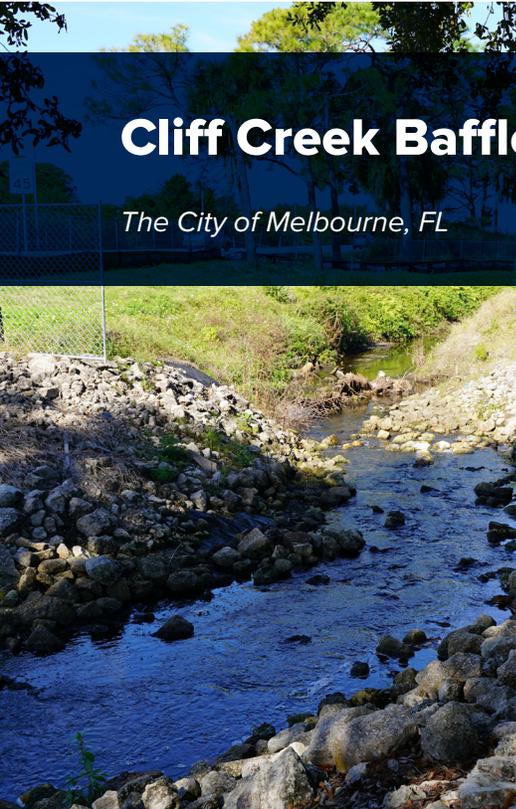


Cliff Creek Baffle Box

The City of Melbourne, FL



PROJECT OVERVIEW

CUSTOMER:

The City of Melbourne, FL

PRODUCTS:

- 20'x24' Nutrient Separating Baffle Box® + SkimBoss® upflow filter
- Box Culvert
- 24" ADS HP Pipe
- D2 Fabric

LOCATION:

Melbourne, FL

CHALLENGE:

The Indian River Lagoon (IRL) is a local impaired water body in a state of an ecological crisis. High levels of nutrient pollution from up and down the coast continue to discharge into the IRL. This stormwater runoff has been linked to algae blooms and fish kills that have plagued the IRL.

SOLUTION:

The Nutrient Separating Baffle Box® (NSBB) is the most advanced hydrodynamic separator for removing all types of pollution including nitrogen, phosphorus and Total Suspended Solids (TSS).

PRODUCT ADVANTAGES:

- Removal of sediment, trash, foliage, nitrogen and phosphorus
- Largest baffle box east of the Mississippi River
- The NSBB treats the entire flow in an online configuration with internal bypass (the most cost-effective solution for the city)
- Design minimizes the need for confined space entry for servicing and inspection

The City of Melbourne, FL lies along the Indian River Lagoon (IRL). Melbourne—among other cities in Brevard County—has been proactive in trying to invest in infrastructure projects that are designed to treat the stormwater runoff that finds its way into the Indian River.

Public funding became available for projects like the Cliff Creek baffle box via the Indian River Lagoon Tax, a half-cent sales tax. Melbourne wanted to make a big stand in their efforts to combat pollution in the IRL and in doing so they have designed the largest baffle box east of the Mississippi. This baffle box treats a 515-acre basin, removing remove 3,394 pounds of nitrogen and 829 pounds of phosphorus each year.

PROJECT QUOTE:

Components:

1. 20'x24' NSBB+UFF
2. 32 LF Box Culvert
3. 100' of 24" ADS HP Pipe
4. 2000 SY D2 Fabric
5. Turf Reinforcement Mats
6. Polymer Flocculant (PAM)

TOTAL= \$268,444

The Cliff Creek baffle box project focus involved installation of the Nutrient Separating Baffle Box® (NSBB), box culvert and various other earthwork and grading to tie all the drainage together.

We recommended a Nutrient Separating Baffle Box with SkimBoss® upflow filter with Bold & Gold®, a high performance biosorption activated media (BAM). In order to meet the design flow for this project, this baffle box needed to be larger than standard mold sizes. With our partners at Oldcastle Infrastructure, the final resulting design was a 20'W x 24'L x 15'H precast concrete structure. Treatment systems of this scale can often require engineers to have the best management practice (BMP) in an offline configuration. This takes us more space and and increases cost. Through Hydro-Variant Technology® by use of Oldcastle Infrastructure's floating skimmer and their SkimBoss® upflow filter, we were able to provide a BMP with the highest level treatment while staying online and not compromising the hydrology of the watershed.

The Solution: Ferguson Waterworks

The City of Melbourne has a longstanding relationship with Ferguson Waterworks and our many capabilities as well. When it came to a project of this scale, there was only one product, backed by a team with the right industry knowledge and experience that would make the Cliff Creek retrofit work. Oldcastle Infrastructure's Nutrient Separating Baffle Box®'s unique features like the centrally located screen system, top doors, deflectors and SkimBoss® upflow filter with Bold & Gold® media made it the best solution for this project. Along with ability to treat water, the city also liked the serviceability that NSBB offers—a crucial component to any treatment devices overall performance.

The most important factor that sets us apart from our competitors is our experience and proven track record with all the features, technologies, and details wrapped up into advanced hydrodynamic separators. Brevard County alone has dozens of baffle boxes and other Oldcastle Infrastructure stormwater devices that have been successful for years. At the end of the day, when it came time to do a project of this scale, the City of Melbourne came to people they knew for a product that they trusted.

For more information, contact Ferguson Waterworks associate Daniel Happel at (407) 859-7473