Mallard Lakes Community Association, Inc.

Annual Owners' Meeting

Selbyville, Delaware - October 18, 2025

Tidal Waters at Mallard Lakes

ML Tidal Waters Committee

Chris Reutershan, ML Board Vice President, Committee Chair

- 50 years of Real Estate and Finance Experience.
- Former Asst. Commissioner, GSA's Public Building Service, Oversight of US Gov's Entire RE Portfolio.
- Former Practice Leader, Cushman & Wakefield's US RE Development Group.
- Managed 55 million square feet Of Real Estate Development Projects since 1983.

Dan Nelson, ML Board Treasurer

- 22 Years of Experience on ML Board, including President, V.P. Secretary & Treasurer (2003).
- Former Facility Supervisor for 28 years.

Stacey Selby, ML Director of Operations

- 33 Years of Experience at Mallard Lakes.
- Responsible for ALL aspects of ML Operations since inception (1992).
- Personally involved in every event cited within this report.
- Extensive relationships with most Delaware State and County Elected and Administrative Officials.

Tom, Hannan, P.E., P.T.O.E., ML Homeowner

- 40 years of Professional Civil Engineering Experience.
- Specialized in Delaware Transportation Civil Engineering.
- Extensive relationships with DelDot senior decision makers.

Roles and Responsibilities

- Mallard Lakes Condominium is regulated and governed in accordance with its By-laws and Title 25 of Delaware State Law.
- The Unit Owners are responsible for the interiors of their Units, and the Board is solely responsible for the Common Elements – i.e.. everything else.
- The Condominium's Common Elements specifically include the "Lakes", the Salt Pond, the grounds (including the shorelines, the storm drains connecting the "Lakes" with the Salt Pond and ultimately Assawoman Bay and the Atlantic Ocean, and the "Buildings".
- The Board has the duty and responsibility to care for the Common Elements and to contract for such care.
- The Bylaws limit the Board's authority to undertake costly "improvements" by requiring improvements in excess of $20,000 to have the prior approval of a majority of the Owners.
- The only exception is where the Board determines that such Improvements exclusively benefit a subset of the Owners, in which case the cost will be apportioned solely amongst these Owners.

ML Tidal Waters - White Paper

At the Board's February 2025 meeting the Board decided to:

- Create a comprehensive White Paper on Mallard Lakes' Tidal Waters, and
- To take appropriate actions to clarify and mitigate, if possible, the tidal-based and extreme weather-based issues that may affect Mallard Lakes.

Tidal Waters - White Paper Status

- The Board's Comprehensive White Paper on Mallard Lakes' Tidal Waters, was issued at its July Board meeting and has been posted on the Official ML Web Homepage under its own "Tab".
- **The purpose of this presentation is to briefly summarize and update the White Paper and describe possible next steps.**

Background

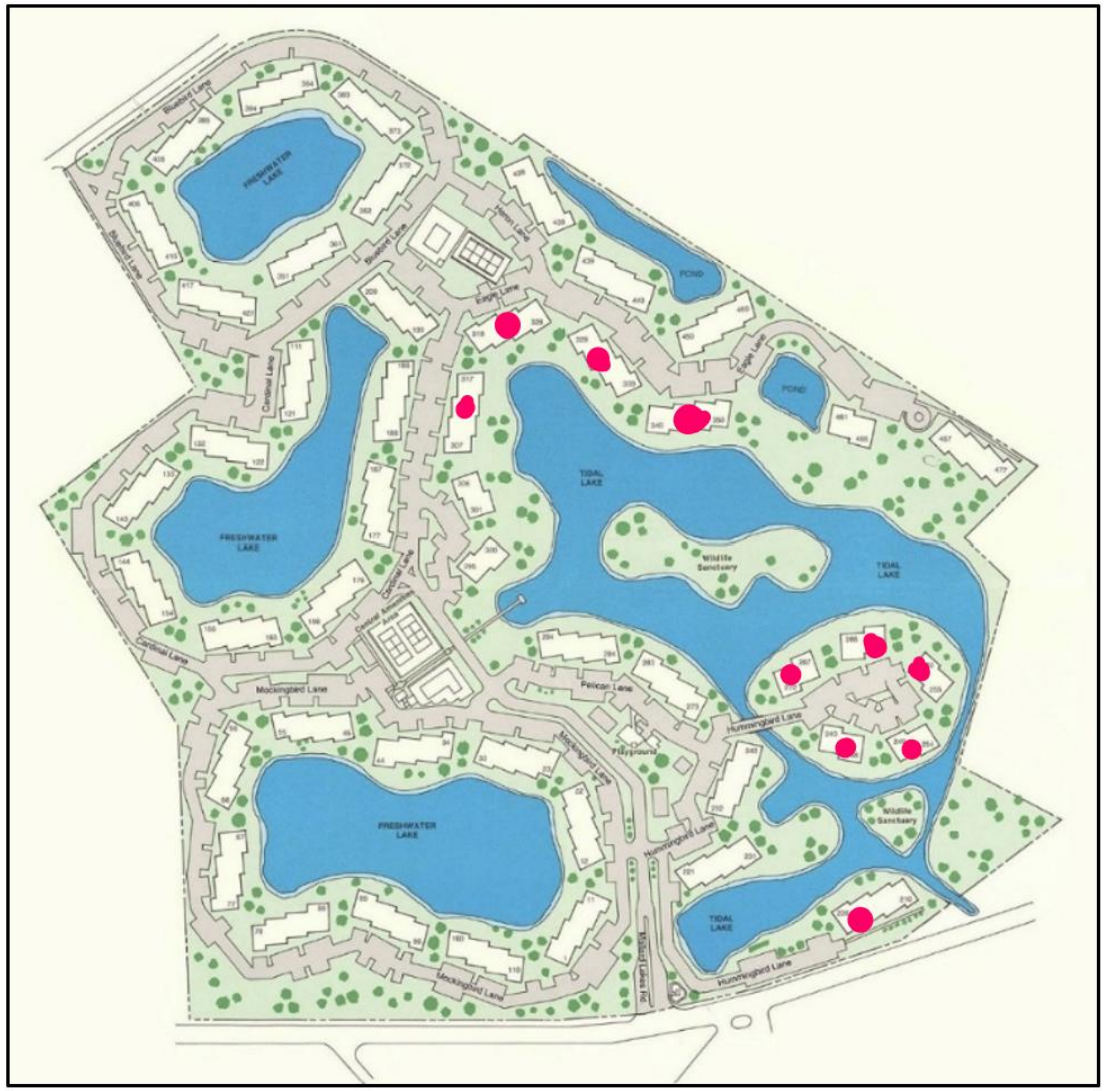
- All of Mallard Lakes' 47 buildings back to 4 man-made "lakes" and a "man-made" estuary of South Assawoman Bay (the Salt Pond).
- All of the Lakes drain into the Salt Pond and the Salt Pond drains into Assawoman Bay.
- 10 of the 47 Buildings located on the Salt Pond's shore were built on Piles – anticipating the Salt Pond's tidal water under or near these buildings.
- 23 of our 47 Buildings are entirely or partially within the FEMA Flood Zone

Building Distribution

Mallard Lakes Buildings:	**Buildings**	**% Total**	**Units**	**% Total**
Constructed on Cement Slab	37	78.7 %	392	82.2 %
Constructed on Piles *	10	21.3%	85	17.8 %
Total Buildings	**47**	**100.0 %**	**477**	**100.0%**

*** Buildings on Piles:**	**Buildings**	**% Total**	**Units**	**% Total**
Mostly not Subject to Underfloor Water	2	4.3%	22	4.6 %
Subject to Underfloor Water	**8**	**17.0%**	**63**	**13.2 %**

10 Buildings – 85 Units Built on Piles



Tidal Water History

- At completion - 1992, Mallard Lakes' Salt Pond experienced infrequent flooding of normally dry ground only a handful of times per year.
- In 2001-2 Route 54 was rebuilt and the original drainage pipe connecting the Salt Pond with Assawoman Bay was replaced with a new and unobstructed pipe.
- Both ends were previously covered in crushed rock gravel which was removed with the installation of the new pipe.

Impact of 2001-2 Rt. 54 Project

- Replacement of the Rt. 54 Storm Drain immediately raised the Salt Pond's mean high-water levels by 6-8" above normal levels.
- Adding the effects of sea level rise through 2025 (added another 6-8") - The daily tide is now about 1 – 1.5 feet above 1992 levels.

Summary of RT. 54 Situation

- This change has resulted in the presence of water under 8 of the 10 buildings-on-piles moving to frequent/very frequent occurrences.
- 2024 saw water intrusion under the 50 plus homes located in these 8 buildings move from “Occasional” to “144 of 365 days” in 2024.
- This frequent under-building inundation has been accompanied by significant shoreline erosion.

Hurricane Sandy

- On October 29, 2012, Hurricane Sandy hit the Delaware coast pummeling Mallard Lakes with a severe storm surge.
- **This was the ONLY time that tidal water has penetrated into the interiors of any of our 47 buildings.**
- 4-8 “ of interior flooding of four of the six-unit buildings (24 units) on the Island.
- The high water and wave action resulted in the repair and/or replacement of screened porch walls and flooring in 5 units in an 11-unit building located on Eagle.
- At least seven buildings, including these five, experienced water damage to their underfloor insulation requiring replacement.

Hurricane Sandy

- **Contrary to accepted belief, the severe flooding of the ML Salt Pond was NOT principally caused by the storm culvert under Rt. 54.**
- The majority of damage to the Island and other affected buildings resulted from a massive storm surge coming from Little Assawoman Bay through the channels of Treasure Beach and over the low lying ground to the east of the Island.
- This is illustrated in the next slide.

Hurricane Sandy

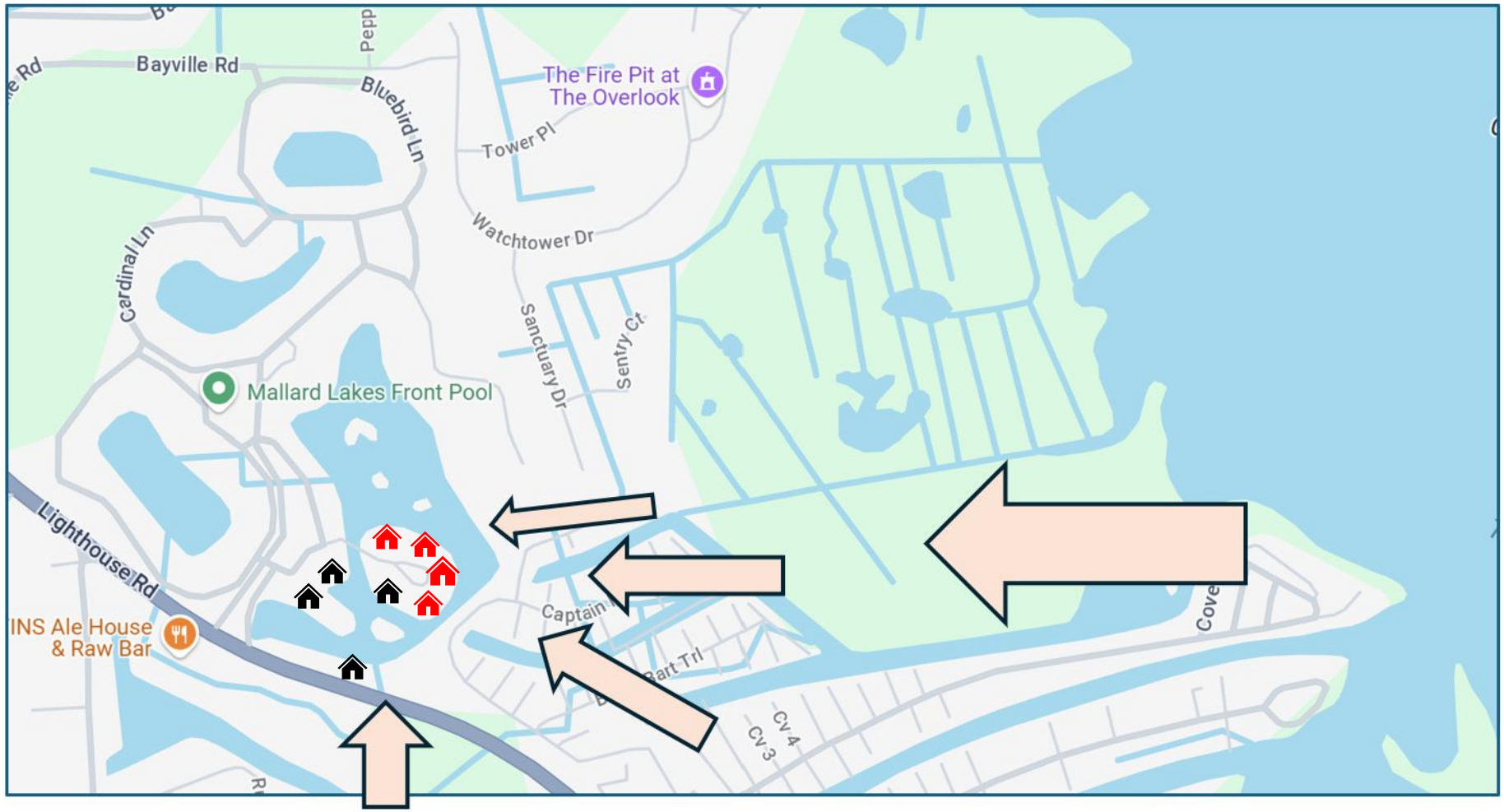
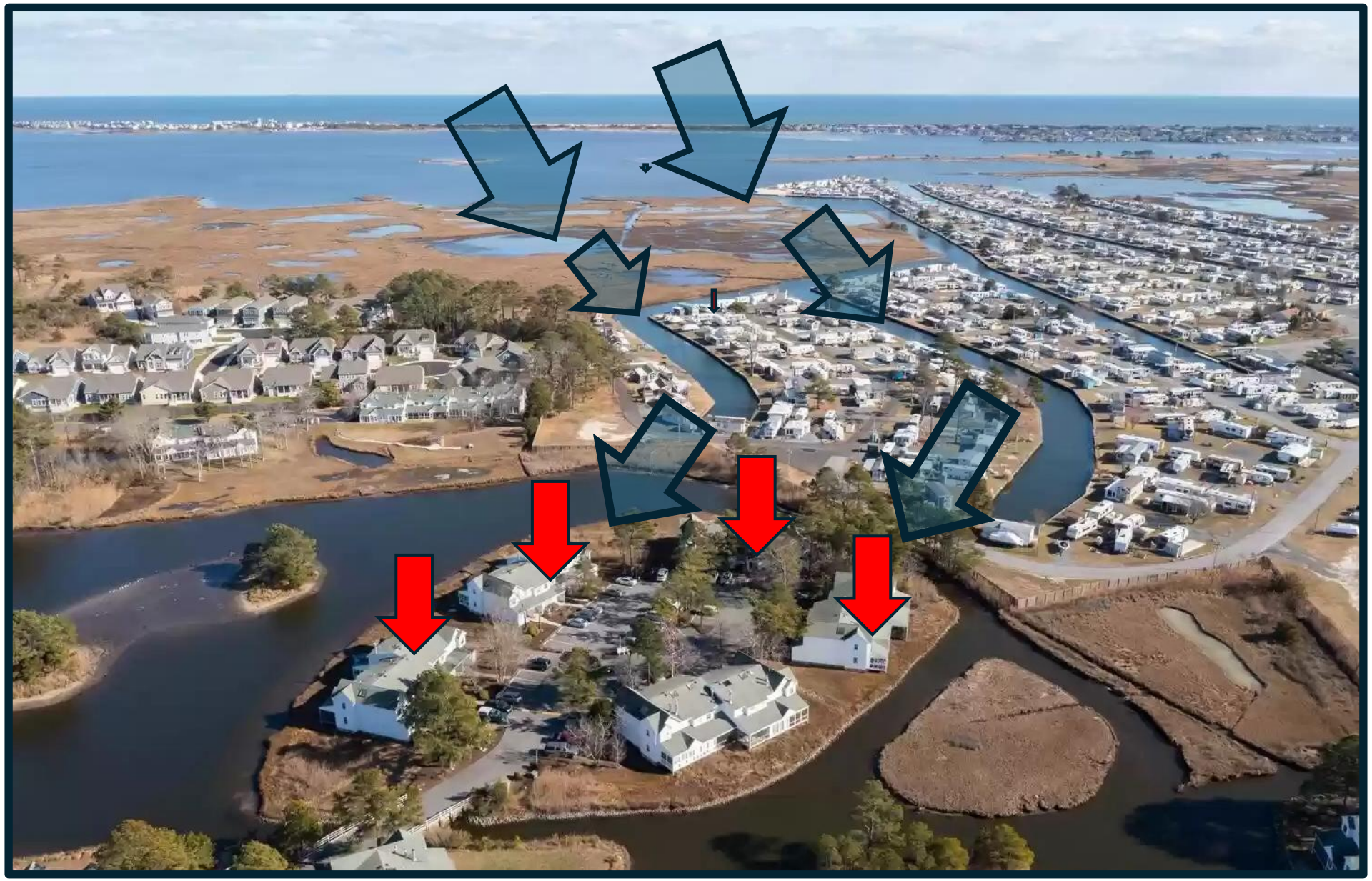


Table 4: Water Flow from Assawoman Bay during Sandy Flood Event 2012

Hurricane Sandy - Water Flow (Blue) and Flooded Homes (Red)



Hurricane Sandy Island Lawsuit

- Following the hurricane, reconstruction permits for the four flooded buildings on the Island were applied for and received from Sussex County. A contractor was hired to reconstruct the damage done.
- At the completion of the work, the final costs were tabulated (which included other costs beyond the actual costs of construction) and were determined by Sussex County to represent “Substantial Damage”.
- This change in designation triggered a new review and new requirements by Delaware Department of Natural Resources, FEMA and the Army Corps of Engineers. In cases of Substantial Damage, FEMA required that any reconstruction meet the then current building code which would have required that the four affected buildings on the Island be elevated by a minimum of 4 feet.
- The designation also precluded the issuance of Certificates of Occupancy for these now newly rebuilt buildings.

Hurricane Sandy Island Lawsuit

- During this period, several of the Island residents filed a lawsuit against ML to recover their costs, legal fees, etc. Also, during this period there were discussions with both Sussex County and FEMA regarding possible government grants to offset the costs and out-of-pocket expenses of elevating the buildings.

- Following years of back and forth among all of the parties, the Substantial Damage designation was rescinded by Sussex County, the Certificates of Occupancy were issued by Sussex County, and the Lawsuit was settled by the payment of a portion of the plaintiffs legal fees by Mallard Lakes.

Impact of Sandy on ML Property Values

- Following Sandy, a group of ML Unit owners filed a suit against ML.
- **The presence of an outstanding lawsuit (and the uncertainty regarding future COA assessments), and not the flooding of the 4 buildings, was the principal reason for a diminution in ML Property values during this period.**
- Following the suit's settlement, the property values quickly rose to values equivalent to similar properties located along the DE Coastline.
- **Since 2022, few units have remained on the market much longer than a month or so and ML sales values continue to track the sales of similar properties within the Selbyville / Fenwick / Ocean City Markets –which have all slowed over the past months.**
- **The recent sale of an Island Unit set an ML all-time record price in early 2025.**

What are the main issues associated with abnormal weather events and rising tidal water?

- Severe Flood Risk
- Frequent tidal water near or under buildings built on piles.
- Shoreline erosion within the Salt Pond

Severe Flood Risk vs. Daily Tidal Inundation

- **Severe Flood Risk is not the same as Daily Tidal Inundation under or near buildings constructed on piles along the shores of the Salt Pond.**
- **Severe Flood Risk** is defined as the likelihood of interior Flooding due to a building's ground floor elevation being within the FEMA Flood Zone as well as the building's proximity to potential sources of flood waters. **ML has 10 buildings-on-piles completely or partially located within the FEMA Flood Zone and an additional 13 buildings constructed on cement pads that are completely or partially located within the FEMA Flood Zone.**
- **Daily Tidal Inundation** under and around buildings-on-piles is defined by the building's proximity to the shoreline of the Salt Pond and the maximum height of the daily tidal flow**. All of the 10 buildings constructed on piles were specifically designed to address the daily tidal inundation risk. Presently only 8 buildings-on-piles are subject to Daily Tidal inundation.**

Severe Flood Risk

- **Like most of the buildings on or near the Delaware coast, all of the Mallard Lakes' buildings have some level of risk.**
- Much of Mallard Lakes, like much of the bay side in Ocean City and along all the bays, inlets and canals from Ocean City to the shores of Delaware Bay, are in FEMA designated flood zones.
- **It is estimated that there are over 18,000 buildings within the FEMA Flood Zone in Delaware (13,700 in Sussex County alone).**
- Typically, buildings within the FEMA Flood Zone have a higher flood risk than those which are not. **However, 20% of all FEMA's flood damage claims are from buildings OUTSIDE of the FEMA FLOOD ZONE.**
- **The only major high-water event causing interior damage at ML was Hurricane Sandy in 2012.**

Buildings Located in AE-4 FEMA 100 Year Floodzone

Building Type	# Buildings	% Total	# Units	% Total
Buildings in Floodzone				
Piles	8	17%	63	13%
Cement Pad	8	17%	83	17%
Total Floodzone	**16**	34%	**146**	31%
Partially in Floodzone				
Piles	2	4%	22	5%
Cement Pad	5	11%	50	10%
Total Partial	**7**	15%	**72**	15%
Total Floodzone & Partial	**23**	49%	**218**	46%
Total Not in Floodzone	24	51%	259	54%
Total Mallard Lakes	**47**	100%	**477**	100%

Flooding Requiring FEMA Flood Insurance

- Earlier this year FEMA confirmed that they had recorded 44 flood insurance claims paid since initial construction (1986).
- There were two claims in 1991 and two claims in 1992 that resulted in the replacement of underfloor insulation materials and did not affect any Unit interiors.
- **Only one event (Sandy) has ever triggered flood insurance payments for interior damage to individual units.**
- During Hurricane Sandy in 2012, 24 units in 4 six-unit Island Buildings and 5 units in an 11-unit building had damage claims resulting in repair/replacement.

Insurance History / Issues

- Our Bylaws require the total cost of providing all types of insurance covering all of ML's Common Elements, including all of the "Buildings", be defined as a Common Expense. All Common Expenses are paid for by each Unit Owner on a 1/477 (i.e. equal) basis.
- Two years ago, the deductible on our property insurance policy was increased to $25,000 as a result of changes in industry practice along the Delaware Coast, and elsewhere.
- The Board has advised all ML Unit Owners to review their personal policies to ensure that their policy includes a rider to cover any deductibles allocated from the ML policies.
- Flood Insurance is provided through FEMA and is separately quoted by our property insurance provider. **Flood insurance was not related to the increase to the $25,000 deductible.** The deductible for our flood insurance component currently is $1,250 per building covered.
- **Every Unit in every Building at Mallard Lakes is covered by FEMA backed Flood Insurance provided by ML**.

Frequent Tidal Water Near or Under Buildings Built on Piles

- The mean high level of the tidal waters within the Salt Pond has increased by about 1-1.5 feet since 1992.
- This increase comes from two sources:

  1) the reconstruction of Rt. 54 in 2001- 2.

  2) a general rise in water levels along the entire Delmarva ocean coast (including the possibility of an elevation decrease along the Delaware coast).

- It is believed that each source has contributed to about ½ of this rise.

Frequent Tidal Water Near or Under Buildings Built on Piles

- 8 of the 10 buildings built on piles now experience water near or under the building on a frequent to very frequent basis.

- The other two buildings-on-piles experience water on a very infrequent basis.

- None of the remaining 37 buildings have experienced any tidal water against, under or within.

Frequent Tidal Water Near or Under Buildings Built on Piles

- The creation of barriers (bulkheads) around these buildings would likely have no permanent effect on the continued inflow of water and inundation of adjacent shore land.
- Restricting the daily flow through the culvert under Rt. 54 could potentially reduce the overall level of daily/periodic tidal inundation along the shores of the Salt Pond.

Shoreline Erosion within the Salt Pond

- The shoreline of the Salt Pond has been receding since 2002.
- This is from both rising water and continued inundation of its shoreline vegetation.
- The daily/frequent inundation of shore land produces a blue algae during the hot summer months which eventually kills off the ground vegetation.

Shoreline Erosion within the Salt Pond

- The 2004-7 rip-wrapping of a portion of the shore slowed but didn't stop this gradual erosion.

- The ML grounds crew has periodically planted/ transplanted native wetlands vegetation at the Salt Pond's water's edge to replace other vegetation which has died off.

- This approach has had no effect in reducing the shoreline inundation nor in curbing the frequent tidal flow under the buildings-on-piles.

What has been done?

Salt Pond Rip-Wrap and 2004 State of Delaware Subaqueous Land Permit

- September 2004 - permit for 1,200 feet of rip-wrap.
- Initial Goal - offset the increase in daily high water from the RT 54 rebuild
- Goal not met due to Permit Terms:
  - **The top of the rip-wrap shall not exceed the level of the adjacent ground.**
  - **The rip-wrap shall not preclude normal inundation at high tide during the daily tidal cycles.**
  - **The rip-wrap (or other materials) may not be placed in front of the RT.54 drainage pipe.**

2009 Morris & Ritchie Associates Study

- In 2009 Mallard Lakes engaged a Delaware engineering firm, Morris & Ritchie Associates to prepare a study to look at the feasibility of installing a water control structure to counteract the increased daily tides brought about by the unobstructed culvert under Rt. 54 connecting the Salt Pond to Assawoman Bay.

- The study was abandoned once it became clear that the proposed barrier would neither reduce the daily height of the tidal flows nor preclude the effects of storm surges.

2012 “Sandy” Lessons

- The initial cost to repair flooding damage caused by Sandy to the interiors of 24 units within 4 six-unit buildings on the Island triggered a requirement to elevate these 4 buildings, at the Unit Owners’ Cost.
- **While FEMA had a program with Delaware to cover the cost of elevating buildings damaged by Sandy, FEMA determined that they would not cover the 4 flooded ML Island buildings.**
- Subsequently, Delaware determined that they had overestimated the cost of the Sandy damage, the repair costs were covered by ML’s flood insurance policies and Certificates of Occupancy were issued

2019 Delaware Department of Natural Resources and Environmental Control (DNREC) Site Visit

- In 2019 a wetlands specialist from DNREC visited Mallard Lakes and toured the entire property.
- Following a tour, she reviewed her observations of potential issues and likely remediation activities with Stacey.
- Unfortunately, she was unable to suggest feasible remediation activities that would be approved under current permit guidelines.
- The meeting's conclusion was that there were no next steps or solutions to be pursued.

2023-4 Underfloor Insulation Study

- The 10 buildings-on-piles use an Underfloor Insulation System of fiberglass bat covered by Tyvek.
- Since original construction there have been about a half dozen instances of abnormally high water necessitating complete or partial replacement.
- In March 2024 the Board approved the replacement of the underfloor insulation on 8 of the buildings-on-piles with a waterproof spray foam product. Two buildings have been completed, three are in process and the remainder are scheduled for 2026.

Army Corps of Engineers 3/25/25 Site Visit

- Stacey Selby and ML's tidal consultant, Beth Pfaff of Costal Tributaries, met with the ACOE for a site visit to review ML's tidal issues.
- ACOE acknowledged the presence of underfloor water under several of the buildings-on-piles and reviewed the incidence of shoreline erosion that has occurred within the Salt Pond. He acknowledged that the reconstruction of Rt. 54 likely exacerbated these issues.
- We learned that floodgates have been approved in Delaware and one might be acceptable for the Salt Pond / Assawoman Bay interface at Rt. 54 under certain circumstances.
- Specifically, whatever the type of gate procured it must allow the unimpeded movement of aquatic life between the Pond and the Bay as part of each tidal cycle.
- ACOE advised Selby and Pfaff of a possible path to the approval of a permit for a variable flow

Federal and State Joint Permit Processing (JPP) Meeting – 6/26/25.

- On June 26, Chris Reutershan, Dan Nelson, Stacey Selby and ML's tidal consultant, Beth Pfaff, met with the State of Delaware's Joint Permit Processing Group, an informal group of state (DNREC) and federal (USACOE and other) tidal wetlands permitting officials.

- The purpose of the meeting was to discuss permit feasibility and potential next steps, if any. with about 20 of the federal and state permitting officials who would likely be involved in a formal permit application/hearing process.

- The meeting's discussions focused on what could be done to potentially alleviate the frequent under-buildings and shoreline inundations caused by the Salt Pond's tidal water's daily ebb and flow.

Federal and State Joint Permit Processing (JPP) Meeting – 6/26/25.

- The presentation focused on the feasibility (from a permit issuance perspective) of installing some form of a tidal flow limiting device at or near the Rt. 54 culvert connecting the Salt Pond with Assawoman Bay.
- The only possible outcome of the meeting was either a No or Maybe to our request.
- **The "JPP Group's" response was a non-committal and multi-conditional Maybe.**
- We were directed to meet with DelDot and others to determine the requirements needed to proceed.

Tidal Water Report Issued to ML Community
July 2025

This Report Represents a detailed and comprehensive overview of:

- The history of tidal water events at Mallard Lakes,
- The solutions completed and/or attempted in response to these tidal events,
- Impacts on insurance and property values.
- A brief discussion on the relevant roles and responsibilities dictated by Mallard Lakes' Bylaws.
- A brief synopsis of the most serious tidal / extreme weather issues and potential remediation actions, if any.
- 2025 Ongoing Activities

Tidal Waters Report – Potential Solutions Severe Flood Risk

The July 12 Report found that a possible mitigant to the risk of Severe Tidal Flooding was to elevate the Most at Risk Buildings.

However, the report concluded that this solution was **NOT FINANCIAL FEASIBLE.**

Following the issuance of the report, the Committee has continued to explore this solution.

Mitigants to Catastrophic Flooding

- **Presently there are no feasible solutions to mitigate the affects of Catastrophic Flooding.**
- The position of our community to the west and north of Assawoman Bay effectively precludes the creation of barriers to stop catastrophic flooding, such as Sandy.
- All of our buildings are at risk, like most of the Delaware shore.
- **Our buildings “most at risk” are by definition all of those located within the FEMA Flood Zone. There are 23 of our 47 Buildings located within the FEMA Flood Zone.**
- These Buildings “could” be protected by elevating them, however the cost is prohibitive.
- The following table details the cost to elevate these properties.

Cost to Elevate all Buildings in FEMA Flood Zone

Building Type	Buildings	Units	Cost/Unit	Total Cost
Buildings in Floodzone				
Piles	8	63	$ 75,000	$ 4,725,000
Cement Pad	8	83	$ 112,500	$ 9,337,500
Total	**16**	**146**		**$ 14,062,500**
Partially in Floodzone				
Piles	2	22	$ 75,000	$ 1,650,000
Cement Pad	5	50	$ 112,500	$ 5,625,000
Total	**7**	**72**		**$ 7,275,000**
Total Floodzone & Partial	**23**	**218**		**$ 21,337,500**

What is the Feasibility of Securing Funding to Elevate our Most At-risk Buildings?

- **There are presently no governmental programs with funding available to elevate all of Mallard Lakes' "Most-at-Risk" buildings.**
- **20% of all of the land in Delaware lies within the FEMA Flood Zone.**
- **Our buildings located within the FEMA Flood Zone represent only 23 of the estimated total of 18,000+ buildings located within Delaware's FEMA Flood Zones.**
- In the absence of 100% funding, **which does not exist**, under the ML Bylaws, the cost to elevate one to all of ML's 23 buildings located within the FEMA Flood Zone would need to be borne by the occupants of such buildings, to the extent not otherwise covered by other third-party funds.

Tidal Waters Report – Potential Solutions
Daily Tidal Water

The July 12 Report found that a possible mitigant to the impacts of the Salt Pond's increased Daily Tidal Water Levels was to seek permits and permissions to construct a Variable Flow Flood Gate System at the Rt. 54 Storm Drain Culvert at the south end of the Salt Pond.

Following the 6/26/25 JPP Meeting, the Committee has completed additional Research and Meetings

DelDot Meeting – August 19, 2025

- Stacey, Tom Homan, PE and Chris R. met with Jason McCluskey, Chief Maintenance Engineer for DelDot's Southern District.
- McCluskey confirmed it was extremely unusual for DelDot to allow a third party to modify any of its drainage pipes or roadbeds.
- **Any proposed modification to the existing storm culvert under Rt. 54 would be a nonstarter.**
- DelDot might consider a bulkhead/floodgate system attaching to the roadbed on either side of the Storm drain.
- **The Floodgate would need to remain open during any catastrophic flooding event.**
- ML would need to take full liability for any issues arising from its floodgate including damage to the road or liabilities arising from accidents resulting from such damage.

DNREC Discussions August-September 2025

- In 2014 ML was added to a DNREC list of properties possibly requiring future flood related drainage assistance.
- Given the Sandy flooding, an amount of $200,000 was ARBITRARILY recorded as the need, without any plans or specific requirements.
- There are today app. 300 Delaware properties on this list with a total recorded “need” in excess of $30-40 million. New properties are constantly being added to the list.
- DNREC ‘s total annual budget to assist all of these properties has been $2-3 million which is typically distributed among 15-30 individual projects each year.
- By DNREC’s reckoning, the cost of the ML Floodgate Project would be in the range of $1-3+ million with up-front preconstruction costs in excess of $100-300 thousand.
- **DNREC has Categorically confirmed that they would not consider funding ANY amount for a project whose only goal was to reduce the level of water in our Salt Pond by 1+ feet.**

Conversations with ACOE Aug-Sept 2025

- Several discussions have been held with representatives of the US Army Corps of Engineers (ACOE) during this period.
- The following has been confirmed:
- **The ACOE will only work with Governmental entities, they do not work with ANY private property owners.**
- The ACOE is currently focused on projects involving harbors, ports and navigation issues as well as larger scale activities to protect significant areas from the effects of catastrophic flooding, including the areas at the entrance and environs of Indian River .
- **ACOE has confirmed that under its CAP 205 Flood Remediation Program that even with the required governmental financial support (which is not available), AOCE has NO "APPETITE " to fund the elevation of undamaged private residential properties.**

Governmental Discussions Aug-Sept 2025

- Discussions have been held with the senior decision making/recommending representatives of both Sussex County and the Delaware State Government during this period.
- The following has been confirmed:
- **There will be NO STATE OR COUNTY SUPPORT for the elevation of buildings that are not currently damaged as a result of tidal or other catastrophic flooding.**
- **Given the multitude of other more pressing requirements, at this time there will be NO STATE OR COUNTY SUPPORT for grants to cover some or all of the costs of flood gates designed to only lower the daily level of tidal water within the Salt Pond by 1+ feet.**

Proposed Floodgate Solution

Base Floodgate Requirements

- Does not directly engage the RT. 54 storm drain.
- Allows daily unobstructed tidal flow during low tides.
- Has deeply anchored and extremely robust bulkhead construction to hold back the huge pressure of opposing tides when the gate is closed
- **Remains OPEN during ALL high water events – i.e. Hurricanes, N'Easters.**
- Operates automatically.

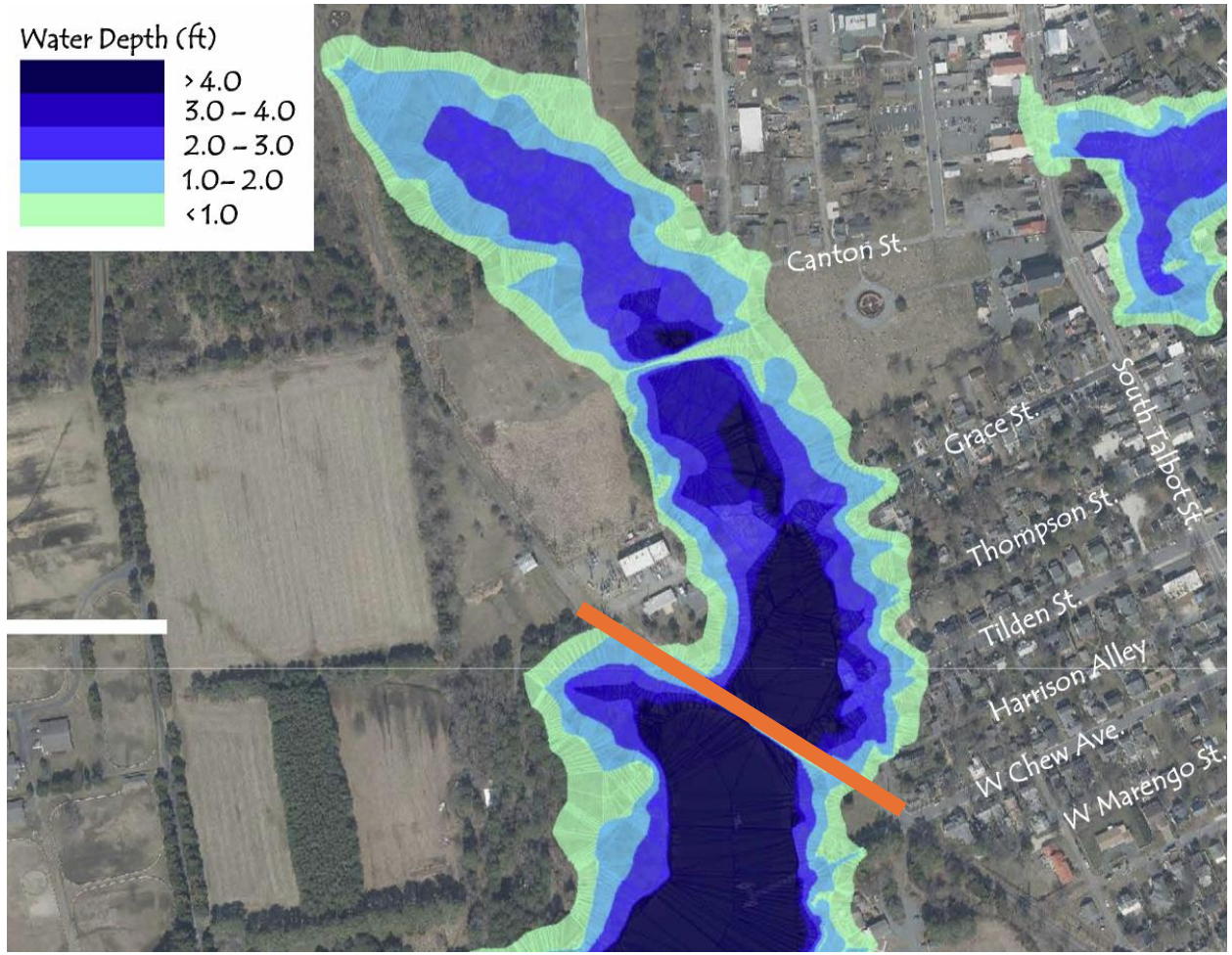
Floodgate Research Aug-Sept 2025

- We have researched numerous variable flow floodgate projects that are similar to ML's requirements.
- To date, none have yet been constructed in Delaware.
- The closest project similar to our needs that we have found is:
  - **St. Michaels, Md. - San Domingo Creek and Westside Flood Mitigation Study, Bayland Consultants & Designers, Inc – Final Report - 12/23**
- This has very similar conditions to the ML Salt Pond, although it is designed especially for High Water Events.

Floodgate Research Aug-Sept 2025

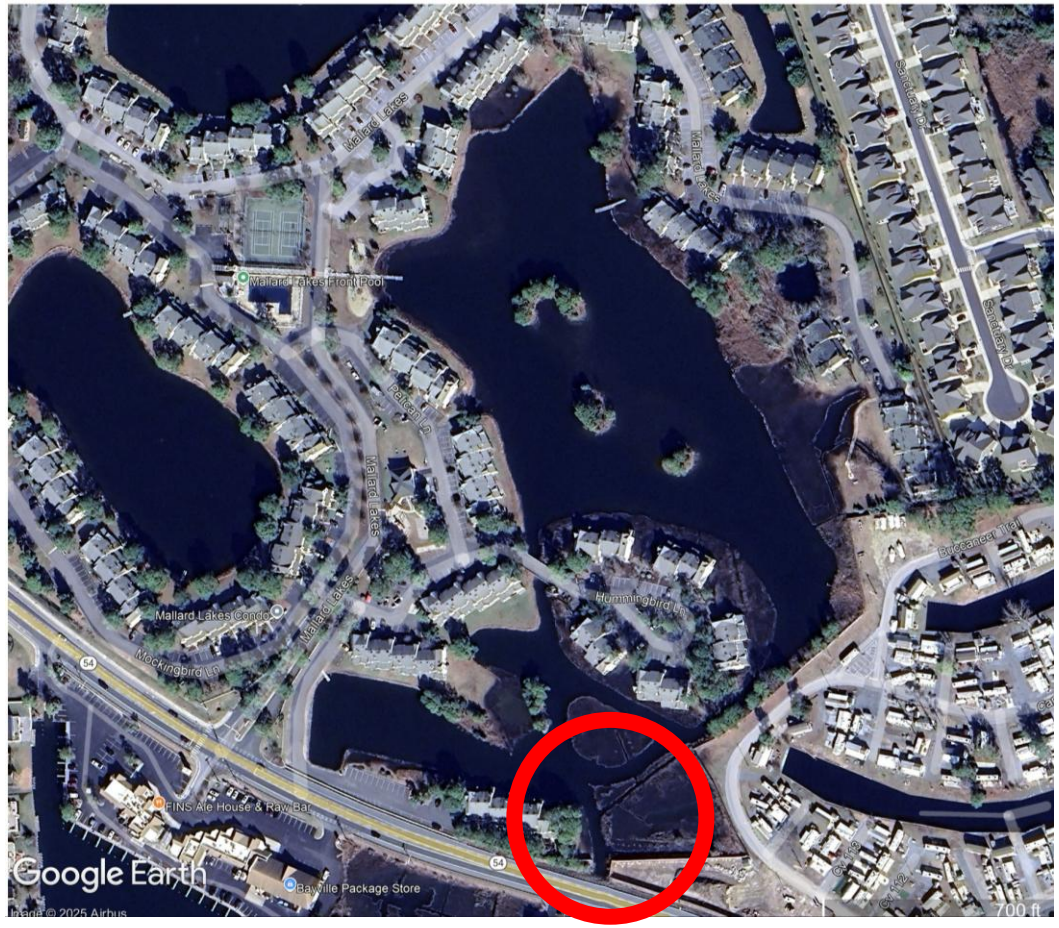
Sta Domingo Creek, St Michaels, MD

Proposed Floodgate Location



Floodgate Research Aug-Sept 2025

Proposed Location of ML Floodgate – Rt 54 Storm Drain



Floodgate Research Aug-Sept 2025

Flood Gates prior to Installation

Floodgate Research Aug-Sept 2025

Floodgate Solution - Minimum Budget Estimate

Based on Sta. Domingo Creek – St. Michaels, MD

Initial Report	$ 50,000
Tidal Gate Assessment and Preliminary Design	$ 20,000
Design & Permitting	$ 180,000
Installation of Tidal Gate	$1,100,000
Contingency @30%	$ 400,000

Total Preliminary Cost $1,750,000

Floodgate – Outline Implementation Plan

1. **Engage consultant to manage process.**
2. Engage surveyor to review land and easement records and produce plat.
3. **Initiate discussions and obtain Easements from DelDot and Treasure Beach.**
4. Determination the need for and prepare a Hydrologic and Hydraulic (H&H) study to quantify potential impacts to residents bordering both South and Little Assawoman Bays;
5. Determine need for and prepare study of potential impacts to migratory bird habitats.
6. **Identify floodgate vendors and prepare initial engineering and cost studies**
7. Following the **successful** completion of these tasks (and any additional required work), schedule a follow-up visit to a future JPP meeting.
8. Initiate permit process(es).
9. Execute easement agreements. Evaluate / secure funding options.
10. Initiate design and construction processes

Next Step to Proceed

- **The preliminary estimated minimum cost of a floodgate is currently $1.75 Million.**
- **Additional work is needed to refine design and cost issues – BUT, $1.75 million is the Base cost estimate, which will likely only increase.**
- Assuming 477 Unit Owners, **this results in an estimated cost per Unit of $3,564.** Every effort will be made to spread this cost out and/or to seek supplemental financing.
- **The floodgate, like the rip-wrap in 2004, is an "Improvement" in excess of $20,000 and therefore requires Community approval.**
- **In early 2026, a special Owners' Meeting will be convened to review and vote to proceed (or not to proceed)** with the floodgate project on the basis of the $1.75 Million preliminary Cost estimate (as updated by continuing research). Given the substantial amount of work required, there will be only limited further progress unless and until the community approves this level of investment.