FLOOD EMERGENCY ACTION PLAN (EAP)
FOR
RIVER POINT

INTRODUCTION

This manual presents the Flood Emergency Action Plan ("EAP") for River Point which describes the protocol for monitoring flood warnings and implementing procedures for notifying staff, residents and temporary guests within the various uses of the building of an impending flood, for initiating deployment of Aqua Fence floodproofing "Flood Barrier System" and for initiating evacuation of the building. River Point is located at 2100 2nd Street, SW in the Buzzard Point area of Washington, D. C. at the confluence of two major river systems; the Potomac River and the Anacostia River. The potential for flooding at the site is real and is largely dependent upon the reaction and capacity of the Potomac River when its watershed experiences significant rainfall events. River Point is within the 100-year flood zone of these major rivers and, as such, is protected by a floodproofing system that must be installed in advance of a flooding event in order to protect the building from flood damage.

Refer to the Flood Emergency Operations and Maintenance Plan (O&M Plan) for additional information regarding the site, the potential for flooding, the floodproofing components to be inspected and maintained, the parties responsible for inspection, maintenance and deployment, a schedule for such inspections and maintenance, protocols for performing inspection and maintenance, and the need for continual training of staff to be knowledgeable of the contents of this plan for the protection of the staff, residents and temporary guests of River Point.

This EAP, however, lists the "Site Emergency Coordinators" for identification of when emergency actions need to occur due to a pending flood event and protocols necessary to follow to ensure the safety of staff, residents and temporary guests when a flood is expected.

SITE EMERGENCY COORDINATOR - RESPONSIBLE PARTY

The Building Owner is ultimately responsible for monitoring flooding conditions and implementing both warning and evacuation protocol. The Building Owner(s) must designate a primary and secondary Site Emergency Coordinator to act as the responsible party, who must be clearly identified with current contact information listed below so it is clear who is managing the Flood EAP for the facility. Delegation of this responsibility may be transferred to another responsible party. If at any point the Site Emergency Coordinators listed below are not able to perform the duties, a new responsible party shall be identified as the Site Emergency Coordinators and listed below in this EAP. The following person(s) shall act as the Site Emergency Coordinators for monitoring flooding conditions and implementing both warning and evacuation protocol:

SITE EMERGENCY COORDINATOR - RESPONSIBLE PARTY

CONTACT INFORMATION

***PRIMARY CONTACT*:**

NAME: _____

TITLE: _____

PHONE: _____

***SECONDARY CONTACT*:**

NAME: _____

TITLE: _____

PHONE: _____

This EAP is meant to be a living document to be edited as needed to keep it current and informative for those responsible for implementing the EAP protocols for the River Point site. The "Site Emergency Coordinator - Responsible Party" listed above must always be kept up to date to ensure this procedure is maintained without interruption. This document must always be updated with the current Responsible Party at all times during the life of the building.

MONITORING FLOOD WARNINGS

The D.C. Harbor Patrol or D.C. Harbor Master will provide notice of flood watches, flood warnings and high water events to the Site Emergency Coordinator by subscribing to NOAA's active alerts and DC Alert. The Site Emergency Coordinator shall have access to such alerts at all times. The Site Emergency Coordinator will initiate the following protocol upon learning of the following flood messages:

Flood Watch: A "Flood Watch" is issued by the National Weather Service (NWS) when conditions are favorable for flooding. When a "Flood Watch" is issued along the Potomac River, the Site Emergency Coordinator should be on alert and continue to monitor local NWS broadcasts to be ready to implement protocols associated with a "Flood Warning", if such warning should occur. When a "Flood Watch" is issued, the Site Emergency Coordinator shall notify the Lead Facilities Point of Contact (POC) to alert all necessary staff of the "Flood Watch" and ensure their availability to arrive at the facility ready to implement deployment of the flood barrier system if a "Flood Warning" is issued by the NWS.

Flood Warning: A "Flood Warning" is issued by the National Weather Service when flooding is determined to be imminent or occurring. When a "Flood Warning" has been issued along the Potomac River, the Site Emergency Coordinator should implement the following protocols:

PROTOCOL 1: Contact the Lead Facilities POC to inform them of the Flood Warning and direct them to initiate deployment of staff to install the "Flood Barrier System".

PROTOCOL 2: Inform all staff, residents and temporary guests that a Flood Warning has been issued by the National Weather Service and that residents, temporary guests and non-emergency staff are required to evacuate the premises until dangerous conditions have subsided and notice is provided that it is safe to return to the building.

PROTOCOL 3: Ensure completion of the flood protection system and, to the best of ability, ensure all residents, temporary guests and non-emergency staff have evacuated the premises or take note of those who chose to stay in the building.

PROTOCOL 4: Evacuate the premises, but continue to monitor flood conditions through messages issued by the National Weather Service. Upon cancellation of the Flood Warning by the National Weather Service, return to the site to determine if conditions are suitable for residents, temporary guests and staff to return safely. If so, provide notification when they may return to the premises and then notify Lead Facilities POC that the "Flood Barrier System" may be removed. If not, notify appropriate parties (Engineer, Lead Facilities POC or City Emergency Personnel) as needed to address any safety concerns.

DEPLOYMENT OF FLOODPROOFING SYSTEM

The exact amount of warning time available for a significant event is unknown, but expected to be between 12 and 24 hours. Deployment of the floodproofing system must be able to be accomplished within the warning time anticipated for the design event. Per ASCE 24, this warning time must be at least 12 hours unless the District has a flood warning system and evacuation plan in place. When instructed, the deployment team will begin to execute the deployment plan. For the purposes of this emergency action plan, planning should assume that the actual warning time for this facility is between 10 and 12 hours.

Note that the time required to install the flood barrier system is estimated to be 7 hours with a 12 person crew (trained) by the time all personnel are at the facility. The first two hours involve an initial coordination of the crew, gathering required vehicles and equipment, and retrieving the flood barrier system components from storage and placing at their install locations around the building. Physical installation of the components is estimated to be 5 hours. If brought out in a systematic order, physical installation may occur simultaneously while components are being retrieved from their storage location.

The deployment steps are:

1. Lead Facilities POC for the River Point site receives emergency notification from the Site Emergency Coordinator that flooding/high water is pending and determines that installation of the floodproofing system is necessary.
2. Lead Facilities POC notifies the deployment team (facilities staff) of the pending flood and the need to deploy the floodproofing system.
3. Deployment team mobilizes to the storage site for initial briefing and coordination regarding the deployable Flood Barrier System.
4. Deployment team retrieves the deployable Flood Barrier System. The flood barrier segments are stored in crates (or pallets) and will be transported to the installation points throughout the River Point site. Each crate (or pallet) will be numbered and is to be installed in the sequence shown per manufacturer's guidelines. A copy of the map depicting the location corresponding to the crate (or pallet) number shall be provided in both the O&M Plan and this EAP.
5. The deployment team will install each flood barrier in place in accordance with the manufacturer's requirements. The installation time is expected to be approximately 5 hours with a crew of 12 trained personnel.

NOTE: Specific manufacturer installation instructions for the system designed for this facility are provided as an attachment to this EAP document. A copy of these installation instructions must always be available with this document.

6. In the event of high winds, the deployment team is responsible for providing counterweights behind flood barriers for redundant support. Where necessary, the crew will also provide a ladder or steps for egress from within the flood barrier system at the designated primary refuge area.

7. A list of emergency personnel (staff) who are expected to stay to erect the flood barriers will be provided to a team member who then makes sure that only those designated people stay, and all others are required to leave the area. The list of those who stayed will be provided to the owner immediately after the flood.
8. A deployment team member will ensure that the connections of the flood barriers to the buildings are complete. This crew member will also erect pairs of step ladders at the flood barrier for access over the flood barrier. Note that pairs of step ladders should be provided on both sides of the flood barriers so that emergency staff can utilize one step ladder while assisting evacuees on the other.
9. The deployment team will secure the crates (or pallets) and return them to the storage location.
10. A crew member will inspect any temporary sump pumps designated for use at River Point where precipitation may collect. The pumps will be made operational so the pumps will begin working as soon as water sufficiently fills the drain system. This crew member will also check on the emergency power system and make sure it is ready to operate should the source of primary power be lost.
11. The deployment team will leave the site and evacuate from the floodplain.

DISASSEMBLING FLOODPROOFING SYSTEM

The facility will be locked at all entrance points during a flooding event. After the flood event where there is access to the site again, building engineers will be brought in to confirm the building systems are operational, to turn on utility service, and make repairs as necessary. Building engineers will reopen the facility once systems have been reestablished as necessary for building occupancy and the necessary approvals have been attained. It is anticipated that at the same time engineers gain access to begin assessing building function, the facilities crew will begin disassembling the system.

The specific steps of disassembling the floodproofing system are:

1. Bring the crates (or pallets) from the storage location back to the site for re-packing the flood barrier panels into the crates (or pallets).
2. Do an initial cleaning of the system, using commercial disinfectant, then disassemble the individual components.
3. Thoroughly clean all components of the flood shields per the manufacturer's instructions and allow them to dry.
4. A thorough inspection of all shields and their parts must be completed prior to returning the store crates (or pallets) to storage. The inspection result must be returned to the owner.
5. Pack the barrier panels into the correct numbered crate (or pallet).
6. Return the crates (or pallets) to their storage location.
7. Remove the sump pumps and clean them.
8. Return the sump pumps to their storage location.

ATTACHMENT A: MANUFACTURER'S INSTRUCTIONS

ATTACH MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR THE FLOOD PROTECTION

ATTACHMENT B: MAP OF CRATE DEPLOYMENT LOCATIONS

ATTACH MAP DEPICTING WHERE EACH CRATE SHOULD BE DELIVERED AROUND PERIMETER OF THE FACILITY

FLOOD EMERGENCY
OPERATIONS AND MAINTENANCE PLAN
FOR
RIVER POINT

INTRODUCTION

This manual presents the Flood Emergency Operations and Maintenance Plan ("O&M Plan") for River Point which describes the floodproofing components of the building and outlines the general procedures and schedule for their inspection and maintenance to ensure their successful implementation should the need arise. River Point is located at 2100 2nd Street, SW in the Buzzard Point area of Washington, D. C. at the confluence of two major river systems; the Potomac River and the Anacostia River. The potential for flooding at the site is real and is largely dependent upon the reaction and capacity of the Potomac River when its watershed experiences significant rainfall events. River Point is within the 100-year flood zone of these major rivers and, as such, is protected by a floodproofing system that must be installed in advance of a flooding event in order to protect the building from flood damage. This O&M Plan will describe the site, the potential for flooding, the floodproofing components to be inspected and maintained, the parties responsible for inspection, maintenance and deployment, a schedule for such inspections and maintenance, protocols for performing inspection and maintenance, and the need for continual training of staff to be knowledgeable of the contents of this plan for the protection of the staff, residents and temporary guests of River Point.

Deployment and installation of flood protection measures for this facility shall occur when a "Flood Warning" is issued by the National Weather Service. Emergency action to protect the facility against a potential flood shall be implemented in accordance to the protocols outlined in the Flood Emergency Action Plan (EAP). Refer to the EAP for these protocols and specific contact information regarding the Site Emergency Coordinator in charge of flood monitoring and implementation of the EAP protocols.

SITE DESCRIPTION

River Point is located at 2100 2nd Street, SW in Washington D.C. in the Buzzard Point peninsula at the confluence of the Potomac and Anacostia Rivers. The surrounding ground elevation within the vicinity of the site ranges from approximately elevation 7 to elevation 10 (referenced to the DC datum). The 100-yr and 500-yr flood elevations associated with the Potomac River/Anacostia River at this location are 10.7 feet and 14.2 feet, respectively, as determined from the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), Panel Number 57C and the Flood Insurance Study (FIS) for the District of Columbia, Washington, D.C., with Effective Date of September 27, 2010. The lowest residential floor elevation is designed and constructed to be at elevation 32.53 feet, which is substantially above the 500-yr flood level. However, due to the surrounding grades, the main lobby entryways, garage entrance levels and first floor elevations (retail space) are at elevations below the 100-year flood level. Therefore, in order to protect the building from the 100-year flood and up to the 500-year flood elevation, floodproofing components are incorporated into the design of the building. All elevations within this O&M Manual are referenced to the DC datum.

FLOODPROOFING COMPONENTS

With the exception of doorways and windows, the entire perimeter of the building is designed and constructed with floodproofing materials to prevent damage due to prolonged contact with water. However, without floodproofing these doors and windows, the building is susceptible to flooding in large storm events. To provide a complete perimeter of flood protection for the building, a system of manual flood barriers must be installed around the entire building. This "Flood Barrier System" will require space to store the barrier panels and hardware and a knowledgeable "Site Emergency Coordinator" in charge of their storage, maintenance, installation and removal. Identification of a primary and secondary Site Emergency Coordinator with knowledge of their location and how and when then should be inspected and maintained are integral to this O&M procedure and to the safety of this facility during a major flooding event.

RESPONSIBLE PARTY

The Building Owner is ultimately responsible for ensuring the long-term/perpetual operation, maintenance, repair and safety of the floodproofing systems during the life of the building. The Building Owner(s) must designate a primary and secondary Site Emergency Operations and Maintenance (O&M) Coordinator who must be assigned and listed below so it is clear who is acting as the responsible party managing the Flood Emergency Operations and Maintenance Program for the facility. Delegation of this responsibility may be transferred to another responsible party from time to time. If at any point the Site Emergency O&M Coordinators listed below are not able to perform the duties, new Site Emergency O&M Coordinators shall be identified and listed below in this O&M Plan. The following person(s) shall act as the primary and secondary Site Emergency O&M Coordinators for the successful storage, deployment, inspection and preventative and corrective maintenance of the floodproofing system:

SITE EMERGENCY O&M COORDINATORS - RESPONSIBLE PARTY CONTACT INFORMATION

PRIMARY CONTACT:

NAME: _____

TITLE: _____

PHONE: _____

SECONDARY CONTACT:

NAME: _____

TITLE: _____

PHONE: _____

This O&M Manual is meant to be a living document to be edited as needed to keep it current and informative for those responsible for the operations and maintenance of the River Point floodproofing system. The Site Emergency Coordinators listed above must always be kept up to date to ensure this procedure is maintained without interruption. This document must always be updated with the current Site Emergency Coordinators at all times during the life of the building.

FLOODPROOFING SYSTEM INSPECTION AND MAINTENANCE PLAN

This maintenance plan has been prepared to ensure that the Flood Barrier System is operating reliably, as designed.

FLOOD BARRIER SYSTEM COMPONENTS

The Flood Barrier System for this facility consists of Aquafence perimeter barrier segments and associated hardware.

NOTE: Specific manufacturer product specifications, maintenance and installation instructions for the system designed for this facility are provided as an attachment to this O&M document. A copy of these product documents must always be available with this manual.

The Site Emergency O&M Coordinators and all associated staff required to maintain, install and disassemble the flood protection system shall review all manufacturer specifications and instructions and be trained regarding the adequate maintenance, installation and disassembly of these components.

STORAGE OF FLOOD BARRIER SYSTEM COMPONENTS

All barrier segments and hardware shall be stored neatly and systematically in the below grade parking levels of the facility. The barrier segments and their hardware shall be contained in crates (or pallets). Each crate (or pallet) shall be consecutively numbered to represent where their contents are to be installed around the perimeter of the building. Both the O&M Plan and the EAP shall contain a map depicting where each number on the crates (or pallets) corresponds to a numbered location around the perimeter of the building. Each crate (or pallet) shall be stored in the storage facility systematically such that the crates (or pallets) are stored and retrieved in an order that allows efficient retrieval and placement of components at their required location around the perimeter of the facility.

Vehicles and equipment suitable for the effective installation and storage shall be kept on the premises. A sufficient number and size of temporary pumps to supplement the permanent pumps shall also be kept on the premises to be utilized in the event of any leaking through the flood barrier system. The Site Emergency O&M Coordinators shall ensure that all barrier segments and hardware, as well as any necessary vehicles and equipment, be stored in an organized and systematic manner on the premises for effective deployment in accordance with the Emergency Action Plan (EAP) for this facility.

TRAINING REQUIREMENTS

Periodic, yet consistent, training of staff shall be required to ensure that the required number of personnel are always ready for the inspection, maintenance, installation and disassembling of the flood protection system for this facility. The Site Emergency O&M Coordinators shall implement a specific training program to ensure that such training occurs as needed to accomplish the requirements outlined in both the Flood Emergency O&M Plan and EAP for this facility.

MAINTENANCE INSPECTION SCHEDULE

The floodproofing system shall be inspected **annually** as part of the routine operations of the building's facility maintenance staff. The Site Emergency O&M Coordinators shall ensure that an annual inspection is performed and documented. A maintenance inspection form, such as the one provided as Attachment A, shall be used to document each inspection. As part of this routine inspection, the components of the

building's dry floodproofing system shall be inspected, including, but not limited to: the flood barrier system, any related connections or hardware for connection of the flood barrier system to the building and site and any vehicles or equipment necessary for the installation of the system. Refer to the manufacturer's product specifications for information regarding the various components of the flood protection system and ensure that each component is inspected for their reliability during deployment.

All components shall be inspected for signs of deterioration or damage. Components that are found to be deteriorated or are found to have significant damage shall be addressed promptly.

Inspection of all back up power systems are also necessary and include quarterly testing of batteries, generators or other power sources to ensure their proper function. Replacement of batteries and any mechanical maintenance of generators will be done consistent with manufacturer's recommendations.

MAINTENANCE OF SYSTEM COMPONENTS

Maintenance procedures are required to maintain the proper operation of the flood barrier system by reducing the occurrence of problems and malfunctions. Maintenance documents shall be provided by the product manufacturer and referred to for the proper maintenance protocols for the specific system utilized.

NOTE: Specific manufacturer maintenance instructions for the system designed for this facility are provided as an attachment to this O&M document. A copy of these maintenance instructions must always be available with this document. Attachment B, or a similar document, shall be completed as maintenance is performed on the floodproofing system.

Repair procedures are required to correct an identified problem or malfunction with the floodproofing system and restore the intended means of proper operation. Based upon the severity of the problems, repairs shall be performed on as as-needed or emergency basis and include such procedures as structural repairs to either the system components or the building, maintenance of equipment and ensuring that the retrieval, deployment and installation of the system would not be hindered by the presence of obstructions. The Site Emergency O&M Coordinators shall ensure that all manufacturer maintenance specification and documents are always updated and available and shall ensure that all maintenance is performed as needed so that the flood protection system can be installed as designed.

PERIODIC DEPLOYMEMNT DRILL

The Food Barrier System will be erected at least every two years as part of a Flood Prevention Drill. The Site Emergency O&M Coordinators shall coordinate with the Site Emergency Coordinators of the EAP (if they are not the same coordinators) and associated staff to perform the protocols to be implemented during a Flood Warning. All identified members of the deployment team will be present for the entire exercise. The results of this annual drill are to be documented, including the time required to deploy the complete flood shield system, any maintenance issues identified as a result of this drill, and the repairs that were completed as a result. This annual drill will include deployment and testing of the temporary sump pumps and the exercising of the emergency generator for back-up power if not already tested during regular facility maintenance operations.

This drill provides an excellent opportunity to perform a thorough inspection of the full system. The Site Emergency Coordinators shall have appropriate staff on hand during this exercise to perform the annual inspection. If any component is found to be missing, broken or deteriorated during installation, it should be noted on an inspection form. A thorough inspection of all system components shall be conducted while the full system is erected and as the system is disassembled.

ATTACHMENT A

MAINTENCANCE INSPECTION FOR FLOODPROOFING SYSTEM

RIVER POINT
2100 2nd Street SW
WASHINGTON, DC

NOTE: INSPECTIONS TO BE PERFORMED DURING A PERIOD OF DRY WEATHER

Yes	No	Maintenance Evaluation	Action(s) Required if Answer "Yes"
□	□	Is there any structural failure?	Consult engineer to determine safety and/or stability of the system.
□	□	Are there visible signs for cracking, subsidence, erosion or deterioration?	Consult engineer to determine safety and/or stability of the system.
□	□	Is there noticeable seepage or water marks on the interior wall?	Consult engineer to determine safety and/or stability of the system.
□	□	Are the flood shields damaged or deteriorating?	Repair or replace.
□	□	Do the sump pumps and emergency generator work as required?	Repair or replace.
□	□	Does the existing maintenance program need to be amended to provide a more effective maintenance program?	Address suggested changes to the Responsible Party for the floodwall structure.

ATTACHMENT B

MAINTENCANCE LOG FOR FLOODPROOFING SYSTEM

RIVER POINT
2100 2nd STREET SW
WASHINGTON, DC

INSTRUCTIONS: THIS LOG SHALL BE UPDATED TO INCLUDE ALL MAINTENANCE PERFORMED AT THE FLOODWALL STRUCTURE

DATE	PERSON CONDUCTING MAINTENANCE	AREA OF MAINTENANCE	PROBLEM(S) FOUND	ACTION(S) TAKEN

ATTACH MANUFACTURER'S SPECIFICATIONS AND MAINTENANCE REQUIREMENTS FOR THE FLOOD PROTECTION SYSTEM OF THIS FACILITY HERE