STRENGTHENING STORMWATER RESILIENCE IN PALMER RANCH

Report of the Palmer Ranch Stormwater Management Ad Hoc Committee (Committee)

FIGURE 1 - Water levels in Palmer Ranch communities during the 2024 hurricane season



Prepared for the Palmer Ranch Master Association

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Executive Summary

The 2024 hurricane season provided the opportunity to better understand the stormwater system in and around Palmer Ranch. During a nine-week period, three major storm events affected the area. Several Palmer Ranch communities experienced unusually high-water levels, even though the major road network and much of the internal stormwater infrastructure continued to function within expected limits.

In response, then Board President Carol Auricchio of the Palmer Ranch Master Association (PRMA) chartered the Palmer Ranch Stormwater Management Ad Hoc Committee (Committee) to perform the work described herein. Over fifteen months, the Committee examined how water moves through Palmer Ranch, reviewed rainfall and roadway performance, documented conditions along South Creek, met with County and State representatives, and advocated for corrective action.

The Committee found that Palmer Ranch's internal stormwater system shed water as expected; however, downstream conveyance had been reduced by accumulated debris and deferred maintenance, particularly along South Creek through Oscar Scherer State Park. Working in conjunction with the Palmer Ranch Master Association (PRMA) office, a professional field assessment, prepared by Stantec, documented twenty-seven locations where fallen trees, woody debris, and other obstructions restricted flow.

The Committee's work helped produce measurable results. Through meetings with County Stormwater staff, as well as meetings with and presentations to County Commissioners and State Legislators, Palmer Ranch added substantially to the Countywide call for attention on flood risk. Sarasota County created an independent Stormwater Division, appointed a Stormwater Director, expanded maintenance activities, and developed a public-facing maintenance map. In May 2026, County crews cleared approximately 1.5 miles of South Creek through Oscar Scherer State Park and removed more than fifteen truckloads of debris.

These accomplishments materially improve stormwater resilience, but the work is not complete. Long-term safety will depend upon recurring maintenance, clearer assignment of responsibility, improved modeling of storms that exceed current design standards, and sustained engagement among residents, community associations, PRMA, Sarasota County, and the State of Florida.

Central Conclusion

Palmer Ranch's stormwater system generally performed as designed, but its ability to protect Palmer Ranch Members during even greater storm events was identified to have certain perceived vulnerabilities, beyond the Palmer Ranch boundary. These vulnerabilities included the potential for downstream obstructions, fragmented maintenance responsibility, and the absence of modeling for more extreme rainfall events. In addition to correcting these vulnerabilities, the Committee urges the County to explore and strongly encourages the use of enhanced runoff avoidance strategies for new developments east/upstream of our community. These strategies should rely on “grandfathering” or incentive mechanisms to avoid creating expensive standards and increased insurance responsibilities for already established communities.

1. Purpose and Background

In 2024, three significant tropical systems affected Sarasota County within a nine-week period. The cumulative effect of these storms produced rainfall totals that placed exceptional stress on local drainage systems. Some Palmer Ranch communities experienced unusual water accumulation in streets and low-lying areas, raising concerns that homes could be threatened if water levels continued to rise.

Under the leadership of then Board President Carol Auricchio, the Palmer Ranch Master Association (PRMA) Board of Trustees authorized the formation of the Palmer Ranch Stormwater Management Ad Hoc Committee (Committee). The purpose of the Committee was to foster a better understanding of the stormwater system upstream, downstream, and within the Palmer Ranch Development of Regional Impact. This may encompass developing strategies and solutions to mitigate the risks of potential flooding within Palmer Ranch, contacting and interfacing with responsible County, State, and Federal officials, and identifying the services of professional stormwater experts.

This report summarizes what the Committee learned, what has already been accomplished, and what additional actions are needed to strengthen stormwater resilience throughout Palmer Ranch.

Committee approach

- Reviewed the regional watershed and the principal waterways carrying stormwater through Palmer Ranch.
- Examined rainfall totals and compiled observations and photos of neighborhood impacts during the 2024 storm season.
- Compared the performance of neighborhood streets, collector roads, arterial roads, and evacuation routes.
- Interviewed technical experts familiar with the local floodplain, including the engineer who designed Palmer Ranch's stormwater system.
- Investigated historical information related to South Creek's passage through Oscar Scherer State Park.
- Mapped obstructions, affected communities, and areas of new construction within the South Creek basin.
- Engaged county and state officials regarding maintenance responsibility and corrective action.
- Developed recommendations for maintenance, planning, modeling, and public communication.

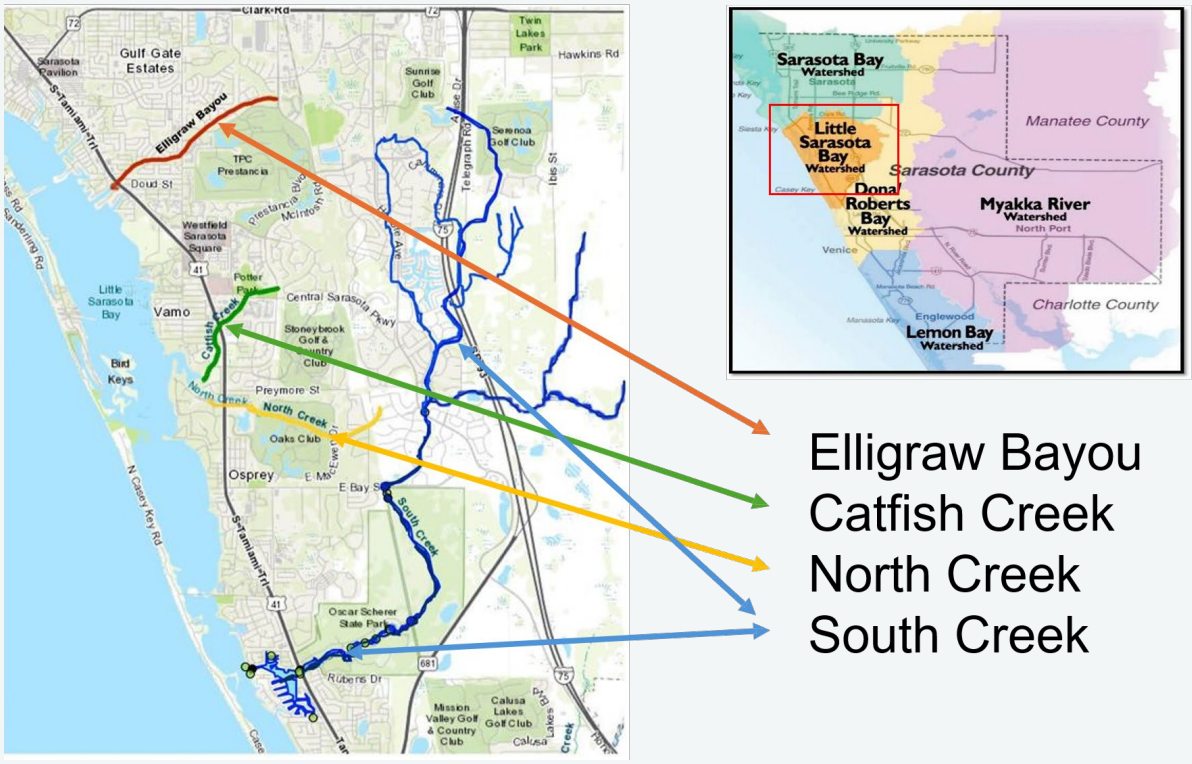
While conducting its work, Committee members not only met with local officials but delivered carefully organized presentations to the County Commission and a local hearing of State Legislators.

2. How Stormwater Moves Through Palmer Ranch

Palmer Ranch is located within the Little Sarasota Bay watershed. Rainfall that does not infiltrate into the ground is collected by streets, swales, pipes, lakes, and stormwater ponds. It then moves through a network of creeks and bayous before ultimately reaching Little Sarasota Bay.

The principal waterways carrying stormwater through or from Palmer Ranch are Elligraw Bayou, Catfish Creek, Metheny Creek, North Creek, and South Creek. Because these waterways connect many neighborhoods and jurisdictions,-storm resilience depends on the performance of the entire system - not simply the condition of an individual community's ponds or drainage structures.

FIGURE 2- Sarasota County watersheds and the location of Palmer Ranch and its watercourses within the Little Sarasota Bay watershed



The role of neighborhood stormwater ponds

The ponds found throughout Palmer Ranch communities are engineered to be functional stormwater facilities. They temporarily store runoff, reduce the rate at which water enters downstream waterways, and help remove pollutants before water reaches the Bay. Their effectiveness, however, depends on having sufficient downstream capacity for gradual release after a storm, and the proper maintenance by each community of their stormwater system.

3. Design Standards and Expected Performance

Palmer Ranch communities were designed around a policy that following development, there would be no increase in downstream flooding for the 100-year storm, which led to the rainfall criterion of approximately 10 inches in a 24-hour period. At the time Palmer Ranch was developed, that standard exceeded the applicable County requirement. Under the design assumptions, homes should remain protected during such an event, although temporary water accumulation on streets and parking areas may occur.

Roadway design also recognizes different acceptable depths of temporary water. Neighborhood roads and parking areas may hold more water than collector and arterial roads, while designated evacuation routes are expected to remain passable.

FIGURE 3 - Sarasota County Flood Protection Level of Service

Roadway type	Examples	Referenced service level
Neighborhood roads and parking areas	Local community streets	Temporary water up to roughly 12 inches at the centerline may occur
Collector roads	Northridge Road, Sarasota Square Boulevard, Palmer Ranch Parkway, Bay Street extension	Temporary water up to roughly 9 inches
Arterial roads	Honore Avenue, McIntosh Road, Central Sarasota Parkway, Sawyer Loop Road	Temporary water up to roughly 6 inches
Evacuation routes	Clark Road and U.S. 41/Tamiami Trail	Should remain clear of standing water

During the 2024 events, the principal County roadways serving Palmer Ranch did not approach these stated limits. This helps explain why the County's regional view initially differed between neighborhoods, who were concerned about their temporarily high-water streets and concomitant limitations of access. The most serious effects were localized rather than systemwide.

Why Localized Waters Rose

Stormwater ponds can provide storage only for a limited period. Once they fill, the system depends upon downstream creeks and channels to convey water away. If those channels are obstructed, water levels can remain high or rise further, even when upstream ponds and structures are operating as intended. The most important conveyance downstream from Palmer Ranch experienced blockages as shown in Figure 4, this being the passage of South Creek through Oscar Scherer State Park.

FIGURE 4 - South Creek backing up near the Bay Street crossing rather than flowing freely through Oscar Scherer State Park



4. The 2024 Hurricane Season

Two rainfall events were particularly noteworthy during the exceptionally active 2024 hurricane season.

On June 11, 2024, a tropical disturbance in the Gulf of Mexico produced approximately 8.25 inches of rainfall within three hours over portions of Sarasota County. Although the system never became a major hurricane while affecting southwest Florida, the rainfall alone tested the capacity of local drainage systems.

Less than two months later, Hurricane Debby brought another exceptional rainfall event. Between August 4 and August 6, Sarasota received approximately 11 inches of rain in a single day and nearly 15 inches over three days.

These events placed prolonged stress on neighborhood ponds, drainage structures, and downstream waterways. In communities along South Creek, some residents observed rising water in streets, stormwater ponds, and adjacent low areas. The concern was not simply the amount of rainfall, but the rate at which stored water could move downstream once ponds approached capacity.

Subsequent investigation suggested that Palmer Ranch's internal stormwater system generally functioned as designed. Attention therefore shifted downstream, where accumulated obstructions within South Creek appeared to restrict the movement of water through Oscar Scherer State Park.

5. Investigation of South Creek

To better understand the cause of the elevated water levels at the Bay Street Bridge (and, by extension, in parts of Palmer Ranch), PRMA commissioned a professional field assessment in March 2025 of approximately 6,500 feet of South Creek through Oscar Scherer State Park. The assessment documented twenty-seven locations where debris or vegetation impeded flow.

The obstructions included fallen trees, large woody debris, accumulated material at narrow points, and other conditions that can reduce channel capacity. The findings provided a physical explanation for the observed backup and became the technical foundation for the Committee's advocacy.

FIGURE 5 – Locations and examples of South Creek obstructions documented during the 2025 field assessment



Fragmented Responsibility

The investigation also revealed that responsibility for South Creek is divided among multiple public and private entities. Some reaches (stretches of creek) fall under PRMA, others under Sarasota County or the State of Florida, and still others may involve easements or responsibilities recorded in documents more than thirty years old.

PRMA therefore began the process of identifying responsible parties and reviewing title and easement records. Where individual communities are determined to have maintenance responsibility, they will be notified by PRMA.

6. Principal Findings

Finding 1 - Deferred maintenance reduced downstream capacity

The committee's research points to a significant backlog of stormwater maintenance in portions of Sarasota County. The condition of South Creek demonstrated that a channel could remain present on a map yet lose effective conveyance capacity when debris is allowed to accumulate.

Finding 2 - Obstructions in South Creek materially increased upstream water levels

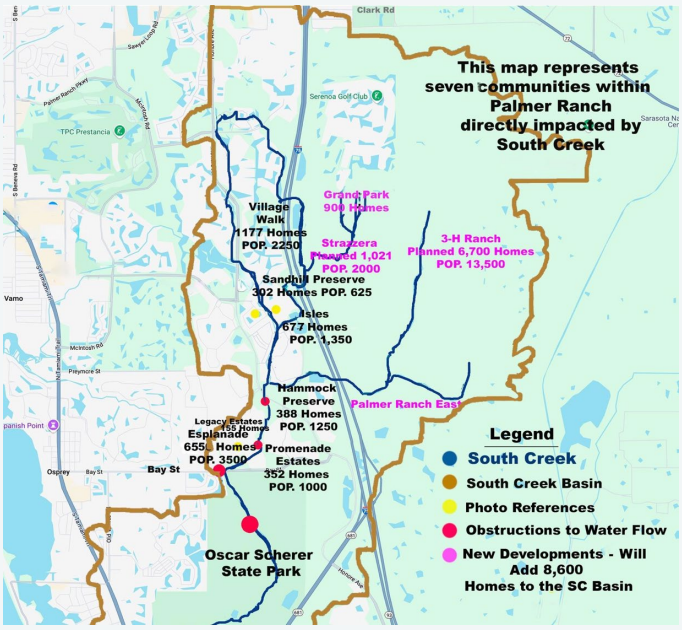


FIGURE 6 - Map of affected communities along South Creek. To reduce flood risk, these communities require free passage of South Creek's flow during storm events, plus responsible runoff-avoidance strategies in developments planned upstream.

The twenty-seven documented obstructions created bottlenecks through Oscar Scherer State Park. During extreme rainfall, these restrictions contributed to water backing up toward communities along South Creek and North Creek. Thanks to community activism, including the Committee's persistent outreach, a coordinated effort was implemented to remove all obstructions.

Finding 3 - Routine maintenance made a measurable difference

Sections of South Creek under PRMA jurisdiction did not contain comparable hot spots or bottlenecks. Those reaches had received scheduled silt removal approximately two years earlier, and continued maintenance is included as a budgeted reserve item. This highlights the value of recurring inspection and maintenance.

Finding 4 - Existing design criteria do not answer every resilience question

The current benchmark of approximately 10 inches of rain in 24 hours is embedded in the regional regulatory and engineering framework. It is treated as a 100-year storm standard by the agencies and institutions referenced in the committee's work. The Committee recommends exploring ways to elevate that standard for new developments upstream but doing so as to not create expensive ramifications for established communities downstream. Existing standards may be grandfathered into established communities even as they are applied to new development. Voluntary mechanisms such as increased density or expedited permit approvals have been used by governments elsewhere to incentivize developers to use aggressive runoff containment strategies such as green roofs, Microforests, permeable pavement, and curb cuts.

Finding 5 - Extreme-event modeling is insufficient

The County did not have modeling or sensitivity studies showing how the regional system would perform during an event such as 18 inches of rainfall in 24 hours. Without such analysis, decision-makers have limited ability to anticipate which communities, roads, emergency facilities, and response resources would be most vulnerable.

7. Recommendations for Greater Resilience

The committee recommends a program that combines physical maintenance, clearer responsibility, improved technical analysis, and stronger public communication.

1. Establish recurring inspection and maintenance

Sarasota County and other responsible entities should maintain an inventory of waterways, culverts, and recurring hot spots; inspect them on a defined schedule; and fund the timely removal of debris and sediment.

2. Protect the restored capacity of South Creek

The recently cleared reach through Oscar Scherer State Park should be reinspected after major storms and maintained before obstructions again become severe.

3. Clarify ownership, easements, and maintenance responsibility

PRMA should complete its review of historical records and notify communities or agencies where responsibility is established. A clear responsibility map should be maintained and updated.

4. Model storms that exceed current design assumptions

Ideally, Sarasota County should undertake hydrologic and hydraulic modeling for extreme rainfall scenarios, including an event of approximately 18 inches. The study should identify likely inundation areas, vulnerable infrastructure, safe access routes, and locations for staging emergency personnel and equipment.

5. Periodically re-evaluate design criteria

The County and regional agencies should periodically review whether existing stormwater criteria adequately reflect observed rainfall patterns and acceptable levels of risk. New developments planned upstream may require more protective criteria, although these need to be implemented in a way that does not create economic hardship – e.g., tightened standards and insurance requirements – in established communities downstream.

6. Strengthen resident reporting and communication

Residents should have clear channels for reporting drainage problems, viewing maintenance activity, and receiving updates before and after major storms.

8. Accomplishments to Date

The committee's work has already contributed to important institutional and physical improvements. These accomplishments demonstrate the value of evidence-based civic engagement and sustained coordination with public agencies.

- In July 2025, the Sarasota Board of County Commissioners separated stormwater management from Public Works and created an independent Stormwater Division.
- A PRMA ally, Ben Quartermaine, was appointed to the County's new position of Stormwater Director.

- The Stormwater Division expanded and prioritized maintenance activities, including work on Catfish Creek and other local systems.
- Sarasota County introduced an online map that allows residents to view stormwater maintenance activities near their locations.
- In May 2026, approximately 1.5 miles of South Creek through Oscar Scherer State Park were cleared of obstructions; crews removed more than fifteen truckloads of debris from the creek.
- PRMA continued work to identify the public and private entities responsible for individual reaches of the stormwater network.

The South Creek cleanup required persistence. State representatives initially questioned whether intervention was necessary because the affected reach lay within a state park. Continued dialogue and pressure from local officials ultimately allowed Sarasota County to perform the work under emergency authority.

9. Priorities for the Next Phase

The cleanup of South Creek is a major success, but resilience is not a one-time project. The gains achieved since 2024 should be protected through a continuing program of monitoring, maintenance, planning, and public involvement.

1. Confirm maintenance responsibility for all critical reaches of South Creek, North Creek, Catfish Creek, and Elligraw Bayou.
2. Establish inspection intervals, especially after hurricanes and other high-rainfall events.
3. Track recurrence of debris accumulation and identify chronic bottlenecks.
4. Encourage Sarasota County to complete extreme-storm modeling and emergency-response planning.
5. Keep a public record of reported problems, inspections, completed maintenance, and unresolved risks.
6. Provide residents with practical guidance on evacuation, sheltering in place, roadway conditions, and reporting procedures.

10. Resident Resources and Participation

Residents are often the first to observe unusual water levels, blocked structures, erosion, or debris accumulation. Timely reporting can help agencies identify problems before the next major storm.

- Call Sarasota County 311 with drainage or stormwater questions. The service can direct residents to the appropriate county resource.
- Use the Sarasota County website to view stormwater information and current maintenance activity.
- Subscribe to the county's weekly newsletter through the communications section of the county website.
- Subscribe to the Palmer Ranch Master Association monthly newsletter for local updates.
- Photograph localized stormwater problems and email them to PRMA at sue@palmerranch.net or report them directly through 311.
- Community groups such as the Sarasota Citizen Action Network may provide additional information concerning land use, development, and infrastructure issues.

Conclusion

The 2024 hurricane season demonstrated that flood resilience depends on more than the original design of ponds, roads, and drainage structures. It also depends on whether downstream waterways remain free flowing (unobstructed), whether responsibilities are clearly assigned, whether extreme events are modeled, and whether public agencies and communities act before the next emergency.

Palmer Ranch's experience offers an encouraging example. A volunteer committee gathered evidence, documented a specific problem, worked constructively with government, and helped secure tangible improvements. The result is a stronger foundation for stormwater resilience and a clear path toward long-term protection.

Acknowledgements

The Palmer Ranch Master Association expresses its appreciation to the individuals and organizations whose time, knowledge, photographs, videos, field observations, and public service contributed to this work.

Ad Hoc Committee Members

- Charles Reith, Chair - Mira Lago
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- Ken Natoli - The Isles
- Barbara Scissors - Sandhill Preserve
- Bill Sullivan - Sandhill Preserve

PRMA Staff

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- Sue Ambrecht
- Laura McNulty

Additional Contributors

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