

DISTRICT IV FLOOD MITIGATION POLICY FRAMEWORK

Purpose

Establish a coordinated, measurable, and financially responsible approach to reducing recurrent flooding in District IV while preparing New Town infrastructure for increasing tidal, groundwater, and rainfall impacts.

The City has already completed substantial stormwater and resiliency planning. The priority now should be implementation: identifying the most vulnerable locations, accelerating near-term improvements, advancing major capital projects, coordinating infrastructure investments, and establishing a long-term drainage strategy for New Town.

This framework is intended to guide Commission policy direction, annual budgeting, capital planning, grant pursuits, and staff implementation.

POLICY OBJECTIVES

The City should pursue six primary objectives in District IV:

1. Reduce the frequency, depth, and duration of recurrent neighborhood flooding.
2. Prevent tidal backflow through existing stormwater infrastructure wherever practicable.
3. Accelerate improvements in documented District IV flooding areas.
4. Develop a long-term regional drainage strategy for New Town.
5. Coordinate stormwater investments with roadway, utility, water-quality, and resilience projects.
6. Establish measurable performance standards and public accountability for flood-mitigation spending.

The City's approach should distinguish among rainfall flooding, tidal flooding, groundwater intrusion, and storm surge. These are related but different problems and may require different engineering solutions.

I. DISTRICT IV FLOOD MITIGATION IMPLEMENTATION PLAN

Direct City staff to prepare a District IV Flood Mitigation Implementation Plan using the City's Stormwater Master Plan, Adaptation Plan, existing engineering studies, resident reports, field observations, and updated infrastructure data.

The plan should identify, at minimum:

- Known and recurring flooding locations
- Drainage basins and sub-basins
- Existing stormwater pipes and conveyance systems
- Stormwater inlets and catch basins
- Injection wells and vertical drains
- Outfalls
- Existing and proposed tide/backflow valves
- Pump infrastructure
- Infrastructure condition
- Known capacity limitations and bottlenecks
- Road and finished-floor elevations where relevant
- Areas vulnerable to groundwater influence
- Areas vulnerable to tidal backflow
- Planned capital improvements
- Estimated project costs
- Project status
- Funding sources
- Grant opportunities
- Anticipated design and construction schedules

The result should be a working capital implementation document rather than an additional general planning study.

II. DISTRICT IV FLOOD PRIORITY MAP

Create and maintain a District IV flood-priority map.

Each documented flooding location should be categorized based on severity, frequency, number of properties affected, transportation impacts, critical infrastructure impacts, and probable cause.

Priority should be given to locations where flooding:

- Threatens residential structures
- Repeatedly affects residential streets
- Restricts access to homes
- Affects senior or multifamily housing
- Affects emergency access
- Occurs during relatively routine rainfall or tidal events
- Can be substantially reduced through reasonably achievable improvements

The map should be updated as projects are completed and new information becomes available.

III. TIDE VALVES AND OUTFALL PROTECTION

Accelerate installation, repair, and replacement of tide/backflow valves serving District IV.

Staff should identify:

- Every stormwater outfall serving District IV
- Which outfalls currently have functioning tide valves
- Which outfalls experience documented or suspected tidal backflow
- Condition of existing valves
- Locations included in currently funded projects
- Locations requiring future funding

District IV locations experiencing significant tidal backflow should receive priority based on engineering need.

For funded projects, staff should provide expected design, procurement, construction, and completion dates.

Residents in affected neighborhoods should receive notice before construction begins and information explaining the purpose of the improvements.

IV. HARRIS AVENUE AND 10TH STREET

Treat the Harris Avenue and 10th Street stormwater project as a priority District IV capital project and closely monitor it through procurement, construction, and post-construction evaluation.

Commission reporting should include:

- Procurement status
- Contract amount
- Funding sources
- Notice to proceed
- Construction milestones
- Change orders
- Anticipated completion
- Final project cost

The project should also become a model for evaluating the effectiveness of stormwater investments.

Where sufficient baseline information exists, the City should compare pre- and post-construction:

- Flood depth
- Flood duration
- Drainage/recovery time
- Number of affected properties
- Performance during significant rainfall and high-tide events

Completion of a capital project should not be the final measure of success. The City should determine whether the project materially improved flooding conditions.

V. PATTERSON, 2ND-7TH STREET AND ADJACENT NEW TOWN BASINS

Advance engineering and capital planning for the Patterson Avenue and surrounding New Town drainage areas identified through the Stormwater Master Plan.

The City should establish the next required action for each identified basin:

Planning → Preliminary Engineering → Design → Permitting → Funding → Procurement → Construction

Projects should not remain indefinitely identified as priorities without a defined next step.

Where comprehensive construction cannot immediately be funded, engineering and design should continue so projects can become grant-ready.

VI. WEST RIVIERA AND EASTERN DISTRICT IV

Develop a defined stormwater and resilience strategy for West Riviera Drive and other vulnerable eastern District IV areas.

Evaluation should consider:

- Roadway elevation
- Existing drainage capacity
- Tidal influence
- Groundwater conditions
- Outfall performance
- Opportunities for tide valves
- Pumping requirements
- Utility coordination
- Future road reconstruction
- Adjacent residential vulnerability

Planning should be coordinated with broader resilience projects affecting the eastern side of Key West.

VII. DISTRICT IV FLOOD HOT SPOT PROGRAM

Establish an annual program addressing smaller but persistent flooding locations that do not require major capital projects.

Not every flooding problem requires a regional drainage project. Some locations may be improved through relatively limited interventions.

Potential improvements may include:

- Additional stormwater inlets
- Catch basin improvements
- Vertical drains
- Injection wells
- Pipe repair or replacement
- Clearing obstructed drainage connections
- Tide-valve repair
- Curb and gutter corrections
- Localized grading
- Increased maintenance

Staff should maintain a prioritized list of these locations and identify projects that can be completed through annual stormwater capital or maintenance budgets.

The intent is to allow smaller improvements to proceed while larger capital projects are being designed and funded.

VIII. STORMWATER MAINTENANCE STANDARD

Establish minimum inspection and maintenance standards for drainage infrastructure in recurrent-flooding areas.

At a minimum, priority infrastructure should be inspected:

- Before the primary rainy season

- Before anticipated king-tide periods
- Following significant storm events
- When repeated resident reports indicate a potential blockage or failure

The City should maintain records of inspection and maintenance activity for priority locations.

Resident reporting should be simple and allow photographs and locations to be submitted electronically.

IX. “DIG ONCE” INFRASTRUCTURE POLICY

Require stormwater and resilience review before significant roadway reconstruction or resurfacing.

Before the City substantially reconstructs a street, relevant departments should evaluate:

- Stormwater pipes
- Drainage capacity
- Inlets
- Injection wells
- Outfalls
- Tide valves
- Water and sewer infrastructure
- Electrical infrastructure
- Road elevation
- Sidewalk and ADA improvements
- Future pump or conveyance connections

Where practical, underground infrastructure improvements should occur before final roadway construction.

The objective is to avoid resurfacing streets that will later need to be reopened for foreseeable infrastructure improvements.

X. NEW TOWN REGIONAL STORMWATER STRATEGY

Begin planning for the long-term drainage needs of New Town as a regional system rather than a collection of isolated intersections.

The City should initiate or advance feasibility and preliminary engineering for regional stormwater conveyance and pumping.

The analysis should include:

- Potential regional pump locations
- Major conveyance corridors
- Pump capacities
- Discharge and/or injection alternatives
- Water-quality treatment
- Electrical requirements
- Emergency backup power
- Land requirements
- Future groundwater conditions
- Future tidal conditions
- Construction phasing
- Estimated capital and operating costs

Individual projects undertaken today should, where practicable, be designed for compatibility with the City's anticipated long-term system.

XI. GROUNDWATER AND TIDAL CONDITIONS

Require major stormwater projects to consider projected groundwater and tidal conditions over the expected useful life of the infrastructure.

Engineering analysis should clearly distinguish among:

Rainfall-driven flooding: rainfall exceeds available drainage capacity.

Tidal flooding/backflow: elevated tides interfere with drainage or enter through outfalls.

Groundwater flooding: elevated groundwater reduces infiltration or reaches the surface.

Storm surge: extreme coastal flooding associated with tropical systems.

The City should avoid representing infrastructure designed for routine stormwater management as protection against hurricane storm surge unless specifically engineered for that purpose.

XII. DEVELOPMENT AND REDEVELOPMENT

Establish a clear policy objective that significant new development and redevelopment should not materially worsen flooding on surrounding properties or public rights-of-way.

For major projects, development review should clearly address:

- Existing drainage patterns
- Proposed drainage patterns
- Stormwater retention
- Changes in impervious surface
- Changes in elevation
- Fill
- Potential displacement of water
- Effects on adjacent properties
- Effects on public streets
- Future tidal and groundwater conditions where applicable

For major development proposals, stormwater conclusions should be presented to decision-makers in understandable terms rather than solely as technical code-compliance findings.

XIII. WATER QUALITY

Require water-quality considerations to be incorporated into significant stormwater projects.

Moving stormwater more efficiently should not unnecessarily increase the transport of sediment, nutrients, debris, or pollutants into canals or nearshore waters.

Projects should evaluate appropriate treatment methods, including sediment removal and other best management practices, before discharge or injection.

Stormwater policy should be coordinated with the City's broader water-quality monitoring efforts.

XIV. FLOOD MONITORING AND DATA COLLECTION

Develop a permanent program for measuring flooding in priority areas.

Where appropriate, install flood-depth or water-level monitoring equipment and integrate results with:

- Rainfall data
- Tide data
- Groundwater information
- Resident reports
- Infrastructure data

The City should establish baseline conditions before major improvements whenever practicable.

This will allow the City to evaluate projects based on measurable changes in flood depth, duration, and recovery time.

Reliable monitoring data can also strengthen state and federal grant applications.

XV. STORMWATER LEVELS OF SERVICE

Develop understandable stormwater performance standards for consideration by the Commission.

The City should establish reasonable expectations regarding infrastructure performance during specified rainfall and tidal conditions.

Performance measures could include:

- Maximum roadway flood depth
- Maximum flood duration
- Drainage recovery time
- Structural flooding risk
- Accessibility of critical transportation routes

The objective is not to establish an unrealistic expectation that flooding can always be eliminated.

The objective is to establish what level of performance taxpayers should expect from public infrastructure and provide an objective basis for determining whether investments are working.

XVI. CAPITAL IMPROVEMENT PROGRAM

Create a rolling five-year and ten-year stormwater and flood-mitigation capital program.

Projects should move through a defined pipeline:

Problem Identification → Engineering → Design → Permitting → Shovel-Ready Project → Funding → Procurement → Construction → Performance Evaluation

Projects should be advanced through engineering and permitting whenever financially feasible even when construction funding has not yet been secured.

Having projects designed and permitted increases the City's ability to compete for time-sensitive state and federal funding.

XVII. FUNDING STRATEGY

Maintain a coordinated funding strategy for flood-mitigation projects rather than relying exclusively on annual local revenues.

Potential funding sources should be continuously evaluated, including:

- Florida Resilient Florida funding
- FEMA mitigation programs
- HUD/CDBG-MIT programs when available
- State legislative appropriations
- Federal infrastructure programs
- Monroe County partnerships
- Water-quality funding
- Stormwater utility revenues
- Other eligible resilience and infrastructure grants

The City's annual state and federal legislative priorities should identify specific flood-mitigation projects, project status, funding requested, and required local match.

Priority should be placed on maintaining a pipeline of grant-ready projects.

XVIII. U.S. ARMY CORPS OF ENGINEERS AND TECHNICAL PARTNERSHIPS

Initiate discussions with the U.S. Army Corps of Engineers and other appropriate federal, state, university, and technical partners regarding Key West's long-term coastal and stormwater challenges.

The City should determine what planning assistance, technical programs, cost-sharing opportunities, or federal study authorities may be applicable.

Outside technical partnerships should supplement, rather than replace, the City's existing engineering and adaptation work.

XIX. PUBLIC FLOOD MITIGATION DASHBOARD

Create a public-facing dashboard for major flood-mitigation projects.

For each project, residents should be able to see:

- Project location
- Problem being addressed
- Project scope
- Current phase
- Funding source
- Project budget
- Amount spent
- Contractor
- Project manager
- Current milestone
- Next milestone
- Anticipated construction date
- Anticipated completion date

Projects should remain on the dashboard through post-construction performance evaluation.

The dashboard should connect directly to the City's broader strategic-plan accountability system rather than operate as a separate reporting structure.

XX. DISTRICT IV COMMUNITY FLOODING WORK SESSION

Hold a District IV flooding and infrastructure working session at least twice annually.

Relevant Engineering, Utilities, Public Works, Adaptation/Resiliency, and other staff should participate as appropriate.

The working session should review:

- Projects completed
- Projects under construction
- Projects in design
- Funding applications

- Current flood data
- Newly identified problem areas
- Upcoming capital priorities
- Resident observations

The purpose should be substantive project review and community input rather than a general presentation.

IMPLEMENTATION SCHEDULE

First 100 Days

Direct preparation of the District IV Flood Mitigation Implementation Plan.

Complete a comprehensive inventory of known District IV flood hot spots.

Obtain an engineering status report on every District IV outfall and tide-valve location.

Establish the District IV priority map.

Establish the public reporting structure for major projects.

Identify immediate maintenance and small-capital improvements that can proceed without major additional engineering.

Establish the next action required for Harris/10th, Patterson/New Town, West Riviera, and other identified priority areas.

First Year

Advance Harris Avenue/10th Street through construction according to the approved project schedule.

Advance engineering/design for identified Patterson/New Town drainage improvements.

Complete priority tide-valve and outfall improvements as funding and construction schedules allow.

Implement the District IV Flood Hot Spot Program.

Begin installation of monitoring equipment at selected high-priority locations.

Establish baseline flood-performance measurements.

Implement the Dig Once policy.

Develop the rolling stormwater Capital Improvement Program.

Advance preliminary planning for regional New Town drainage and pumping.

Submit identified projects for appropriate state and federal funding.

Years One Through Two

Complete multiple neighborhood hot-spot projects.

Advance regional New Town conveyance and pumping engineering.

Continue priority tide-valve installations and outfall improvements.

Develop proposed stormwater levels of service for Commission consideration.

Integrate District IV projects into the City's long-range adaptation and capital programs.

Maintain a pipeline of designed, permitted, and grant-ready projects.

Evaluate completed projects using post-construction flood data.

ACCOUNTABILITY

Progress should be reported to the Commission at least quarterly.

Each major flood-mitigation project should have:

Responsible Department

Responsible Project Manager

Defined Scope

Approved Budget

Funding Source

Current Phase

Next Milestone

Target Date

Performance Measure

The measure of success should not simply be whether money was appropriated or construction was completed.

The measure should be whether the investment reduced the frequency, depth, duration, or consequences of flooding.

POLICY OUTCOME

District IV will not be made flood-proof through a single project.

The objective is to establish a disciplined progression from immediate maintenance and tide-valve improvements, to neighborhood drainage projects, to major conveyance and pumping infrastructure, while preparing New Town for future tidal and groundwater conditions.

The policy should provide a clear answer to four questions for every known flooding problem:

What is causing it?

What is the solution?

What is the next action required?

When will that action occur?

That is the standard by which District IV's flood-mitigation program should be managed and evaluated.