

## **PARKSIDE PLACE HOMEOWNERS ASSOCIATION, INC.**

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### **DRAINAGE ISSUES**

**References: Declarations 5.01.6:** Maintenance of the subject property by the Association: The Association shall operate, maintain, repair and replace, as a common expense, the following portions of the subject property, as detailed in: 5.01.6 Surface Water Management System.

**Preamble:** After the September, 2014 downpours caused considerable flooding and ponding, Andrew Weeks made several daily tours of the property and at multiple hour intervals to see what transpired after the rain had stopped and several hours of draining had occurred. All the roadways were draining properly, from top center to edge (camber) and from their high points to ends (pitch). Our problems are *not* with the roadways, but with the water once it reaches the outside edges of some of the Miami gutters and some of the swales and various sump pumps. The most seriously affected areas were the roadways east of the 2400 building, and between buildings 1900, 2000, 2100 and 2200: hours after the rain had stopped, both roadways curb to curb were still under 3-4 inches of water even at the crown. Note: I have not listed any area which appeared flooded yet within 6 hours was empty.

**11/03/14:** Andy met with Todd Scaldo, Public Works Director, IHB to review questions regarding: The Dunes Apartments, Tires Plus, the pumping station at S. Patrick, the culvert behind building 300a and the swale south of 502. He advised that we do *not* need any permissions to remedy issues on our property as we will not be changing anything, only remedying existing conditions; however, we may need permits from IHB Building Dept.

### **2014 Situation and Activities – as reported by Andrew Weeks**

**Drains/StandPipes:** Although referred to as “French Drains”, they are not in-filled with stone; according to Wally Berger (#2007), they were simply holes lined with pipe dug through the impermeable soil down far enough to allow water to reach the sand level and percolate. There are 3 10" at 1701, 2101, 2202 and a horizontal 6" pipe at 502; all 4 are completely blocked. Wally noted on an earlier report that the one at 1701 had a broken capstone.

1. All 3 at 1701, 2101 and 2202 need to be pumped out (down through the dense soil to the sand) and all 3 need new grates / caps as these are dangerously rotten and detached. Note: the pipe Wally noted with the access point next to the French drain is an irrigation feed, not a drain. Alternatively, at 2101, a grate and gravity-fed pipe could be run from the street to the pond.
2. At 502, the existing grate and drainpipe are blocked; they need to be flushed out or replaced.

### **Swales / Berms:**

1. Behind the 2400 building: the swale has filled in; the top 6-12 inches need to be removed (the sod is already dead). Even a minor rain causes ponding as there is nowhere for any water to go.
2. There are 2 ‘humps’ in the main swale: just south of the corner turn near the Publix gate west of 1510; and, just west of the bridge. These need to be removed.
3. The swale between the culvert and the FP&L barrier foliage has filled in and floods. The grass needs to be sloped down westward and a channel (ditch) cut to run into the FP&L barrier trees.
4. Along the west path from pool: there was substantial and prolonged flooding on the path and adjacent lawns. The top 6-18 inches need to be removed between the sidewalk and 701 (once done, north of 402 will drain across the sidewalk into the swale).
5. The channel in the swale behind 300A has filled in; 6-10 inches needs to be removed.
6. The berm at Tires Plus has eroded and needs to be rebuilt.

**Trenches:** On 12/18/14, LMI issued Work Order # 262 to Natural Harmony to dig out: this work was completed 1/16/15.

- West side of road at 502 needs a 4 - 6 foot trench dug southwestward.
- At 111/212: the existing trenches have filled in; they need to be dug out by hand.
- At the clubhouse south exit: the first few (6 to 8) feet the existing trench from the corner of the pavement to the swale.

**Sump Pumps:** There are 4: at the southwest corner of the property adjacent to the Publix parking lot at S. Patrick; @1410 driveway; near the east fence between 1609 and 1810; and, near the east fence between 2009 and 2208.

- At S. Patrick: Gault Electric installed new breaker and outlet for power supply 12/10/14.
- At 1410: the sump pump had failed; New Harmony / Gault Electric installed a new unit in October.
- At 1609 / 1810: Jon@Natural Harmony reattached severed wires in November.
- At 2009 / 2208: Jon@Natural Harmony removed clogging vegetation overgrowth in October. Jon@Natural Harmony checked all (except S. Patrick) during the rains between Nov. 24 and Dec. 2 and reported that all were working.

**At Our Neighbors The Dunes Apartments and Tires Plus:**

- On our street east of 2400 building: hours after the rain had stopped, the entire street curb to curb was still under 3 - 4 inches of water even at the crown. (Mr. Scaldo was clear with me that the city would not intervene in either case.)
- The Dunes: there is some flow but all their pavement and curbing is very old, so we don't seem to have much recourse. As it is, the sumps along the fence seem to be able to handle this flow.
- Tires Plus: Some of the flooding appeared to be the result of overflow from them, as evidenced by gully washes below the bushes. Part of the lawn at Tires Plus has depressed and appears to dump water onto our property. On Nov. 3, 2014, I went and spoke to James Van Meerten, Store Manager at Tires Plus to ask simply whether they owned the property or was there a landlord. When I explained why I was asking he became very annoyed so I left. We may be able to use some of the earth we dig out of the trenches to build up a berm on our side of the property line.

**Issues Relative to Publix Runoff and the Pumps Operated by Brevard County, IHB and Us:** On Saturday (9/20/14), during the rain downpour, I went out also to look at the rainwater flow between Publix and the 300/200 buildings; I then went over to the NE corner of the Publix parking lot to observe the catch basins inside our property and the pumps outside. Nov. 3, I went back to these areas with Todd Scaldo to have him show and explain to me how the system works.

- Todd showed me that the various pumps and pipes were/are operating properly.
- Enough water had been flowing from Publix to push 25-30% of the passing east to west flow into behind/between 300 and 200 and therefore onward toward our culvert. If this overflow were stopped by a berm, then we would have much less of a problem with water and debris at our culvert.
- Culvert between 301 and 502: substantial debris piles up at each rain and slows down the flow of water into the culvert; a grill would block debris from entering culvert and elevate the debris (it will float until soaked) so that the water flows more freely beneath the grill. Todd Scaldo took me to the IHB baseball fields where they have three of these installed to remedy the same problem. Yes, there would still be debris to be removed, but it would be on the surface of the grate, not in the culvert opening, and therefore more easily removed.

## 2015 Situation and Activities

At the Oct. 28, 2014 BOD meeting, President Palmer asked Vivian @ LMI to make correcting the drainage problems a priority. Andrew Weeks offered to contact potential contractors, show them the problems, and solicit bids. His original report is [here](#).

Lake & Wetlands was given the contract to repair drains and dig out swales. Lake & Wetland began the project the week of March 30, 2015, completing all work by 4/09/15 (except grills). Paradise Lawns installed 10 pallets of replacement sod 4/10/15 at a cost of \$1400.

Note 1: To view copies of the L&W invoices and pictures please click:

- [swales](#)
- [drains](#)
- [pictures](#)

Note 2: The areas served by sump pumps are vulnerable to F, P & L cutting power in the advent of an approaching exceptional storm; once they do, we are at their mercy until power is restored.

### A. Updates: (Andrew Weeks)

**Parkside Place and FP&L to Gleason Pond:** We had enough rain in the fall of 2015 to be able to survey what was actually happening: between the FP&L barrier and the Gleason Pond culvert, there is a 2' deep 'Y' shaped channel: one arm extends from behind our 500 building, the other from 30 feet within the barrier. They join and flow northward through the culvert and into the pond. The good news: All the rain we had over several separate 5 day periods had emptied into that channel from Parkside and from the barrier within 4 days. And, as the water level in the Pond slowly subsided, the channel was slowly draining as well. The 'system' works exactly as I was told it would! The bad news: so much water is being channeled from Publix that the wooded area behind the 500 building remains flooded for too long as its flow is overwhelmed by the flood from the main channel. (See 2016 B.3, next page).

**The Swale Behind 2406-12:** the subsoil has proven to be impermeable. By Oct. 2015 a layer of sand had filled in, leached from within and below the sod before it had rooted; the visible standing water was only 6" deep. During Nov. 2015, L&W removed all the muck and silt and sank one pipe through the original bottom, which provided no further drainage. So we must wait until the 2016 rainy season to see if we can put in more plants to hide the 'bottom' or French drains and cover.

**Swales at 300A/502 Culvert:** after excavating and terraining these areas, the ground settled and some 'slumping' occurred; we were left with 2 center bottom areas where the water pooled long enough to kill the grass. This is unavoidable - any further attempt at terraining will simply move, not solve the problem. So, we were left with some muck which does not affect drainage, but is not very attractive. On Oct. 30, 2015, L&W installed 150 arrowhead/pickleweed flowering plants on the north side, and 50 on the south at \$0.85 each. These plants should hide most of the bottom muck and stabilize the sides. We'll check during the 2016 rainy season and review the conditions then.

## **B: 2016 Provisional Plans:**

In 2015, our primary focus was on ensuring that rainwater drained from our roadways as quickly as possible. We did not address but now need to focus on these out-of-sight but very real problems:

1. **East behind the tennis court to 412:** in 2015, L&W excavated the center channel from 30 feet south of the Publix gate westward only to the east edge of the bocce/tennis courts; we opted to wait and see the results of stopping there before spending any more money. South of the bocce court there was a small hump in the center of the channel which we hoped would be eliminated by the increased flow from the bridge; it was not so we will need to excavate the center channel 10' long by 6" deep by 12" wide. We may also want to clear at least 50-100 more feet westward to forestall more water ponding there and on both sides of the bridge.

2. **Main Channel (east-to-west, south of 300B):** has filled in; we will need to remove 6 -10 inches.

3. **Secondary Channel (south to north):** because of the strength of the runoff from Publix, too much flow is being pushed northward between 300B and 200 and not westward to the pumps. Though it all flows well right to Gleason Pond, there is so much flow that water from behind the 500 building, unable to compete with the flow through the FP&L 'forest', instead pools in and remains stagnant in the trees. In addition, a very slight hump has developed between 307 and 202, probably as a result of some settling caused by torrential fall rains coming after a very dry period. Though inconsequential to look at, it has caused additional pooling backup behind 300B and 200. We may want to consider:

- a. installing a low berm between 315 and 212 to deflect more of the flow westward to the pump at S. Patrick. Doing so would also lessen the problem we have with debris accumulating at our culvert.
- b. clearing out the small hump between 307 and 202 - 10' long by 6" deep by 12" wide.

4. **The Swale Behind 2406-12:** the subsoil has proven to be impermeable. We need to replace the infill up to the permeable level then decide if we want to put in more plants to hide the 'bottom' or layer the entire area with French drains and then cover them to ground level

## **C: Beyond 2016 Major Plan:**

1. **Main Channel:** the entire area from east of 400, past 300B and 200 southward to the border fence remains a soggy, wet meadow for days after even a modest rain. As we did more than a decade ago, we will need to re-grade the area, build up the banks, and dig a new center channel from 400 all the way to S. Patrick. Or, to forestall repeated future excavations, we may want to investigate more shoresox to protect the banks, or even a concrete channel like the one at city hall.

2. **Secondary Channel:** the bank to the rear of 300B has eroded into the south-to-north channel and remains a soggy, mushy slope for many days after even a modest rain; we need to excavate the fill from the center of the channel and use it to restore the slope.

## **2016 Situation and Activities**

Due to the fact that the swale behind the 2400 building was dug into impereable soil in 2015, it constantly had standing water. This was an eyesore as well as a health issue, so the board decided in 2016 to fill it in.

We [contracted with Lake and Wetlands](#) to fill the swale with sand and soil, and to resod the affected area for \$1425. This work was done in May, 2016.