP – Division of Water Quality Bureau of Nonpoint Pollution Control	New Jersey Pollution Discharge Elimination System Construction Activity Stormwater GP	Federal Clean Water Act NJ Pollution Discharge Elimination System Rules (7:14A)	This general permit authorizes point source discharges from certain construction activities resulting in 1 acre or more of ground disturbance. Regulated entities are required to develop a soil erosion and sediment control plan aimed at eliminating the flow of contaminated rainwater into streams and rivers. Soil Erosion and Sediment Control Certification is required to complete the application. Additional "good-housekeeping" requirements are included in the permit. Please note that this permit is in addition to compliance with the Stormwater Management Rules (N.J.A.C. 7:8) discussed above.	https://www.nj.gov/dep/dwq/5g3.htm
NJ Sports and Exposition Authority (NJSEA)	NJSEA Approval	Hackensack Meadowlands District Regulations (N.J.A.C. 19:3)	If a project disturbance results in the need for a USACOE permit, then a NJSEA approval will also be needed. There may be other circumstances that would require a NJSEA approval. This may need to be evaluated on a case by case basis.	None
NJ Pinelands Commission	NJ Pinelands Approval	Pinelands Protection Act (N.J.S.A. 13:18A) Pinelands Comprehensive Management Plan (N.J.A.C. 7:50)	Establishes regulations and standards designed to promote orderly development in the Pinelands. Proposed activities within the Pinelands requires review and approval. The Pinelands Capability Map establishes 9 land use management areas with goals, objectives, development intensities, and permitted uses for each.	https://nj.gov/pinelands/
Soil Conservation District	Soil Erosion and Sediment Control Certification	Soil Erosion and Sediment Control Act (Chapter 251, P.L. 1975)	Projects resulting in 5,000 sq ft of ground disturbance or greater must submit a soil erosion and sediment control plan to the appropriate soil conservation district for certification.	https://www.nj.gov/agriculture/divisions/anr/nrc/njerosion.html
United States Army Corps of Engineers (USACE)	Army Permit	Section 404 of the Federal Clean Water Act	Regulates the discharge of dredged or fill material into waters of the United States, including jurisdictional wetlands.	https://www.nap.usace.army.mil/Missions/Regulatory.aspx https://www.nan.usace.army.mil/Missions/Regulatory/
		Section 10 of the Rivers and Harbors Act of 1899	Prohibits creation of obstructions to navigable capacity of any of the waters of the United States without prior authorization of the USACE.	

*See FHACA Permits-by-Rule, General Permits-by-Certification, General Permits-by-Category below

**See CZM Permits-by-Rule, General Permits-by-Certification, General Permits-by-Category below

Flood Hazard Area Control Act: Permits-by-Rule

Permits-by-Rule			
General Construction Activities	7:13-7.1	Permit-by-rule 1	- Normal property maintenance
	7:13-7.2	Permit-by-rule 2	- Repair of a lawfully existing structure
	7:13-7.3	Permit-by-rule 3	- In-kind replacement of a lawfully existing structure
	7:13-7.4	Permit-by-rule 4	- Removal of any lawfully existing fill or structures
	7:13-7.5	Permit-by-rule 5	- Removal of accumulated sediment and debris from a regulated water by hand
	7:13-7.6	Permit-by-rule 6	- Removal of major obstructions from a regulated water with machinery
	7:13-7.7	Permit-by-rule 7	- Placement of no more than five cubic yards of landscaping material
	7:13-7.8	Permit-by-rule 8	- Construction at or below grade in a fluvial flood hazard area
	7:13-7.9	Permit-by-rule 9	- General construction activities in a tidal flood hazard area
Buildings	7:13-7.10	Permit-by-rule 10	- General construction activities located outside a flood hazard area in a riparian zone
	7:13-7.11	Permit-by-rule 11	- Reconstruction, relocation, and/or elevation of a lawfully existing building
	7:13-7.12	Permit-by-rule 12	- Construction of an addition(s) to a lawfully existing building
	7:13-7.13	Permit-by-rule 13	- Construction of non-habitable building(s)
	7:13-7.14	Permit-by-rule 14	- Construction of a partially-open structure(s)
	7:13-7.15	Permit-by-rule 15	- Construction of barrier-free access to a building
	7:13-7.16	Permit-by-rule 16	- Construction of a deck
Water Dependent	7:13-7.17	Permit-by-rule 17	- Construction of a dock, pier, or boathouse
	7:13-7.18	Permit-by-rule 18	- Construction of a boat launching ramp
	7:13-7.19	Permit-by-rule 19	- Replacement, renovation, or reconstruction of certain water dependent structures
Specific Construction	7:13-7.20	Permit-by-rule 20	- Construction of a fence
	7:13-7.21	Permit-by-rule 21	- Construction of a swimming pool associated with residential use
	7:13-7.22	Permit-by-rule 22	- Construction of a trail and/or boardwalk
	7:13-7.23	Permit-by-rule 23	- Construction of a footbridge
	7:13-7.24	Permit-by-rule 24	- Construction of a tank
	7:13-7.25	Permit-by-rule 25	- Construction of an aboveground athletic and/or recreational structure
	7:13-7.26	Permit-by-rule 26	- Forest management activities
	7:13-7.27	Permit-by-rule 27	- Repair, maintenance, and/or dredging of a manmade canal
	7:13-7.28	Permit-by-rule 28	- Filling of an abandoned raceway
	7:13-7.29	Permit-by-rule 29	- Placement of one to three wind turbines
	7:13-7.30	Permit-by-rule 30	- Placement of solar panels and associated equipment
	7:13-7.31	Permit-by-rule 31	- Placement of a floating aerator
	7:13-7.32	Permit-by-rule 32	- Construction of an aquatic habitat enhancement device
Utilities	7:13-7.33	Permit-by-rule 33	- Placement of one or more utility poles
	7:13-7.34	Permit-by-rule 34	- Placement of one or more utility open-frame towers
	7:13-7.35	Permit-by-rule 35	- Placement of one or more utility monopole towers
	7:13-7.36	Permit-by-rule 36	- Placement of an underground utility line using directional drilling or jacking

Permits-by-Rule				
Utilities	7:13-7.37	Permit-by-rule 37	-	Placement of an underground utility line beneath existing pavement
	7:13-7.38	Permit-by-rule 38	-	Attachment of a utility line to a lawfully existing roadway or railroad that crosses a regulated water
	7:13-7.39	Permit-by-rule 39	-	Placement of an underground utility line that does not cross a regulated water
Roads	7:13-7.40	Permit-by-rule 40	-	Milling, repaving, and/or resurfacing of a lawfully existing pavement
	7:13-7.41	Permit-by-rule 41	-	Placement of a guiderail along a lawfully existing public roadway
	7:13-7.42	Permit-by-rule 42	-	Reconstruction of all or part of a lawfully existing bridge superstructure
	7:13-7.43	Permit-by-rule 43	-	Placement of traffic safety structures on poles
Surveying	7:13-7.44	Permit-by-rule 44	-	Surveying activities
	7:13-7.45	Permit-by-rule 45	-	Geotechnical and archeological investigation activities
	7:13-7.46	Permit-by-rule 46	-	Installation of one or more monitoring wells
	7:13-7.47	Permit-by-rule 47	-	Construction of a gauge, weir, or similar device
Storage	7:13-7.48	Permit-by-rule 48	-	Temporary storage of unsecured construction material outside a floodway
	7:13-7.49	Permit-by-rule 49	-	Storage of unsecured material associated with a single-family home or duplex
	7:13-7.50	Permit-by-rule 50	-	Storage of unsecured material associated with a habitable building or facility, other than a single family home or duplex
	7:13-7.51	Permit-by-rule 51	-	Storage of unsecured material associated with a facility that stores and distributes material
	7:13-7.52	Permit-by-rule 52	-	Placement, storage, or processing of hazardous substances
	7:13-7.53	Permit-by-rule 53	-	Placement, storage, or processing solid waste or recyclable materials at a lawfully existing facility
Agricultural Activities	7:13-7.54	Permit-by-rule 54	-	Continuation of lawfully existing agricultural activities
	7:13-7.55	Permit-by-rule 55	-	Commencement of new agricultural activities
	7:13-7.56	Permit-by-rule 56	-	Continuation or commencement of natural resource conservation practices associated with agricultural activities
	7:13-7.57	Permit-by-rule 57	-	Construction of a non-habitable building for agricultural purposes
	7:13-7.58	Permit-by-rule 58	-	Filling or modification of a manmade regulated water for freshwater wetlands restoration
	7:13-7.59	Permit-by-rule 59	-	Creation of a ford across a regulated water to manage livestock
	7:13-7.60	Permit-by-rule 60	-	Construction of a fence along and/or across a regulated water to manage livestock
	7:13-7.61	Permit-by-rule 61	-	Construction of a pump and/or water intake structure in or along a regulated water for livestock
Other Activities	7:13-7.62	Permit-by-rule 62	-	Construction of a manure management structure for livestock or horses
	7:13-7.63	Permit-by-rule 63	-	Application of herbicide within riparian zones to control invasive plant species

Flood Hazard Area Control Act: General Permits-by-Certification

General Permits-by-Certification			
Agricultural Activities	7:13-8.1	General permit-by-certification 1	- Removal of accumulated sediment and debris from a regulated water for agricultural purposes
	7:13-8.2	General permit-by-certification 2	- Construction of an agricultural roadway crossing
	7:13-8.3	General permit-by-certification 3	- Agricultural bank stabilization and/or bank restoration activities
Environmental Enhancement	7:13-8.4	General permit-by-certification 4	- Enhancement of a riparian zone through the planting of native, non-invasive plant species
Buildings	7:13-8.5	General permit-by-certification 5	- Reconstruction, relocation, expansion, and/or elevation of a building outside a floodway
	7:13-8.6	General permit-by-certification 6	- Construction of one single-family home or duplex in a tidal flood hazard area
	7:13-8.8	General permit-by-certification 8	- Construction of an addition to a lawfully existing building
Sediment Removal	7:13-8.7	General permit-by-certification 7	- Removal of accumulated sediment and debris from an engineered channel
	7:13-8.9	General permit-by-certification 9	- Sediment and debris removal within and/or adjacent to a bridge, culvert, or outfall by a public entity
Maintenance and Replacement Activities	7:13-8.10	General permit-by-certification 10	- In-kind replacement of a culvert
	7:13-8.11	General permit-by-certification 11	- Maintenance of existing manmade stormwater management structures and conveyances
	7:13-8.15	General permit-by-certification 15	- In-kind replacement of public infrastructure
Surveying or Water Monitoring	7:13-8.12	General permit-by-certification 12	- Surveying and geotechnical and archeological investigation activities
	7:13-8.14	General permit-by-certification 14	- Placement of water monitoring devices
Alternative Energy	7:13-8.13	General permit-by-certification 13	- Placement of solar panels
Trails and Footbridges	7:13-8.16	General permit-by-certification 16	- Construction of a footbridge

Flood Hazard Area Control Act: General Permits by Category

General Permits			
In-Stream Activities	7:13-9.1	General permit 1	- Channel cleaning under the Stream Cleaning Act
	7:13-9.2	General permit 2	- Mosquito control water management activities
Bridges and Roads	7:13-9.3	General permit 3	- Scour protection activities at bridges and culverts
	7:13-9.7	General permit 7	- Relocation of manmade roadside ditches to facilitate public roadway improvements
	7:13-9.9	General permit 9	- Construction or reconstruction of a bridge or culvert across a regulated water with a drainage area of less than 50 acres
	7:13-9.10	General permit 10	- Reconstruction of a bridge or culvert across a regulated water with a drainage area of 50 acres or more
Buildings	7:13-9.5	General permit 5	- Reconstruction and/or elevation of a building in a floodway
	7:13-9.6	General permit 6	- Construction of one single-family home or duplex, and one associated driveway that does not cross a regulated water
Trails and Footbridges	7:13-9.12	General permit 12	- Construction of footbridges
	7:13-9.13	General permit 13	- Construction of trails and boardwalks
Other Activities	7:13-9.4	General permit 4	- Creation, restoration, and enhancement of habitat and water quality values and functions
	7:13-9.8	General permit 8	- Placement of storage tanks
	7:13-9.11	General permit 11	- For a stormwater outfall along a regulated water with a drainage area of less than 50 acres
	7:13-9.14	General permit 14	- Application of herbicide within riparian zones to control invasive plant species

Note: Development under the jurisdiction of the Coastal Zone Management (CZM) Rules do not require a separate NJDEP Flood Hazard Area Control Act (FHACA) Permit. However, per Section 7:7-9.25 of the CZM

Rules, the development must still meet the NJDEP FHACA Rules. Furthermore, any development listed under a CZM Permit-by-Rule, General Permit-by-Certification, or General Permit that is regulated under the NFIP, must still be reviewed by the FPA and issued a Floodplain Development Permit. Examples include but are not limited to single-family home construction or expansion, as well as filling tidelands.

Coastal Zone Management Rules: Permits-by-Rule

Permits-by-Rule			
7:7-4.1	Permit-by-rule 1	–	Expansion of a single-family home or duplex
7:7-4.2	Permit-by-rule 2	–	Development of a single-family home or duplex and/or accessory development on a bulkheaded lagoon lot
7:7-4.3	Permit-by-rule 3	–	Placement of public safety or beach/dune ordinance signs on beaches or dunes and placement of signs on beaches or dunes at public parks
7:7-4.4	Permit-by-rule 4	–	Construction of nonresidential docks, piers, boat ramps, and decks located landward of mean high water line
7:7-4.5	Permit-by-rule 5	–	Construction of portion of a recreational dock or pier located landward of mean high water line
7:7-4.6	Permit-by-rule 6	–	Reconstruction of a residential or commercial development within the same footprint
7:7-4.7	Permit-by-rule 7	–	Expansion or relocation (with or without expansion) landward or parallel to the mean high water line of the footprint of a residential or commercial development
7:7-4.8	Permit-by-rule 8	–	Construction of a utility line attached to a bridge or culvert
7:7-4.9	Permit-by-rule 9	–	Previous filling of tidelands associated with an existing single family home or duplex
7:7-4.10	Permit-by-rule 10	–	Construction of portion of boat ramp located landward of the mean high water line at a residential development
7:7-4.11	Permit-by-rule 11	–	Construction and/or installation of a boat wash wastewater system at a marina, boatyard, or boat sales facility
7:7-4.12	Permit-by-rule 12	–	Construction of one to three wind turbines less than 200 feet in height having a cumulative rotor swept area no greater than 2,000 square feet
7:7-4.13	Permit-by-rule 13	–	Installation of solar panels on a maintained lawn or landscaped area at a single-family home or duplex lot
7:7-4.14	Permit-by-rule 14	–	Reconfiguration of any legally existing dock, wharf, or pier at a legally existing marina
7:7-4.15	Permit-by-rule 15	–	Placement of sand fencing to create or sustain a dune
7:7-4.16	Permit-by-rule 16	–	Placement of land-based upwellers and raceways for aquaculture activities
7:7-4.17	Permit-by-rule 17	–	Placement of predator screens and oyster spat attraction devices within a shellfish lease area
7:7-4.18	Permit-by-rule 18	–	Placement of shellfish cages within a shellfish lease area
7:7-4.19	Permit-by-rule 19	–	Construction and/or installation of a pumpout facility and/or pumpout support facilities
7:7-4.20	Permit-by-rule 20	–	Implementation of a sediment sampling plan for sampling in a water area as part of a dredging or dredged material management activity or as part of a remedial investigation of a contaminated site
7:7-4.21	Permit-by-rule 21	–	Application of herbicide within coastal wetlands to control invasive plant species
7:7-4.22	Permit-by-rule 22	–	Construction of a swimming pool, spa, or hot tub and associated decking on a bulkheaded lot without wetlands
7:7-4.23	Permit-by-rule 23	–	Installation of an at-grade dune walkover at a residential, commercial, or public development other than a single-family home or duplex

Coastal Zone Management Rules: General Permits-by-Certification

General Permits-by-Certification			
7:7-5.1	General permit-by-certification 10	-	Reconstruction of a legally existing functioning bulkhead in-place or upland of a legally existing functioning bulkhead
7:7-5.2	General permit-by-certification 15	-	Construction of piers, docks, including jet ski ramps, pilings, and boatlifts in man-made lagoons
7:7-5.3	General permit-by-certification 1A	-	Installation of an elevated timber dune walkover at a residential, commercial, or public development other than a single-family home or duplex

Coastal Zone Management Rules: General Permits

General Permits			
7:7-6.1	General permit 1	–	Amusement pier expansion
7:7-6.2	General permit 2	–	Activities on a beach and dune
7:7-6.3	General permit 3	–	Voluntary reconstruction of certain residential or commercial development
7:7-6.4	General permit 4	–	Development of one or two single-family homes or duplexes
7:7-6.5	General permit 5	–	Expansion, or reconstruction (with or without expansion), of a single-family home or duplex
7:7-6.6	General permit 6	–	Construction of a bulkhead and placement of associated fill on a man-made lagoon
7:7-6.7	General permit 7	–	Construction of a revetment at a single-family home or duplex lot
7:7-6.8	General permit 8	–	Construction of gabions at a single family/duplex lot
7:7-6.9	General permit 9	–	Construction of support facilities at legally existing and operating marinas
7:7-6.10	General permit 10	–	Reconstruction of a legally existing functioning bulkhead
7:7-6.11	General permit 11	–	Investigation, cleanup, removal, or remediation of hazardous substances
7:7-6.12	General permit 12	–	Landfall of utilities
7:7-6.13	General permit 13	–	Construction of recreational facilities at public parks
7:7-6.14	General permit 14	–	Bulkhead construction and placement of associated fill at a single-family home or duplex lot
7:7-6.15	General permit 15	–	Construction of piers, docks, including jet ski ramps, pilings, and boatlifts in man-made lagoons
7:7-6.16	General permit 16	–	Minor maintenance dredging in man-made lagoons
7:7-6.17	General permit 17	–	Stabilization of eroded shorelines
7:7-6.18	General permit 18	–	Avian nesting structures
7:7-6.19	General permit 19	–	Modification of existing electrical substations
7:7-6.20	General permit 20	–	Legalization of the filling of tidelands
7:7-6.21	General permit 21	–	Construction of telecommunication towers
7:7-6.22	General permit 22	–	Construction of certain structures related to the tourism industry at hotels and motels, commercial developments, and multi-family residential developments over 75 units
7:7-6.23	General permit 23	–	Geotechnical survey borings
7:7-6.24	General permit 24	–	Habitat creation, restoration, enhancement, and living shoreline activities
7:7-6.25	General permit 25	–	Construction of one to three wind turbines less than 200 feet in height and having a cumulative rotor swept area no greater than 4,000 square feet
7:7-6.26	General permit 26	–	Construction of wind turbines less than 250 feet in height and having a cumulative rotor swept area no greater than 20,000 square feet
7:7-6.27	General permit 27	–	Dredging of sand from a man-made lagoon deposited as a result of a storm event for which the Governor declared a State of Emergency
7:7-6.28	General permit 28	–	Dredging of material from a waterway at a residential or commercial development deposited as a result of the failure of a bulkhead as a consequence of a storm event for which the Governor declared a State of Emergency
7:7-6.29	General permit 29	–	Dredging and management of material from a marina deposited as a result of a storm event for which the Governor declared a State of Emergency
7:7-6.30	General permit 30	–	Commercial shellfish aquaculture activities
7:7-6.31	General permit 31	–	Placement of shell within shellfish lease areas
7:7-6.32	General permit 32	–	Application of herbicide within coastal wetlands to control invasive plant species

APPENDIX C

Worksheets for Determining the Local Design Flood Elevation (LD FE)

Worksheet #1 – Determining the Local Design Flood Elevation for Riverine

The use of Worksheet #1 ensures compliance with the use of best available data in accordance with the Flood Hazard Area Control Act (FHACA) and the Federal Flood Risk Management Standard (FFRMS). It also includes the addition of a factor of safety in riverine floodplains in accordance with FHACA and regulatory freeboards required pursuant to FHACA, FFRMS, and local ordinances.

Worksheet #2A – Determining the Local Design Flood Elevation for Coastal

The use of Worksheet #2 ensures compliance with the use of best available data in accordance with the Flood Hazard Area Control Act (FHACA) and the Federal Flood Risk Management Standard (FFRMS). It also includes regulatory freeboards required pursuant to FHACA, FFRMS, and local ordinances.

Worksheet #2B - Determining the Wave Height Adjusted 500 Year Preliminary and Effective Map Elevation for ASCE24-14 Critical Facilities and Critical Actions under 44 CFR Part 9

Current FEMA Effective and Preliminary 500-year floodplain mapping do not adjust for wave height which must be considered in design flood elevations for critical facilities and actions in coastal areas. This worksheet should be followed to determine whether and how much of an elevation adjustment is necessary.

Worksheet # 2C- Federal Flood Risk Management Standard Documentation Worksheet

This worksheet documents the design flood elevation for federally funded projects under FFRMS, which may require specifying design flood elevations higher than State and Local law to ensure that the project can receive full reimbursement of funds while also complying with the State's FHACA regulations.

Worksheets 1, 2A, 2B, & 2C for Determining the Local Design Flood Elevation (LDFE)

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Worksheet # 1 - Determining the Local Design Flood Elevation – Part I (Riverine)

Site Name:		Date:	
Address:			
Latitude (y):		Longitude (x):	

	State Flood Study ¹	FEMA Effective FIRM ²	FEMA Best Available ³ Preliminary, Draft, or Advisory Flood Hazard Data (Circle Source)
Data Available (Yes/No)			
Panel Number & Date			
Flood Zone Designation	N/A		
Floodway (Yes/No)			
Design ¹ or Base Flood Elevation ^{2, 3}			
Vertical Datum ⁴		NAVD 88	
⁴ Resulting Elevations below must be in same datum, if conversion factor needed, note here: NAVD88 = NGVD29 - _____ ft.			
Riverine Req.	+2	+3	+3
	Box A	Box B	Box C
Resulting Elevation	NGVD29 NAVD88	NGVD29 NAVD88	NAVD88D
If none of the above data is available and/or the project is in a watershed 50 acres or greater in size, licensed NJ Professional Engineers may use NJFHACA Method 5 or 6 to approximate the DFE for design purposes, however, <u>an unexpired Flood Hazard Verification Letter dated July 17th, 2023 and later</u> , which includes a Flood Hazard Design Elevation is necessary to ensure compliance with State standards. Enter elevation in Box D.			
Date of Letter Verifying the NJ Flood Hazard Design Flood Elevation (FHDFE):		Box D	
Select highest elevation from Box A, B, C, and D to determine the New Jersey Flood Hazard Design Flood Elevation (FHDFE) and input into Box E			

¹Use Appendix 2 of the FHACA Rules (N.J.A.C. 7:13) to identify state-studied waters; or visit

https://www.nj.gov/dep/floodcontrol/studied_streams.htm

²<https://msc.fema.gov/portal/home>

³The most recent available preliminary flood risk guidance FEMA has provided. The Best Available Flood Hazard Data may be depicted on but not limited to Advisory Flood Hazard Area Maps, Work Maps or Preliminary FIS and FIRM.

⁴Vertical datum conversion factor sources: FIS report or https://vdatum.noaa.gov/runapp_agreement.php

This worksheet is designed to result in accurate determinations of the Federal Flood Risk Management Standard (FFRMS). Please consult the *New Jersey Guidebook for Implementing the Federal Flood Risk Management Standard* for additional information to ensure that all applicable federal projects receive full reimbursement.

Worksheets 1, 2A, 2B, & 2C for Determining the Local Design Flood Elevation
(LDFE)

Version 3.0 - 08/15/2023

Comments:

Worksheets 1, 2A, 2B, & 2C for Determining the Local Design Flood Elevation (LDFE)

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Worksheet # 1 - Determining the Local Design Flood Elevation – Part II (Riverine)

Site Name:					
	Freeboard Requirements		Highest Elevation		Highest Elevation with Freeboard Comparison
State Freeboard Requirements - The NJ Flood Hazard Area Control Act (NJFHACA) requires that a minimum of 1 foot of freeboard be added to the Flood Hazard Design Flood Elevation (FHDFE) and no lower than that required by the UCC pursuant to the calculation below for Class I through IV facilities.	1 Foot	+	Box E _____ Ft	=	State Box 1 _____ Ft
Local Community Freeboard Requirements – More restrictive freeboard must be added if a higher freeboard is adopted in the Community's Flood Damage Prevention Ordinance.	_____ Ft***	+	Box E _____ Ft*	=	Local Box 2 _____ Ft
ASCE Class IV: 500-year Elevation Or FFRMS Critical Action: 500-year Elevation					Box 3
FFRMS Critical Action or ASCE 24** Type of Facility (circle one): Class I Class II Class III Class IV	If Class IV or FFRMS Critical Action, chose the Highest Elevation from Box 1, Box 2 and Box 3 →				FFRMS Critical Action or ASCE 24 Critical Facility Box 4 _____ Ft
Select highest DFE from State (Box 1), Local (Box 2), and ASCE (Box 4): (This is your Local DFE****) →					Box 5
Note Vertical Datum →					
Note Flood Zone →					

*Review community ordinance to determine if the freeboard should be added to the BFE or NJ State Flood Hazard Area DFE.

**ASCE Classes and Elevation Requirements are Defined in ASCE 24-14: https://www.fema.gov/sites/default/files/2020-07/asce24-14_highlights_jan2015.pdf

*** The local Flood Damage Prevention ordinance may require that additional freeboard for a critical facility be added to the Local Minimum Freeboard calculated in **Box 2** which may be higher than the State minimum freeboard calculated in **Box 1**. The local ordinance should be consulted to confirm the calculations in this worksheet. In no circumstance should a critical facility be constructed lower than required by both the Flood Hazard Area Control Act and the Uniform Construction Code.

****Local Design Flood Elevation (DFE) Definition - the Local DFE is the elevation reflective of the most recent available preliminary flood elevation guidance FEMA has provided as depicted on but not limited to Advisory Flood Hazard Area Maps, Work Maps, or Preliminary FIS and FIRM which is also inclusive of freeboard specified by the New Jersey Flood Hazard Area Control Act and Uniform Construction Codes and any additional freeboard specified in a community's ordinance. In no

Worksheets 1, 2A, 2B, & 2C for Determining the Local Design Flood Elevation (LDFE)

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circumstances shall a project's LDFE be lower than a permit-specified Flood Hazard Area Design Flood Elevation or a valid NJDEP Flood Hazard Area Verification Letter plus the freeboard as required in ASCE 24 and the effective FEMA Base Flood Elevation.

COMMENTS: Use the box on the first page to document the use of additional worksheets, comments, assumptions, and sources. For example, source of the datum conversion factor or effective date of the local ordinance requirements in **Box 2**.

ATTACH WORKSHEETS 2C (Federal Flood Risk Management Standard Documentation) to this worksheet if applicable.

Worksheets 1, 2A, 2B, & 2C for Determining the Local Design Flood Elevation (LDFE)

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Worksheet # 2A - Determining the Local Design Flood Elevation – Part I (Coastal)

Site Name:		Date:	
Address:			
Latitude (y):		Longitude (x):	

	FEMA Effective FIRM ²	FEMA Best Available ³ Preliminary, Draft, or Advisory Flood Hazard Data (Circle Source)
Data Available (Yes/No)		
Panel Number & Date		
Flood Zone Designation		
LiMWA Area (Yes/No)		
Base Flood Elevation ^{2, 3}		
Vertical Datum ⁴		
⁴ Resulting Elevations below must be in same datum, if conversion factor needed, note here:		
Box A NAVD88 = NGVD29 - _____ ft.		
Resulting Elevation	Box B NGVD29 NAVD88	Box C NAVD88
If none of the above data is available a licensed NJ Professional Engineer may use NJFHACA Method 6 to approximate the DFE for design purposes, however, <u>an unexpired Flood Hazard Verification Letter dated July 17th, 2023 and later</u> , which includes a Flood Hazard Design Elevation is necessary to ensure compliance with State standards. Enter elevation in Box D.		
Date of Letter Verifying the NJ Flood Hazard Design Flood Elevation (FHDfE):	Box D	
Select highest elevation from Box B, C, and D to determine the New Jersey Flood Hazard Design Flood Elevation (FHDfE) and input into Box E		

²<https://msc.fema.gov/portal/home>

³The most recent available preliminary flood risk guidance FEMA has provided. The Best Available Flood Hazard Data may be depicted on but not limited to Advisory Flood Hazard Area Maps, Work Maps or Preliminary FIS and FIRM.

⁴Vertical datum conversion factor sources: FIS report or https://vdatum.noaa.gov/runapp_agreement.php

This worksheet is designed to result in accurate determinations of the Federal Flood Risk Management Standard (FFRMS). For Coastal/tidal critical and non-critical actions, Box 3A must be completed to ensure an accurate comparison of local and State freeboard requirements. Please consult *the New Jersey Guidebook for Implementing the Federal Flood Risk Management Standard* for additional information to ensure that all applicable federal projects receive full reimbursement.

Worksheets 1, 2A, 2B, & 2C for Determining the Local Design Flood Elevation
(LDFE)

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Comments:

Worksheets 1, 2A, 2B, & 2C for Determining the Local Design Flood Elevation (LD FE)

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Worksheet # 2A - Determining the Local Design Flood Elevation – Part II (Coastal)

Site Name:					
Freeboard Requirements			Highest Elevation		Highest Elevation with Freeboard Comparison
State Freeboard Requirements - The NJ Flood Hazard Area Control Act (NJFHACA) requires that a minimum of 1 foot of freeboard be added to the Flood Hazard Design Flood Elevation FHD FE and no lower than that required by the UCC pursuant to the calculation below for Class I through IV facilities.	1 Foot	+	Box E _____ Ft	=	State Box 1 _____ Ft
Local Community Freeboard Requirements – More restrictive freeboard must be added if a higher freeboard is adopted in the Community’s Flood Damage Prevention Ordinance.	_____ Ft	+	Box E _____ Ft*	=	Local Box 2 _____ Ft
Coastal Area Federal Flood Risk Management Standard for Non-Critical Actions – complete only if applicable (See WORKSHEET 2C guidance)	2 Feet	+	Box E _____ Ft		Coastal FFRMS Non-Critical Action Box 3A _____ Ft
Coastal Area Federal Flood Risk Management Standard for Critical Actions – complete only if applicable (See WORKSHEET 2C guidance)	3 Feet	+	Box E _____ Ft		Coastal FFRMS Critical Action Box 3A _____ Ft
Coastal Area Federal Flood Risk Management Standard for Non-Critical Actions: Please Select the Lower of Elevation values when compared between Box 3A and Box G.					Box 3B _____ Ft
Coastal Area Federal Flood Risk Management Standard for Critical Actions: Please Select the Higher of Elevation values when compared between Box 3A and Box G.					Box 3B _____ Ft
ASCE 24** Type of Facility (circle one): Class I Class II Class III Class IV <i>If Class I or II no further entry is required</i> <i>If Class III or IV, enter elevations below</i>	If Class III or Class IV, chose Highest Elevation from below and enter here →				ASCE 24 Critical Facility Box 4 _____ Ft
Class III choose either: Box 1 Elevation + 1’ Box 2 Elevation + 1’***					
Class IV choose either: Box 1 Elevation + 1’ Box 2 Elevation + 1’***	Box F				
Class IV and Coastal Area Federal Flood Risk Management Standard for Critical and Non-Critical Actions: 500-year Wave Adjusted Elevation	Box G				

Worksheets 1, 2A, 2B, & 2C for Determining the Local Design Flood Elevation (LDFE)

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Must be Determined Using Worksheet 2B		
Select highest DFE from State (Box 1), Local (Box 2), Coastal Area FFRMS (Box 3B – if applicable) and ASCE (Box 4 – if applicable): (This is your Local DFE****) →		Box 5 _____ Ft
Note Vertical Datum →		
Note Flood Zone and if LiMWA Area →		

*Review community ordinance to determine if the freeboard should be added to the BFE or NJ State Flood Hazard Area DFE.

**ASCE Classes and Elevation Requirements are Defined in ASCE 24-14: https://www.fema.gov/sites/default/files/2020-07/asce24-14_highlights_jan2015.pdf

*** The local Flood Damage Prevention ordinance may require that additional freeboard for a critical facility be added to the Local Minimum Freeboard calculated in **Box 2** which may be higher than the State minimum freeboard calculated in **Box 1**. The local ordinance should be consulted to confirm the calculations in this worksheet. In no circumstance should a critical facility be constructed lower than required by both the Flood Hazard Area Control Act and the Uniform Construction Code.

**** Local Design Flood Elevation Definition - the Local DFE is the elevation reflective of the most recent available preliminary flood elevation guidance FEMA has provided as depicted on but not limited to Advisory Flood Hazard Area Maps, Work Maps, or Preliminary FIS and FIRM which is also inclusive of freeboard specified by the New Jersey Flood Hazard Area Control Act and Uniform Construction Codes and any additional freeboard specified in a community's ordinance. In no circumstances shall a project's LDFE be lower than a permit-specified Flood Hazard Area Design Flood Elevation or a valid NJDEP Flood Hazard Area Verification Letter plus the freeboard as required in ASCE 24 and the effective FEMA Base Flood Elevation.

COMMENTS: Use the box on the first page to document the use of additional worksheets, comments, assumptions, and sources. For example, source of the datum conversion factor or effective date of the local ordinance requirements in **Box 2**.

ATTACH WORKSHEETS 2B (Wave Height Adjustment including any attachments signed and sealed by a Licensed NJ Professional Engineer) and 2C (Federal Flood Risk Management Standard Documentation) to this worksheet if applicable.

Worksheets 1, 2A, 2B, & 2C for Determining the Local Design Flood Elevation (LD FE)

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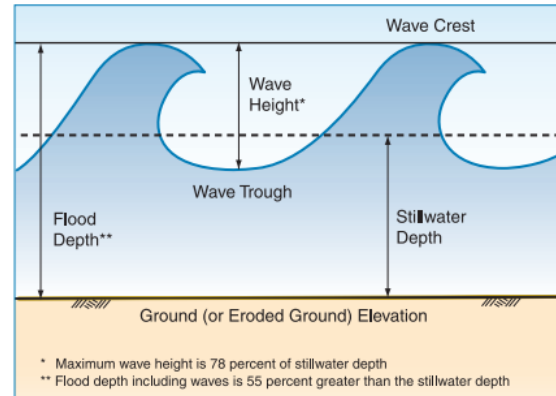
Worksheet # 2B – Determining the Wave Height Adjusted 500 Year Preliminary and Effective Map Elevation for ASCE24-14 Critical Facilities and Critical Actions under 44 CFR Part 9

The effective FIRMs and FIS reports for a community typically have information regarding the 500-year floodplain. In New Jersey's coastal areas, neither the effective nor the preliminary 500-year floodplain map elevations include wave height in the specified elevation. These must be included using either the empirical methodology included in Part I of this worksheet or be calculated using the process and resources discussed in Part II.

Part I – Worksheet for Determining the Best Available 500-year Elevation including a Wave Height Adjustment Using Empirical Methodology

Empirical Formula:

500 Year Elevation With Wave Height =
500 Year FIS Study Elevation +
[.55 * (500 Year FIS Study Elevation -
Ground Surface Elevation)]



Wave Height Calculation Table for Critical Facilities in Coastal Zones					
Effective FIRM			Preliminary FIRM		
500 Year Elevation	Box 1A NGVD29 NAVD88	FT	500 Year Elevation	Box 2A NAVD88	FT
Ground Elevation	Box 1B NGVD29 NAVD88	FT	Ground Elevation	Box 2B NAVD88	FT
Wave Height (.55*(Box 1A-Box 1B))	Box 1C	FT	Wave Height (.55*(Box 2A-Box 2B))	Box 2C	FT
500 Year Elevation w/ Wave Height (Box 1A + Box 1C)	Box 1D NGVD29 NAVD88	FT	500 Year Elevation w/ Wave Height (Box 2A + Box 2C)	Box 2D NAVD88	FT
Vertical Datum - Resulting Elevations below must be in same datum, if conversion factor needed, note here: NAVD88 = NGVD29 - ____ ft.	Box 1E NAVD88	FT			
Select highest Elevation from Effective (Box 1D or 1E) and Preliminary (Box 2D) All Elevations must be in NAVD88 This is your Class IV 500-Year Elevation →				Box 3A	FT NAVD88
ENTER RESULT IN WORKSHEET 2A, BOX G					

Worksheets 1, 2A, 2B, & 2C for Determining the Local Design Flood Elevation (LDFE)

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Part II. Determining Wave Height Adjustment Using Detailed Analyses

The empirical formula given in Part I, above, is a conservative estimate of the wave height adjustment to the preliminary and effective 500 year elevations in New Jersey's coastal areas. If there are structures or protective works between a project and shoreline where waves break, additional analyses may be performed to further refine the wave runup using the following guidance documents: In areas where there are bulkheads, other houses, and structures between the water body and the proposed critical facility that can reduce wave height, there are more specific methodologies that could be used to analyze overland waves to determine the 500-year elevation including the wave height adjustment with more accuracy.

Determination of Wave Characteristics

https://www.fema.gov/sites/default/files/documents/fema_determination-wave-characteristics-guidance_112021.pdf

Coastal Wave Runup and Overtopping

https://www.fema.gov/sites/default/files/documents/fema_coastal-wave-runup-overtopping_112021.pdf

Coastal Wave Setup https://www.fema.gov/sites/default/files/2020-03/frm_p1wave1.pdf Overland

Wave Propagation https://www.fema.gov/sites/default/files/documents/fema-coastal-overland-wave-propagation_112021.pdf

These analyses should be performed by a licensed NJ Professional Engineer familiar with coastal erosion processes and the impact of wave loads on structures. It is recommended that the project designers contact the funding agency, the NFIP Coordinator's Office, and the local Floodplain Administrator if these methodologies for determining wave height adjustments are pursued.

Wave Height Calculation Table for Critical Facilities in Coastal Zones					
Effective FIRM			Preliminary FIRM		
500 Year Elevation w/ Wave Height	Box 4A	FT	500 Year Elevation w/ Wave Height	Box 5A	FT
Vertical Datum - Resulting Elevations below must be in same datum, if conversion factor needed, note here: NAVD88 = NGVD29 - ____ ft.	Box 4B	FT			
Select highest Elevation from Effective (Box 4A or 4B) and Preliminary (Box 5A) - ALL ELEVATIONS MUST BE IN NAVD88 This is your 500-Year Elevation →				Box 6A	FT NAVD 88
ENTER RESULT IN WORKSHEET 2A: LOCAL DESIGN FLOOD ELEVATION, BOX G					
ATTACH DOCUMENTATION OF ALL ANALYSES INCLUDING THE SIGNATURE AND SEAL OF A LICENSED NJ PROFESSIONAL ENGINEER TO THIS WORKSHEET					

Worksheets 1, 2A, 2B, & 2C for Determining the Local Design Flood Elevation (LD FE)

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Worksheet # 2C - Federal Flood Risk Management Standard Documentation Worksheet

Note: This worksheet is intended to be used with the following resources:

- New Jersey Guidebook for Implementing the Federal Flood Risk Management Standard
- WORKSHEET 1 and 2A: Local Design Flood Elevation (LD FE) Worksheet which determines the most restrictive Best Available Flood Hazard Data for either Coastal or Riverine.
- WORKSHEET 2B: Determining the Wave Height Adjusted 500 Year Preliminary and Effective Map Elevation for ASCE 24-14 Critical Facilities and Critical Actions under 44 CFR Part 9 (For Coastal)
- 44 CFR 9.4 FEMA Critical Action Definition and 44 CFR 9.11 Mitigation for guidance on critical action elevation standards
- June 3, 2022 FEMA Policy 104-22-0003 Partial Implementation of the Federal Flood Risk Management Standard for Hazard Mitigation Assistance Programs (Interim) https://www.fema.gov/sites/default/files/documents/fema_fp-104-22-0003-partial-implemetnation-ffrms-pa-interim.pdf
- American Society for Civil Engineers (ASCE) Standard: ASCE 24-14 Flood Resistant Design and Construction
- The Flood Hazard Area Control Act and local Flood Damage Prevention Ordinance Regulations

FFRMS Worksheet Summary				
Type of Action	Y/N	Federal Flood Risk Standard (FFRMS)		
Non-critical Action¹		Project Design Flood Elevation (from Applicable FFRMS Worksheet and Worksheet 1/2A, Box 5)	_____ FT	
Critical Action²		Vertical Datum Confirmation: (Circle one)	NGVD or NAVD88	
Floodplain Type: (Check one)		Flood Zone Designation	_____	
Riverine		LiMWA (Coastal A) or V Zone Construction (Check one)	Yes	No
Coastal				
¹ If yes, Use the FFRMS Non-Critical Action Worksheet				
² If yes, Use the FFRMS Critical Action Worksheet				

Worksheets 1, 2A, 2B, & 2C for Determining the Local Design Flood Elevation (LDFE)

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Project Name:		
FFRMS Critical Action Worksheet Complete only the Riverine or the Coastal Box on this Worksheet.		
Building Class	RIVERINE	COASTAL
	FFRMS Standard with State and Local Compliance	
Class I	1. Complete Worksheet 1 2. Enter the Elevation from Box 5, below _____ FT NAVD88	1. Complete Worksheet 2B. 2. Complete Worksheet 2A including Boxes 4, F, and G. 3. Enter the Elevation from Box 5, below _____ FT NAVD88
Class II		
Class III		
Class IV		
WORKSHEET 1 & 2A: Local Design Flood Elevation (LD FE) Worksheet which determines the most restrictive Best Available Flood Hazard Data – Box 5 must include vertical datum conversions to NAVD88 if necessary WORKSHEET 2B: Determining the Wave Height Adjusted 500-Year Preliminary and Effective		
FFRMS Non-Critical Action Worksheet Complete only one of the six boxes on this Worksheet.		
Building Class		COASTAL
	FFRMS Standard with State and Local Floodplain Compliance	
Class 1 & 2		1. Complete Worksheet 2A including Boxes 3A and 3B 2. Enter the Elevation from Box 5, below _____ FT NAVD88
Class 3		1. Complete Worksheet 2B. 2. Complete Worksheet 2A including Boxes 3A, 3B, 4, F, and G. 3. Enter the Elevation from Box 5, below _____ FT NAVD88
Class 4		1. Complete Worksheet 2B. 2. Complete Worksheet 2A including Boxes 3A, 3B, 4, F, and G. 3. Enter the Elevation from Box 5, below _____ FT NAVD88

WORKSHEET 1 and 2A: Local Design Flood Elevation (LDFE) Worksheet which determines the most restrictive Best Available Flood Hazard Data – Box 5 must include vertical datum conversions in necessary.
WORKSHEET 2B: Determining the Wave Height Adjusted 500 Year Preliminary and Effective

APPENDIX D
PART IV – FLOOD INFORMATION – Site Specifications

PART IV – FLOOD INFORMATION - To Be Completed by the Floodplain Administrator

Non-residential building:	Section D-1
Building in a non-coastal A-Zone^:	Section D-2
Building in a V Zone or Coastal A Zone^:	Section D-3
Multi-family or mixed-use building:	Section D-4
Agricultural structure:	Section D-5
Accessory structure:	Section D-6
Elevator proposed:	Section D-7
Below-grade parking proposed:	Section D-8

^Non-coastal A Zone is defined as riverine areas or tidal areas landward of the Limit of Moderate Wave Action (LiMWA). Coastal A Zone is defined as tidal areas seaward of the Limit of Moderate Wave Action (LiMWA).

D-1

SITE SPECIFICATIONS – NON-RESIDENTIAL BUILDINGS ONLY		
Lowest Electrical/Mechanical Equipment	Description:	_____
Dry Floodproofing Certificate for areas below the Base Flood Elevation plus a minimum of 1-foot Freeboard	Y / N	
Flood Resistant Materials	Y / N	

D-2

SITE SPECIFICATIONS – A ZONE BUILDINGS^	
Note: Incl. accessory structures, detached garages, and storage sheds. Subgrade crawlspaces and basements are prohibited.	
Top of Lowest Floor Elevation	_____
Openings in Walls and Foundations (see FEMA Technical Bulletin 1*):	
Number of openings in walls and foundations	_____
Square inches of all openings	_____
Engineered openings	Y / N
Engineered opening manufacturer and model	_____
Architect/Engineer Certification of Non-Engineered opening	Y / N
Anchoring (manufactured homes, accessory buildings, storage sheds, recreational vehicles on-site greater than 180 days)	Y / N
Architect/Engineered Certification for Back-filled Stem Walls	Y / N

*<https://www.fema.gov/nfip-technical-bulletins>

^Non-coastal A Zone is defined as riverine areas or tidal areas landward of the Limit of Moderate Wave Action (LiMWA). Coastal A Zone is defined as tidal areas seaward of the Limit of Moderate Wave Action (LiMWA).

D-3

SITE SPECIFICATIONS – V ZONE AND COASTAL A ZONE^ BUILDINGS	
Lowest Horizontal Member Elevation	_____
Size of Enclosure (must be less than 300 square feet external dimension for lower insurance rates)	_____
Use of Enclosure	_____
Number of openings in breakaway walls	_____
Coastal A Zone Breakaway Wall Certification	Y / N
Non-Conversion Agreement Attached	Y / N
Deed Restricted	Y / N
<i>Free of Obstruction (see FEMA Technical Bulletin 5*):</i> Access Ramps/Stairs/Decks are open to water flow	Y / N
Access Ramps / Stairs / Decks are structurally supported and independent of the Structure	Y / N
Engineer's Certificate for Breakaway Walls, Engineered Walls, Slabs, or Other Potential Obstructions where Piles and Columns are not feasible	Y / N

*<https://www.fema.gov/nfip-technical-bulletins>

^Non-coastal A Zone is defined as riverine areas or tidal areas landward of the Limit of Moderate Wave Action (LiMWA). Coastal A Zone is defined as tidal areas seaward of the Limit of Moderate Wave Action (LiMWA).

D-4

SITE SPECIFICATIONS – MULTI-FAMILY AND MIXED-USE BUILDINGS	
See: FEMA Flood Mitigation Measures for Multi-Family Buildings^ & NFIP Technical Bulletin 3 - Requirements for the Design and Certification of Dry Floodproofed Non-Residential and Mixed-Use Buildings* Notes: Basements and below grade parking area prohibited below residential portions of multi-family structures including those for hotels and motels. Dry floodproofing is prohibited in non-residential portions of mixed-use structures in Coastal A and V Zones. Dry floodproofing is prohibited for all areas servicing residential areas and ancillary portions of residential structures which service residential areas. At least one access to residential areas must be available for use and cannot be dry floodproofed. Building systems servicing residential portions of structures cannot be located in dry-floodproofed areas and must be elevated above the LDFE. ASCE 24-14 limits dry floodproofing: 1) To areas where the base flood velocities do not exceed 5 feet/second; and 2) Any proposed human intervention is in conformance with ASCE 24-14 6.2.3	
Below grade basements and parking do not service any residential portions of the structure?	Y / N
Below grade basements and parking are not located in a Coastal A Zone or V Zone based upon an evaluation of the most recent best available flood hazard data?	Y / N

No residential areas including at least one building egress are dry floodproofed and all residential areas including those meeting the definition of ancillary space are above the BFE?	Y / N
All residential areas including those meeting the definition of ancillary space are above the BFE?	Y / N
Mechanical, Electrical, and Plumbing Systems are located at or above the LDFE or if below the LDFE are designed to resist flood loads and prevent water from entering or accumulating within the components and service only non-residential portions of the structure and meets the requirements of chapter 7, ASCE 24-14?	Y / N
Substantial Improvement and Substantial Damage measures meet standards and practices discussed in the <i>FEMA Mitigation Measures for Multi-Family Buildings</i> ^?	Y / N
A <i>Floodproofing Certificate</i> for non-residential portions of the structure has been submitted at permit application?	Y / N
An <i>Emergency Operations Plan</i> for floodproofing in non-residential portions of the structure has been submitted at permit application and meets ASCE 24-14 6.2.3? Note: This shall include meeting the 12-hour flood warning time unless the community operates a flood warning system. If so, the designer will have to determine the available time necessary to implement dry floodproofing measures.	Y / N
All proposed floodproofing products used in non-residential areas meet <i>American National Standard for Flood Mitigation Equipment</i> (ANSI/FM)?	Y / N
<i>Inspection and Maintenance Plan</i> proposed at permit application? Note: Inspections are recommended at least once a year and could be coordinated with regular drills.	Y / N
The architect/engineer has provided evidence that the structure can withstand a combination of flood loads (hydrostatic, hydrodynamic, wave, and impact) according to ASCE 7?	Y / N
The <i>Floodproofing Certificate</i> has been fully completed at project completion?	Y / N

^https://content.govdelivery.com/attachments/USDHSFEMA/2020/06/24/file_attachments/1481529/16-J-0218_Multi-FamilyGuidance_06222020.pdf

*<https://www.fema.gov/nfip-technical-bulletins>

SITE SPECIFICATIONS – AGRICULTURAL STRUCTURES

FEMA Floodplain Management Bulletin P-2140 Floodplain Management Requirements for Agricultural Structures and Accessory Structures*

Note: Variances can only be granted in municipalities that have adopted the New Jersey Model Code Coordinated Ordinance after January 2021.

Meets the FEMA or Model Code Coordinated Ordinance definition of Agricultural Structure and is used exclusively for that use?

Y / N

If Substantial Improvement / Substantial Damage is determined, is elevation required?

Y / N

If Substantial Improvement / Substantial Damage is determined and the structure type requires dry-floodproofing, is the floodproofing proposed to the LDFE?

Y / N

Note: Structure cannot be located in a V Zone or Coastal A Zone.

Variance requested to repair/restore to pre-flood condition and wet floodproof?

Y / N

If a variance is requested, is justification provided with an explanation of the hardship?

Y / N

Is a variance granted that restricts use?

Y / N

Is the structure anchored? Is mechanical equipment raised? Are flood resistant materials used? Does the foundation have adequate openings?

Y / N

*<https://www.fema.gov/nfip-technical-bulletins>

SITE SPECIFICATIONS – ACCESSORY STRUCTURES

FEMA Floodplain Management Bulletin P-2140 Floodplain Management Requirements for Agricultural Structures and Accessory Structures*

Note: Variances can only be granted in municipalities that have adopted the New Jersey Model Code Coordinated Ordinance after January 2021.

Meets the FEMA or Model Code Coordinated Ordinance definition of an Accessory Structure and is used exclusively for that use?	Y / N
New Construction or Substantial Improvements – Elevation Required?	Y / N
New Construction or Substantial Improvements – Dry-floodproofed at least to the LDFE?	Y / N
Variance Requested to Wet floodproof and the <i>New Jersey Model Code Coordinated Ordinance</i> is adopted?	Y / N
If a variance is requested, is justification provided with an explanation of the hardship?	Y / N
A Zone – Structure is the size of a one-story two-car garage or smaller and not in a floodway? Note: FEMA guidance notes that the typical footprint is less than 600 square feet (See page 19 of the Technical Bulletin).	Y / N
V Zone – Structure is less than 100 square feet?	Y / N
Variance granted that restricts use?	Y / N
Is the structure anchored? Is mechanical equipment raised? Are flood resistant materials used? Does the foundation have adequate openings?	Y / N

*<https://www.fema.gov/nfip-technical-bulletins>

SITE SPECIFICATIONS – ELEVATORS

Proposed Elevator meets FEMA Technical Bulletin 4*

Note: Please coordinate with your code official when reviewing elevator compliance in the SFHA.

Elevation of lowest Electronic Controls/Junction Box/Switch	_____
Lowest elevation of electronic controls is above the LDFE	Y / N
Components below the required elevations are composed of flood damage-resistant materials and capable of resisting physical damage due to flooding	Y / N
Float Switch Detection System to prevent the elevator cab or lift from descending into flood waters	Y / N
Backflow Prevention for elevator shafts	Y / N
Architect's/Engineer's Certification stating that the enclosure design can resist hydrodynamic and hydrostatic flood forces Note: Elevator shafts must resist flood loads. In Zone A, shafts are not required to have flood openings; in Zone V and Coastal A Zones, shafts are not required to have breakaway walls.	Y / N
Confirm that any hydraulic elevators below the required elevation have elevated electrical control panels, hydraulic pumps, and tanks; drainage provided for the elevator pit; hydraulic lines, hydraulic cylinders, and buffer springs located to prevent physical damage due to flooding or painted or coated with galvanic or rust-preventive paint	Y / N
Confirm that any traction elevator systems have elevated machine rooms, and components in hoist ways below the required elevation must be protected from physical damage due to flooding	Y / N
Chairlifts, pneumatic elevators, and platform lifts are reasonably safe from flooding (See ASCE24-14 7.5 and related commentary)	Y / N

*<https://www.fema.gov/nfip-technical-bulletins>

SITE SPECIFICATIONS – BELOW-GRADE PARKING REQUIREMENTS

See: FEMA Technical Bulletin 6*, FEMA Flood Mitigation Measures for Multi-Family Buildings^, and NFIP Technical Bulletin 3* (if applicable, also use Checklist D-4)

Notes: Below-Grade Parking is prohibited in Coastal A Zones and V Zones. Below-Grade Parking is prohibited in Residential Buildings and is allowed only for non-residential portions of Mixed-Use Buildings.

An exit is available above the LDFE	Y / N
The Below-Grade Parking Garage is not located in a Coastal A Zone or V Zone based upon the most recent best available flood hazard data	Y / N
A <i>Floodproofing Certificate</i> for the structure has been submitted at permit application (See FEMA Technical Bulletin 3*)	Y / N
There are no residential uses proposed for the building	Y / N
<i>Emergency Operations Plan</i> for floodproofing in non-residential portions of the structure has been submitted at permit application that meets ASCE 24-14 6.2.3 Note: This shall include meeting the 12-hour flood warning time unless the community operates a flood warning system. If so, the designer will have to determine the available time necessary to implement dry floodproofing measures. (See FEMA Technical Bulletin 3*)	Y / N
All proposed floodproofing products used in non-residential areas meet American National Standard for Flood Mitigation Equipment (ANSI/FM)	Y / N
<i>Inspection and Maintenance Plan</i> proposed at permit application Note: Inspections are recommended at least once a year and could be coordinated with regular drills. (See FEMA Technical Bulletin 3*)	Y / N
The architect/engineer has provided evidence that the structure can withstand a combination of flood loads (hydrostatic, hydrodynamic, wave, and impact) according to ASCE 7	Y / N
The <i>Floodproofing Certificate</i> has been fully completed at project completion	Y / N

*<https://www.fema.gov/nfip-technical-bulletins>

^https://content.govdelivery.com/attachments/USDHSFEMA/2020/06/24/file_attachments/1481529/16-J-0218_Multi-FamilyGuidance_06222020.pdf