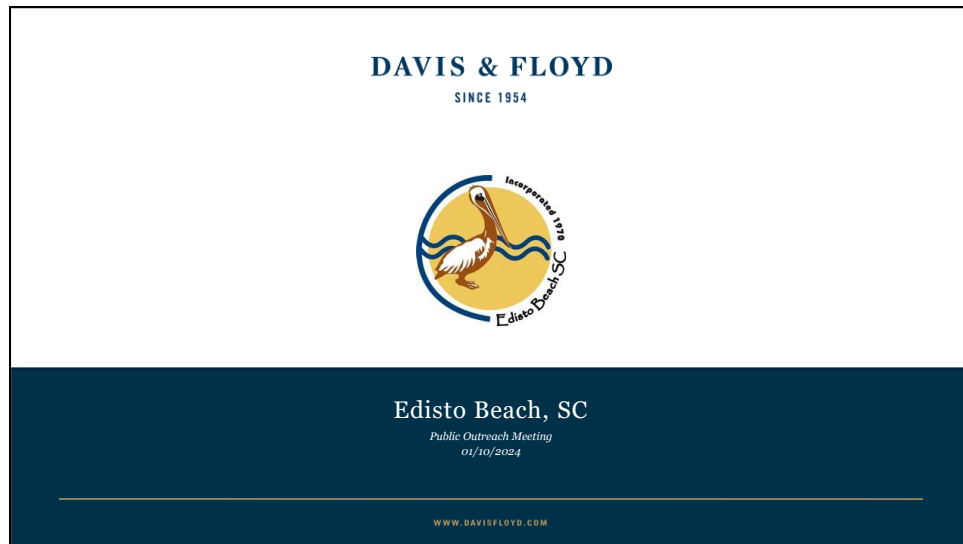
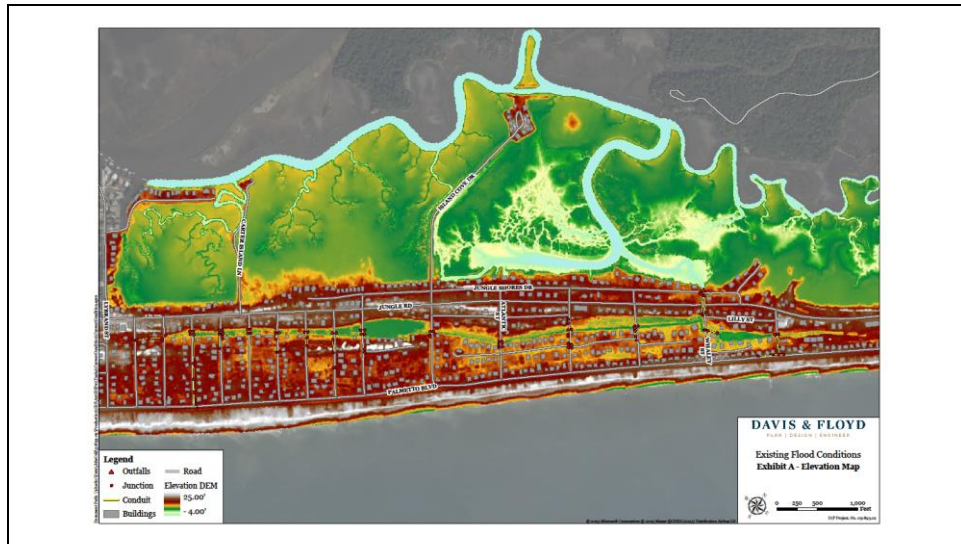


Slide 1



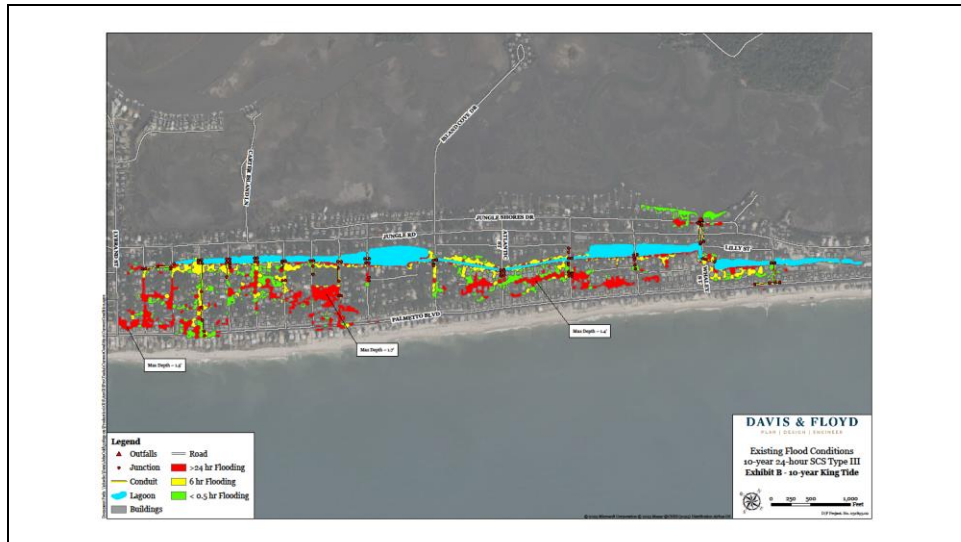
Presentation of the current status of the study of the performance of lagoons that serve as the stormwater management for the portion of the island east of Lybrand St. Purpose of the study is to develop a comprehensive view of the contributing areas and how they interact with the lagoons and tide elevations, identified any sources of known flooding or drainage issue areas, and develop recommendations to reduce these issues for current conditions and for predicted changes in rain and tides. Study is focused on the performance associated with rainfall and tides only. Other coastal hazards such as beach erosion and break through storm surges are excluded. We are looking to move towards developing and modeling potential improvements to turn into recommendations for the Town. Public input for past experiences compared to modeled results or input for potential improvements are welcome and encouraged.

Slide 2



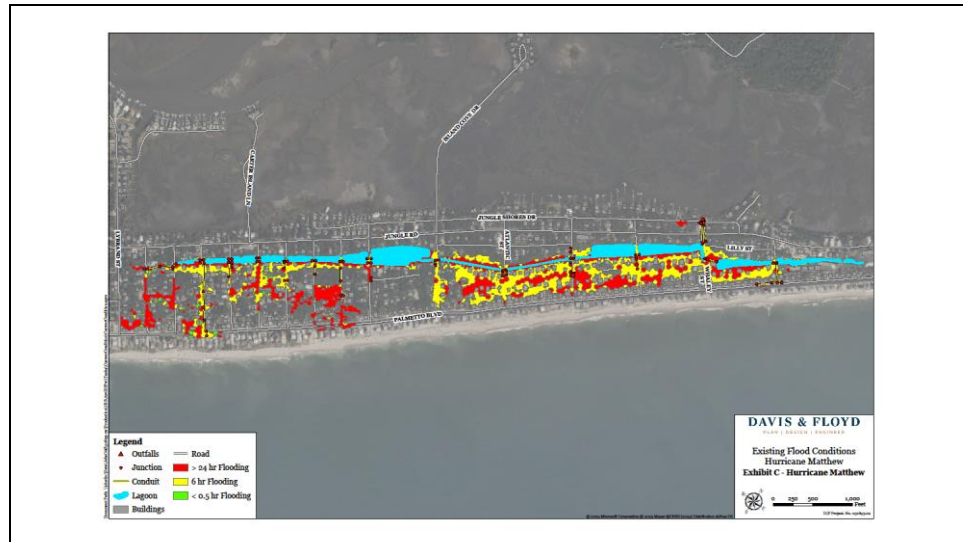
- Elevation rendering of the study area extended to Scott Creek.
 - Contributing area to the lagoons is bounded by Lybrand St., Palmetto Blvd., Jungle Rd., and the Food Lion parking lot.
- The elevation, road and building data are pulled from publicly available databases.
- The red dots are pipe ends or manholes identified from visual inspection and/or historical plans.
- Color ramping goes from blue to light yellow, green, dark yellow, red, and then finally white as elevations get higher.
- Most of the island study area ranges from just below an elevation of 4' to around 11'.
 - The dark yellow areas surrounding the lagoons are the areas around the 4' elevation.
 - The areas of white along the beach-facing area of Palmetto Blvd. are the areas approaching the 11' elevation along with a few small areas near Jungle Rd.
- Elevations (including tide) here and throughout the presentation are based on the North American Vertical Datum of 1988 (NAVD88).

Slide 3



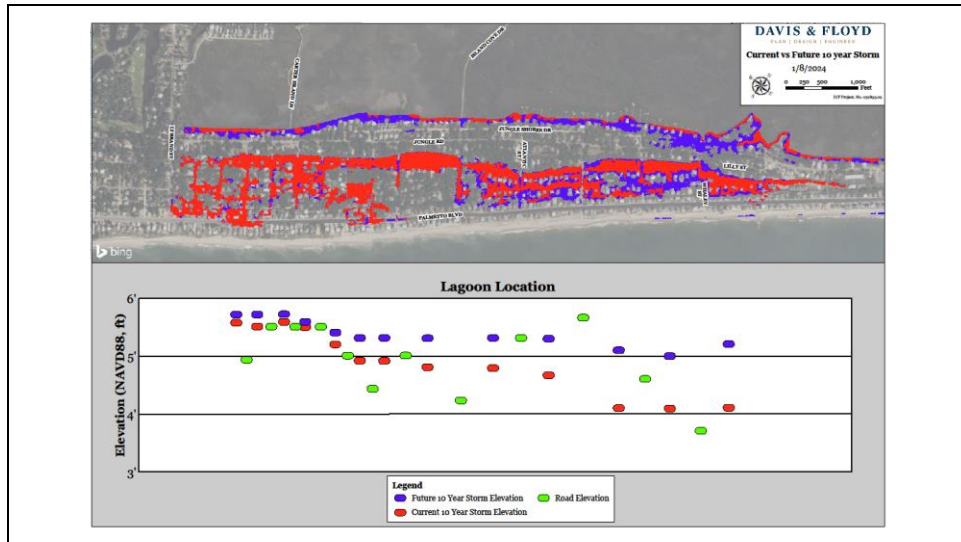
- Rendering showing the footprints of modeled water surface elevations exceeding the ground elevations and color coded to the length of time the water is above ground elevations.
- The model producing these results is based on 10-yr design storm event (a storm event that has a 10% chance of occurring each year) and a King Tide occur during this simulated storm event.
 - The current rainfall amount of such a design event is 6.59 inches over a 24-hr period.
 - The current King Tide elevation is just over an elevation of 5.0' (NAVD88).
- The red areas denote the areas that have flooding lasting the longest periods of time depths around 1.5' as noted.
 - The vast majority of these red areas are lower than the area immediately surrounding them and have elevations between 4'-5'.

Slide 4



- Rendering showing the footprints of modeled water surface elevations exceeding the ground elevations and color coded to the length of time the water is above ground elevations.
- The model producing these results is based on NOAA rainfall and tide data for Hurricane Matthew in 2016.
 - The current rainfall amount was 16.9 inches over a period that was almost right at 24 hours. There were multiple 1-2 in/hr rainfalls rates with a peak rate of 3.3 in/hr.
 - The peak tide elevation that was experienced was approximately 6.6' (NAVD88).
- The red areas denote the areas that have flooding lasting the longest periods of time depths around 1.5' as noted.
 - The majority of these red areas are lower than the area immediately surrounding them and have elevations between 4'-5'.

Slide 5



- Rendering showing the footprint of water surface elevations that exceed ground elevations for current conditions and predicted changes in rainfall and tides in the next 50 years.
- Graph is also provided to give a sort of profile view through the lagoon system and its pipe crossings. It shows the relationship of modeled current and future
- Future expectations are pulled from US Interagency group that includes NOAA, NASA, and the Army Corps of Engineers, among others.
- Modeling results shown are based on the 10-yr design storm event (a storm event with a 10% chance of occurring in a year).
 - Current storm event is based on 6.59 inches falling over a 24-hr period.
 - Future storm event is based on 6.87 inches falling over a 24-hr period.
- Modeling results also include normal expected tide elevations ranging from Mean Lower Low Water to Mean Higher High Water elevations.
 - Current high tide (non-King Tide) elevation is 4.09' (NAVD88).
 - Future high tide (non-King Tide) elevation is 5.80' (NAVD88).

Slide 6



Pictures of the lagoon system outfall to Scott Creek at the intersection of Jungle Shores Rd. and Whaley St. Picture showcases the tide elevation change as it approaches it low and high points during the time these were taken.