

# Riparian BMP As-Built Report: Town Branch Creek

**Water Body:** Town Branch (Segment 1810A), a tributary to Plum Creek  
**Grantee:** City of Lockhart, Texas  
**Subgrantee:** Nueces River Authority (NRA)  
**TCEQ Contract No:** 18-80212  
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**PREPARED IN COOPERATION WITH THE**  
**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY AND**  
**U.S. ENVIRONMENTAL PROTECTION AGENCY**

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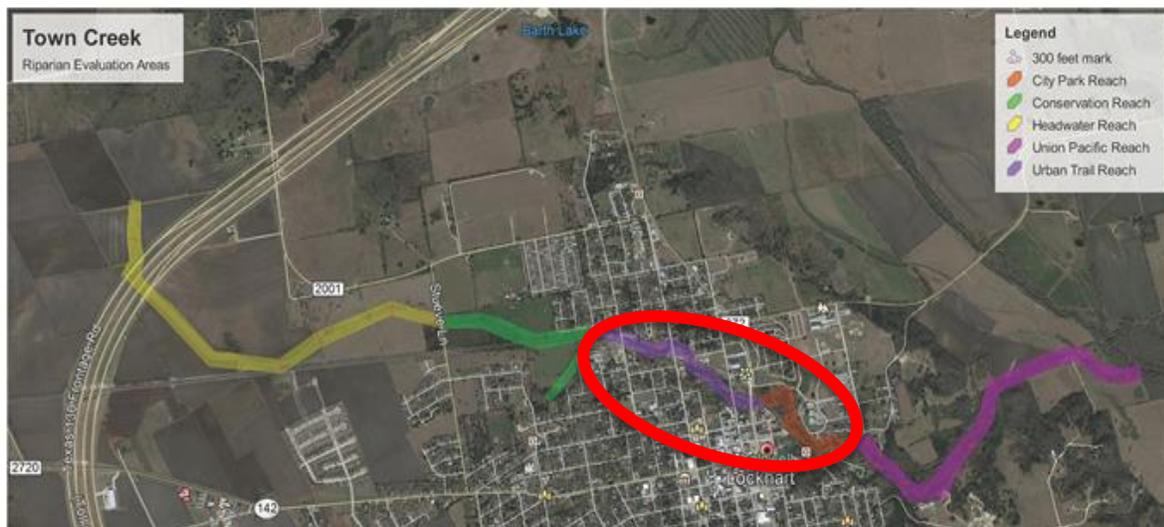
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# Background & Introduction

The 2014 Texas Integrated Report identified elevated bacteria concentrations and concerns for impaired habitat, nitrates, and total phosphorus in Plum Creek, segment 1810\_02. The report also listed Town Branch Creek, segment 1810A, a tributary of Plum Creek, with water quality concerns for bacteria concentrations in excess of the standard, depressed dissolved oxygen, and excessive nitrate levels.

An evaluation of the riparian functional conditions along Town Branch Creek was included in TCEQ project #18-80212 to help inform creek restoration plans. The evaluation identified opportunities for improved function through the implementation of Best Management Practices designed to address an identified hinderance.

After the evaluation a Best Management Practice (BMP) Report was produced identifying specific practices to address the identified hinderances and help improve water quality in Town Branch Creek. The report focused on BMP's that could be implemented on City owned property including a special focus on two reaches; the Urban Trail Reach and the City Park Reach, shown in Fig. 1 circled in red. A mowing setback and riparian plantings were recommended as BMP's for various sites within the Urban Trail and the City Park reaches.

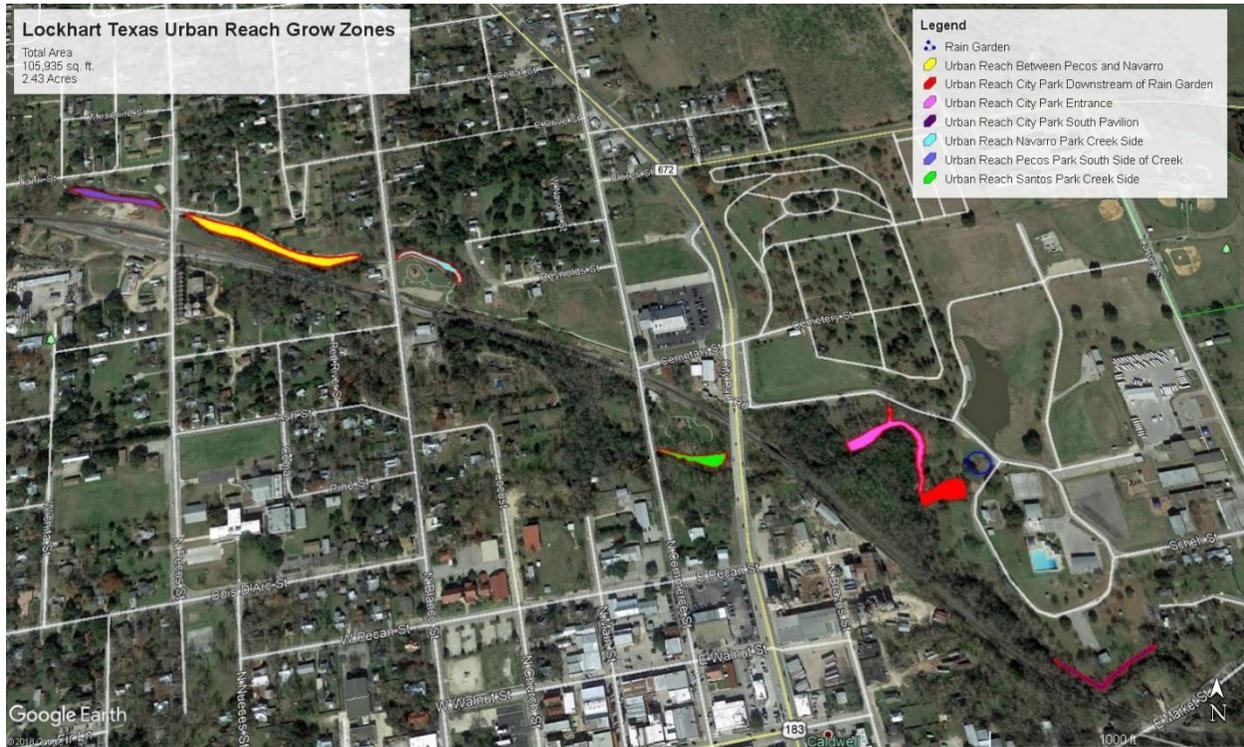


*Fig 1. Aerial map of Town Branch Creek showing the Riparian Evaluation Areas highlighted with the two areas where City management prevails circled in red.*

## Grow Zones with Riparian Plantings As-Built

Collectively called the **Urban Reach**, the riparian areas under the City's management are being allowed to grow tall vegetation (grow zones) and were the target for a riparian planting program. E. Gamma (FAC SR9) and Texas switchgrass (FAC SR8/9) plant plugs were sprouted in containers and were installed on May 6, 2020 at select sites along the creek. The established grow zones, where mowing has been set back, are presented below shown with highlighting.

### Urban Reach Grow Zones



*Fig 2. Google Earth<sup>™</sup> image of the Urban Reach of Town Branch Creek with the riparian BMP locations identified. These six established locations are being called "Grow Zones" where mowing setbacks and riparian planting was accomplished.*

There are six areas under City management included in the grow zones totaling about 2.43 acres and presented on the following *Google Earth<sup>™</sup> images*. Within two of these areas 767 riparian grass plants were installed. The riparian planting sites were documented with a GPS equipped camera and those locations are plotted on the following *Google Earth<sup>™</sup> images*. Exact planting sites were chosen in the field based on appropriateness for the species and survivability without additional care.

## UR 1 Pecos Park South



*Fig 3. Google Earth™ image of the UR1 mowing setback grow zone highlighted in purple.*

## UR 2 Pecos to Navarro



*Fig 4. Google Earth<sup>™</sup> image of the UR2 mowing setback grow zone highlighted in yellow between Pecos and Navarro Streets.*

### UR 3 Navarro Park



*Fig 5. Google Earth<sup>™</sup> image of the UR3 mowing setback grow zone highlighted in blue within Navarro Park.*

### UR 4 Santos Park



Fig 5. Google Earth<sup>tm</sup> image of the UR4 mowing setback grow zone highlighted in green within Santos Park.

UR 5 City Park Entrance and Tributary Drains



Fig 6. Google Earth<sup>tm</sup> image of the UR5 mowing setback grow zone highlighted in red and purple in the entrance area of the City Park and along tributary drain ways.

UR 6 City Park South Pavilion



Fig 7. Google Earth<sup>tm</sup> image of the UR6 mowing setback grow zone highlighted in purple along the creek in south pavilion area of the City Park.

### Riparian Plants Installed

The riparian species selected for installation along Town Branch Creek carry stability ratings of 8/9 for their ability to withstand floods with a stability rating (SR). SR1 is bare ground and SR10 is equivalent to the strength to anchored rock. These ratings are based on the information published in *USDA TR47: Monitoring Vegetation Resources in Riparian Areas*, A. Winward, 2000, and can be found in the Remarkable Riparian Field Guide. They are both classified as Facultative plants meaning they can utilize wet and dry conditions while prospering. The wetland indicator status, based on the U. S. Fish and Wildlife Service’s Wetland Plant List (1988), for Obligate (OBL) and Facultative Wetland (FACW) plants to rely more heavily on wet conditions where Facultative (FAC) plants can withstand wet and dry conditions.

Description	Type	Wetland Indicator Status	Stability Rating
Eastern gamma	Seedlings	FAC	9
Switchgrass	Seedlings	FAC	8/9



Fig 8. Google Earth<sup>tm</sup> image of the approximate planting sites for Eastern gamma and Switchgrass plants within the UR1 Pecos Park area.



Fig 9. Google Earth<sup>tm</sup> image of the approximate planting sites for Eastern gamma and Switchgrass plants within the UR5 City Park area.