



ALACHUA COUNTY PUBLIC WORKS 2020 STORMWATER

Contents

Completed Projects

Alachua County Jail Spillway Replaced	2
Blueberry Bay Ditch Excavation	3
Blues Creek Damaged Culvert Repair	4
Deer Run Subdivision Retention Pond Sediment and Brush Removal	5
Fairbanks Culverts Replaced	6
Edgecliff Subdivision Ditch Excavation and Seeding	7
Emerald Woods Water Removal with Gator Pump	8
Hayes Glen Pipe Permanent Piping	9
Old Steam Boat Canal from Lake Alto to Little Lake Santa Fe Debris Removal	10
North Main Street Paved Ditch Repair	11
“Red Lobster” Basin Permanent Piping	12
Robin Lane Subdivision Pond Restoration and Permanent Piping	13
Parker Road Cross Drain Washout Repair with Rip-Rap	15
Lochloosa Ditch off US 301 Sediment and Vegetation Removal	16
Sunningdale Basin Permanent Piping	17
Tomoca Hills Basin Restoration	18
NW 41st Street Drainage Cement Spillway Repair	19
NW 59 th Drive Cross Culverts Replacement	20
SW 20th Avenue Traffic Control and Sediment Removal	21
NE 73rd Avenue Cross Culvert Installation	22
NE CR 231 Concrete Cross Culvert Repair	23
E CR 225 Concrete Culvert Repair	24
SE 35th Street Basin Permanent Piping	25
SE 177 th Avenue Culvert Replaced	26
SE 225th Drive Three Culvert Replacement	27
Deer Creek Basin Maintenance	28
Emerald Woods Basin Maintenance	29
<u>Current Projects</u>	
SE 185 Ave/ 59 th Street Intersection Drainage Improvements	30
CR2054/NW 234 Street Intersection Drainage Improvements	31

Achua County Jail Spillway Replaced

Description:

The Stormwater Crew completed a drainage system repair which required demolition and replacement of concrete slabs.



Blueberry Bay Ditch Excavation

Description:

Restoration of roadside drainage system on NE 114th Avenue near Santa Fe Lake. This work was requested because the deterioration of the roadside drainage was beginning to affect the adjacent residences. The drainage pattern was restored by removing accumulated sediment. Impact to trees in the right-of-way is minimized.



Blues Creek Damaged Culvert Repair

Description:

The storm sewer providing drainage for the NW 52nd Terrace became completely clogged with tree roots. Crews worked to remove the root ball from the concrete pipe and flush accumulated debris from the pipe.



Storm sewer impacted by roots

Deer Run Subdivision Retention Pond Sediment and Brush Removal

Description:

Crews are restoring a stormwater basin that serves the roadways in the northern portion of Deer Run. This is a wet detention pond that became overgrown with vegetation and full of muck. The basin's water quality treatment volume was greatly diminished by the volume of vegetation and muck. This basin discharges to Blues Creek. Operations were conducted to prevent water quality impacts to Blues Creek. Residents were reporting this area as an eyesore and appeared to welcome the work.



Overgrowth and muck removal



Access clearing and muck removal

Fairbanks Culverts Replaced

Description:

Heavy rainfall and wet season water tables caused roadway and yard flooding Along NE 76th Avenue and NE 52nd Terrace. Improvements to the roadside ditches provided relieve to residents who were having issues accessing their property.



Ditch grading and driveway culvert repair

Edgecliff Subdivision Ditch Excavation and Seeding

Description:

This work restored the flowline of existing swales along the roadways in the subdivision. Some properties depend on these swales for the drainage of their yards.



Ditch grading

Emerald Woods Water Removal with Gator Pump

Description:

This work was done to draw down the water level of a basin that had filled up and remained outside of its boundaries. Public Works is planning to improve the soils in the bottom of the basin to provide faster infiltration of stormwater.



Basin pumping with PTO powered "Gator" pump

Hayes Glen Pipe Permanent Piping

Description:

Crews installed PVC piping from a flood plain in Hayes Glen to a drainage easement in the adjacent Cheney Walk Estates subdivision. This location has a history of roadway and property flooding. The permanent piping will allow us to rapidly deploy pumps after flood events, as well as focus manpower on other recovery efforts.



Permanent piping installation

Old Steam Boat Canal from Lake Alto to Little Lake Santa Fe Debris Removal

Description:

The debris removal was to address citizen concerns about the interaction of the water levels in Lake Alto and Little Lake Santa Fe through the canal. In addition to removing debris, survey crews established monitoring locations for both lakes to observe the relationship of the water levels.



Canal obstruction

North Main Street Paved Ditch Repair

Description:

Undermining of the concrete ditch paving necessitated repairs to a portion of this drainage ditch near NW 23rd Avenue on N. Main street.



“Red Lobster” Basin Permanent Piping

Description:

Public Works maintains the water levels in the stormwater basin along NW 69th Terrace just north of Newberry Road across from the Red Lobster restaurant. This basin serves NW 69th Terrace and several other County-maintained roadways. This wet detention basin has no outfall and has poor infiltration. The water level is maintained by pumping. Before and after major storm events pumping is done to prevent/relieve roadway and property flooding in this area. The PVC piping replaces hose that has been used historically which often suffered from leaks and pressure limitations. The new piping will reduce staff time associated with routine operations as well as flood response.



Portable pump connected to permanent piping with high pressure hose



Assembling permanent piping

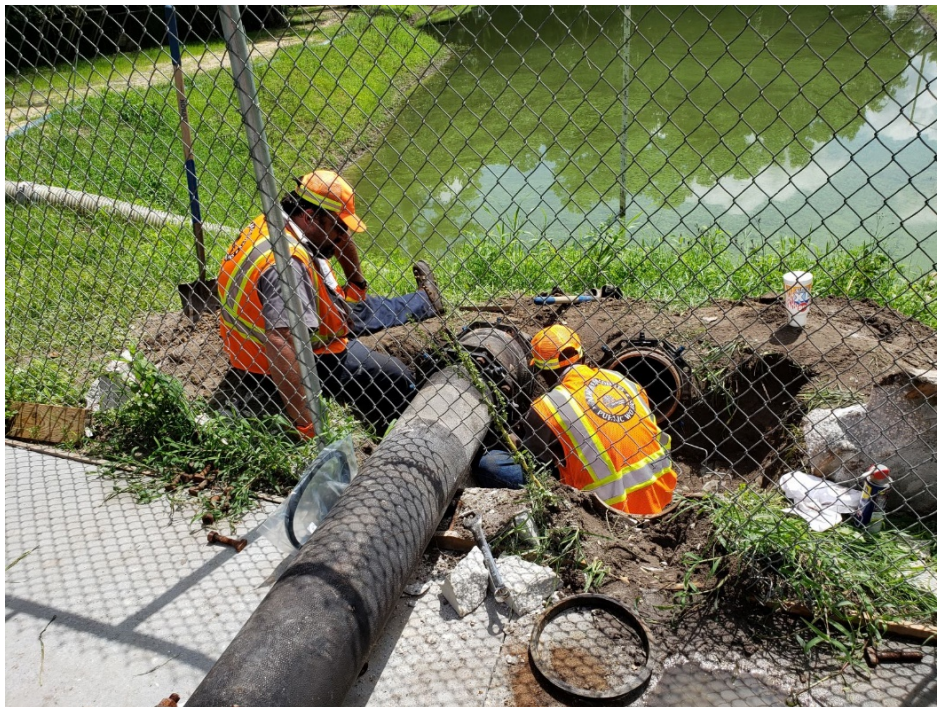
Robin Lane Subdivision Pond Restoration and Permanent Piping

Description:

Public Works maintains the stormwater basin located near the intersection of NW 39th Avenue and NW 75th Street which serves the Robin Lane subdivision. The characteristics of this basin are similar to the “Red Lobster” basin, having no outfall and poor infiltration. This basin has flooded SW 75th Street on several occasions as well as to nearby homes. Permanent piping was installed which connects to the drainage system for NW 39th Avenue which is owned by FDOT. This connection allows pumping in preparation/response to major storm events. Prior to this work, County crews had to place discharge hose across the sidewalk and along the gutter on 39th Ave to discharge into FDOT’s system in order to conduct pumping operations. This impacted pedestrians and motorists on NW 39th Ave. The basin bottom was also dredged to improve infiltration.



New pump primarily for Robin Lane



Dual intake pipes being installed



Connecting permanent piping from Robin



Dredging Robin Lane basin bottom

Parker Road Cross Drain Washout Repair with Rip-Rap

Description:

The flow out of this cross-drain caused erosion within the right-of-way and on the side slope of an adjacent receiving basin. Due to the severity of the erosion, rip-rap was utilized to stabilize the area rather than seeding/sodding.

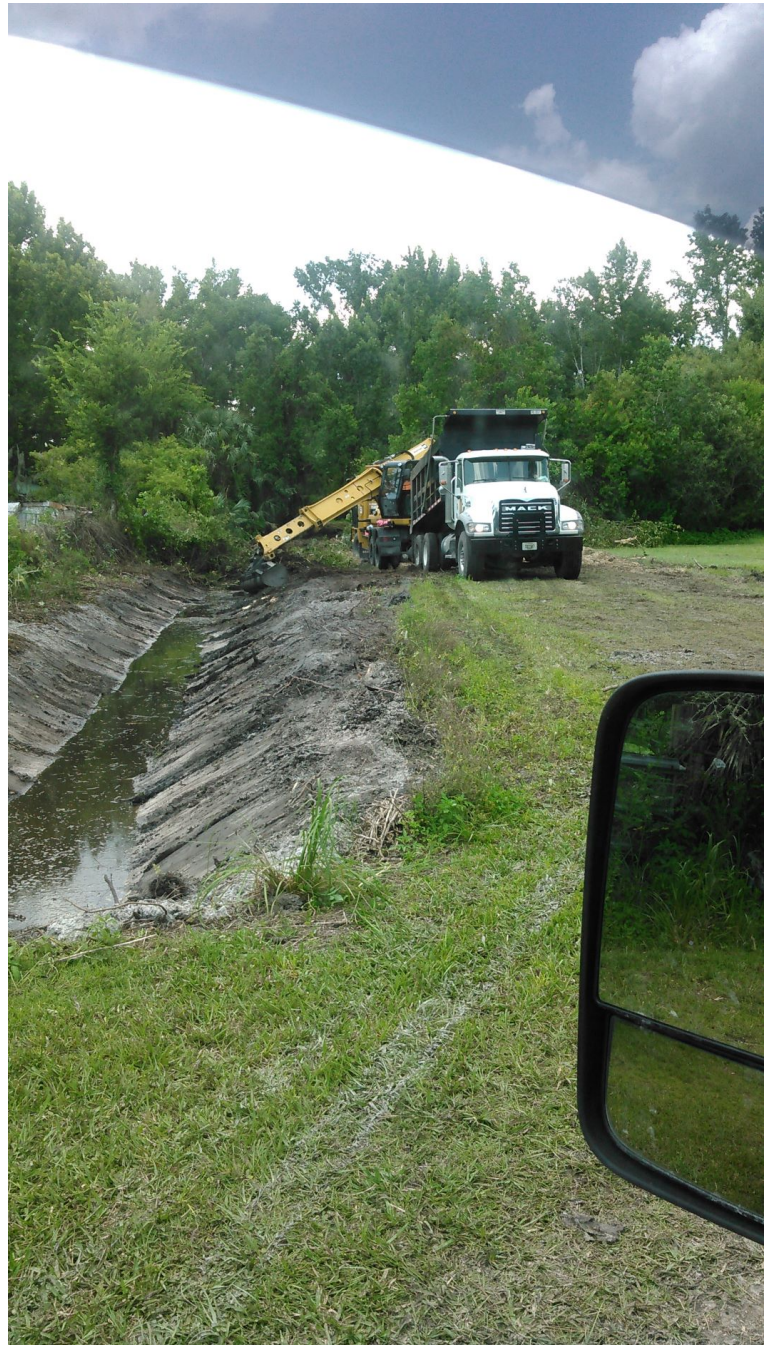


Cross-drain outfall stabilization

Lochloosa Ditch off US 301 Sediment and Vegetation Removal

Description:

This work is typical of work done to conveyance ditches around the County. The County has drainage easements like this that serve subdivisions and rights-of-way where routine removal of sediment and vegetation is needed to allow the movement of water.



Gradall and dump truck cleaning a ditch

Sunningdale Basin Permanent Piping

Description:

Permanent piping was installed underground to improve the maintenance and emergency operations that have been conducted at the basin located along SW 1st Place at SW 80th Drive. The wet detention basin has no outfall and has required pumping for both maintenance and emergency purposes. The installation of the permanent piping allows these operations to be conducted much more quickly and efficiently than was previously possible utilizing hoses/pipes that had to be set up and removed for each instance.



Above ground piping used previously

Tomoca Hills Basin Restoration

Description:

This work was undertaken to restore the stormwater basin located in a drainage easement in Tomoca Hills. Flooding occurred downstream south of 8th Avenue after Hurricane Irma and the Board directed staff to locate areas where work could be done to reduce flooding. The basin bottom was cleared and was to be planned to be leveled and have sediment removed. Work was stopped due to potential litigation but may resume depending on the outcome of discussion with the property owners or there representative.



NW 41st Street Drainage Cement Spillway Repair

Description:

A concrete lined spillway associated with the NW 16th Blvd drainage system needed repairs due to erosion. The crew worked to repair eroded portions of the spillway and so seal cracks to prevent further deterioration.



NW 59th Drive Cross Culverts Replacement

Description:

The existing pipes under NW 59th Drive were failing due to age of the materials. The two-lane roadway was temporarily closed in order to remove and replace the pipes and restore the roadway.



SW 20th Avenue Traffic Control and Sediment Removal

Description:

Crews worked to remove sediment and vegetation from the concrete ditch located on SW 20th Avenue at SW 38th Terrace. This type of work requires crews to implement a maintenance of traffic plan that complies with FDOT standards. It is critical that the standards are followed to provide safety for the public and for the workers.



NE 73rd Avenue Cross Culvert Installation

Description:

This pipe was installed to restore drainage across NE 73rd Avenue along CR 225 (Race Track Road). Prior to the work runoff from CR 225 and adjacent lands was flowing over NE 73rd Avenue, no existing pipe could be located and engineering staff worked with field crews to determine the best location for constructability and to avoid existing utilities.



NE CR 231 Concrete Cross Culvert Repair

Description:

This roadway was constructed by FDOT and was later given to the County. Erosion around a pipe headwall resulted in a dangerous drop-off along the roadway. Crews extended the cross-drain to allow for a flatter slope which will be less prone to erosion in the future.



E CR 225 Concrete Culvert Repair

Description:

Like many County roadways, this road was turned over to the County by FDOT. The work at this location the concrete pipe under the roadway had an opening in a joint which allowed soil to migrate into the pipe and ultimately led to a collapse in the roadway surface. The stormwater crew uncovered the pipe and repaired the joint before restoring the roadway.



SE 35th Street Basin Permanent Piping

Description:

Permanent piping was installed to assist in the maintenance operations conducted on a basin located at SE 35th Street and SE 17th Avenue. Previous pumping operations interfered with the citizens access to their homes due to the layout of discharge hose. Underground piping was installed to eliminate conflicts with the citizens and greatly reduces staff time to conduct pumping. In the past many hours and days were spent repairing leaks in the hose due to damage from vehicles.



SE 177th Avenue Culvert Replaced

Description:

Aging culverts being replaced by the stormwater crew.



SE 225th Drive Three Culvert Replacement

Description:

Aging culverts being replaced by the stormwater crew.



Deer Creek Basin Maintenance

Description:

Crews removed organic debris and vegetation that had completely filled the basin and diminished its capacity.



Emerald Woods Basin Maintenance

Description:

Crews removed organic and clay layer from basin bottom and replaced said material with clean sand to allow infiltration through existing areas of sandy bottom.



SE 185 Ave/ 59th Street Intersection Drainage Improvements

Description:

Re-establish natural drainage patterns to lessen potential for washouts on the graded road. Secondary benefit will be the elimination of drop-offs at the intersection.

CR2054/NW 234 Street Intersection Drainage Improvements

Description:

Modify the roadside swale to convey runoff from the intersection back onto adjacent development, with the Developer's cooperation.

