TYPES OF INTERIOR FLOOD RISK MANAGEMENT MEASURES

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Federal Triangle Flooding Workshop
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INFRASTRUCTURE UPGRADES

- Stormwater pipe rehabs
- Increased capacity
- Pump stations
Divert water from one watershed to another through pipes or overland channels
UNDERGROUND STORAGE

- Underground storage facilities

Stormwater Vault

Underground Storage (Tokyo Example)
RETENTION- TUNNEL AND STORAGE

Ladybird Tunnel Boring Machine (TBM)
UPSTREAM RETENTION/DETENTION
“LIVING WITH WATER”

New Orleans, Louisiana
MULTI-USE RETENTION AREAS

Pre-Storm

Post-Storm

Rotterdam, Netherlands
MULTI-USE RETENTION AREAS

Pre-Storm

Copenhagen, Denmark

Post-Storm
BLUE-GREEN INFRASTRUCTURE

Pre-Storm

Copenhagen, Denmark

Post-Storm
GREEN INFRASTRUCTURE

Green Roof

Bioretention
SMALL FLOOD WALLS AND BERMS
WET FLOOD PROOFING

Anti Back-flow valves

Flood Vent
INTERIOR ELEVATION
ELEVATION- UTILITIES

HEAT PUMP OR A/C ON PLATFORM

FUEL OR PROPANE TANK ANCHORED ON PLATFORM

BFE

WATER HEATER AND FURNACE ELEVATED ON A PLATFORM

FLOOD VENT (OPENING)

ABOVE BFE
BREAK OUT SESSION

1.) What projects/activities are planned in Federal Triangle?

2.) What opportunities exist in the Federal Triangle area that should be considered during the development of any flood risk management project?

3.) What challenges/limitations exist that should be considered during the development of any flood risk management project for the Federal Triangle area?
OPPORTUNITIES

- A.
- B.
- C.
- D.
- E.
- F.
- G.
- H.
- I.
- J.
OPPORTUNITIES

- K.
- L.
- M.
- N.
- O.
- P.
- Q.
- R.
- S.
- T.
CHALLENGES

- A.
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