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Continuing Education Course #366
Resiliency Strategies for Smaller Scale Sites

1. What vertical datum are Base Flood elevations typically provided in from FEMA?
- ○ a. Mean Lower Low Water
- ○ b. NGVD 29
- ○ c. The local City or State datum
- ○ d. NAVD 88

2. How can sea level rise affect a site's stormwater management system?
- ○ a. It doesn't
- ○ b. It could reduce capacity of tidally influenced outfalls and cause more localized flooding
- ○ c. It could make drainage outfalls easier to access and maintain
- ○ d. It will allow free discharge off a site adjacent to a waterbody

3. What is the advantage in looking at the 10-day forecast twice during a week?
- ○ a. Allows some overlap in the forecast to provide a more accurate predication of what is to come
- ○ b. Makes it easier to plan for activities the following week
- ○ c. Can help for planning storm preparedness activities
- ○ d. All of the above

4. What is not a good operational practice to perform in advance of a forecast storm?
- ○ a. Stockpile loose materials or debris near a stormwater management receptor
- ○ b. Track the storm along its path as the forecast improves and gets closer to your site
- ○ c. Move hazardous material to a safer storage location
- ○ d. Clean debris and stormwater inlets and controls

5. What is a good strategy for determining a design flood elevation?
- ○ a. Use the FEMA Base Flood Elevation
- ○ b. Creating a hydrologic Model of the site to plug in different rainfall events
- ○ c. Protect up to a level of 4 feet above existing
- ○ d. All of the above

6. Why are Probable Maximum Precipitation (PMP) amounts used in dam safety analysis?
- ○ a. Other design storm models over-estimate precipitation events
- ○ b. Droughts are becoming more prevalent and severe
- ○ c. A breach or failure in a dam could lead to loss of life or severe destruction of property and environmental damage and therefore designs are made to an extreme precipitation event
- ○ d. It's just another way for engineers to make more money

7. Where is the location of the least resistance for flooding at a doorway?
- ○ a. At the handle
- ○ b. At the top of the door

○ c. Where the door meets the frame
○ d. Through the door itself

8. What is a limitation associated with waterproofing a concrete foundation?
○ a. They require significant concrete and formwork
○ b. They will need a footing drain or some way to convey the water away from the foundation
○ c. The coating has no visual impact above grade
○ d. They can handle being inundated for extended periods of time.

9. What is true about a sump pump system with respect to resiliency?
○ a. They are a good first line of defense
○ b. They will be able to handle large flooding events and keep a site dry
○ c. It is not recommended to have a backup electrical connection to operate them
○ d. They can provide a measure of redundancy and slow progress of flood waters

10. What protection does a check valve provide?
○ a. Backflow prevention against sewage backups and surge
○ b. Filters wastewater for cleaner effluent
○ c. Prevents certain sized solids from passing downstream
○ d. Prevents unauthorized discharge of contaminants from entering a sewer system

11. Why do flood doors need to be stronger than a conventional door?
○ a. Doors get heavy when wet
○ b. To provide better thermal insulation
○ c. To allow better visibility during a storm event
○ d. To resist the hydrostatic forces the additional water places on the door.

12. What is NOT a good location for critical infrastructure?
○ a. On the roof
○ b. In the basement
○ c. On an elevated platform
○ d. On an upper level

13. What is the most common type of temporary flood barrier?
○ a. Styrofoam panels
○ b. Soil Stockpiles
○ c. Solid Panels
○ d. Mesh bags

14. What is the longest task involved in deploying geotextile and welded frame barriers?
○ a. Unpacking them from storage
○ b. Finding where you left the instruction manual
○ c. Filling them sand or water
○ d. Putting them in place

15. What is not an advantage of a soft plastic membrane barrier?
○ a. They are cheaper than other barriers
○ b. They can be customized with your company logo
○ c. They don’t take up a lot of storage space
○ d. They are easy to deploy

16. What is the advantage of creating a sacrificial flood area on your site?
- a. It's a good conversation piece when discussing the property with others
- b. It prohibits your client from developing part of the site
- c. It doubles as a safe location to place critical infrastructure
- d. It creates a location to receive the floodwaters first, away from the critical infrastructure

17. What impact does reducing impervious cover have?
- a. Reduces the amount of runoff generated from the site
- b. Increases the amount of infiltration/recharge generated on site
- c. Adds more green space to a site
- d. All of the above

18. What is the biggest disadvantage of large-scale subsurface storage?
- a. They are expensive
- b. They allow you to retain a large amount of water onsite
- c. They allow you to recharge a lot of water during a store event
- d. They take up a lot of room on the surface of the developed site

19. What needs to be investigated when creating a new flood protection berm around an area?
- a. Groundwater levels at the site
- b. The building usage
- c. The existing stormwater management system
- d. The type of heating used in the building

20. What appurtenance is needed to complement a flood wall/barrier protecting critical infrastructure?
- a. A window
- b. A door
- c. Ventilation
- d. A stereo system

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