Flood Study

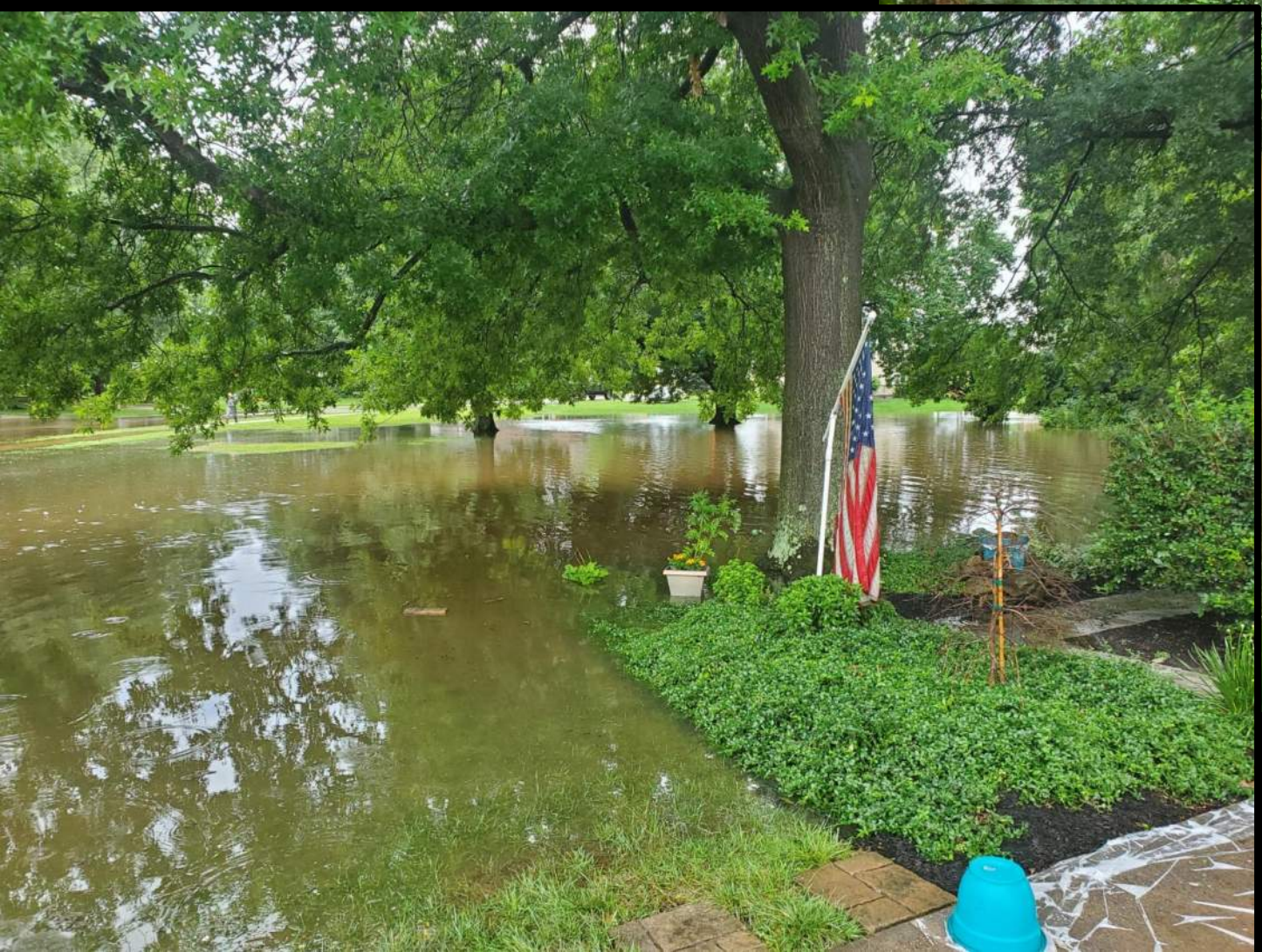
City of Reminderville

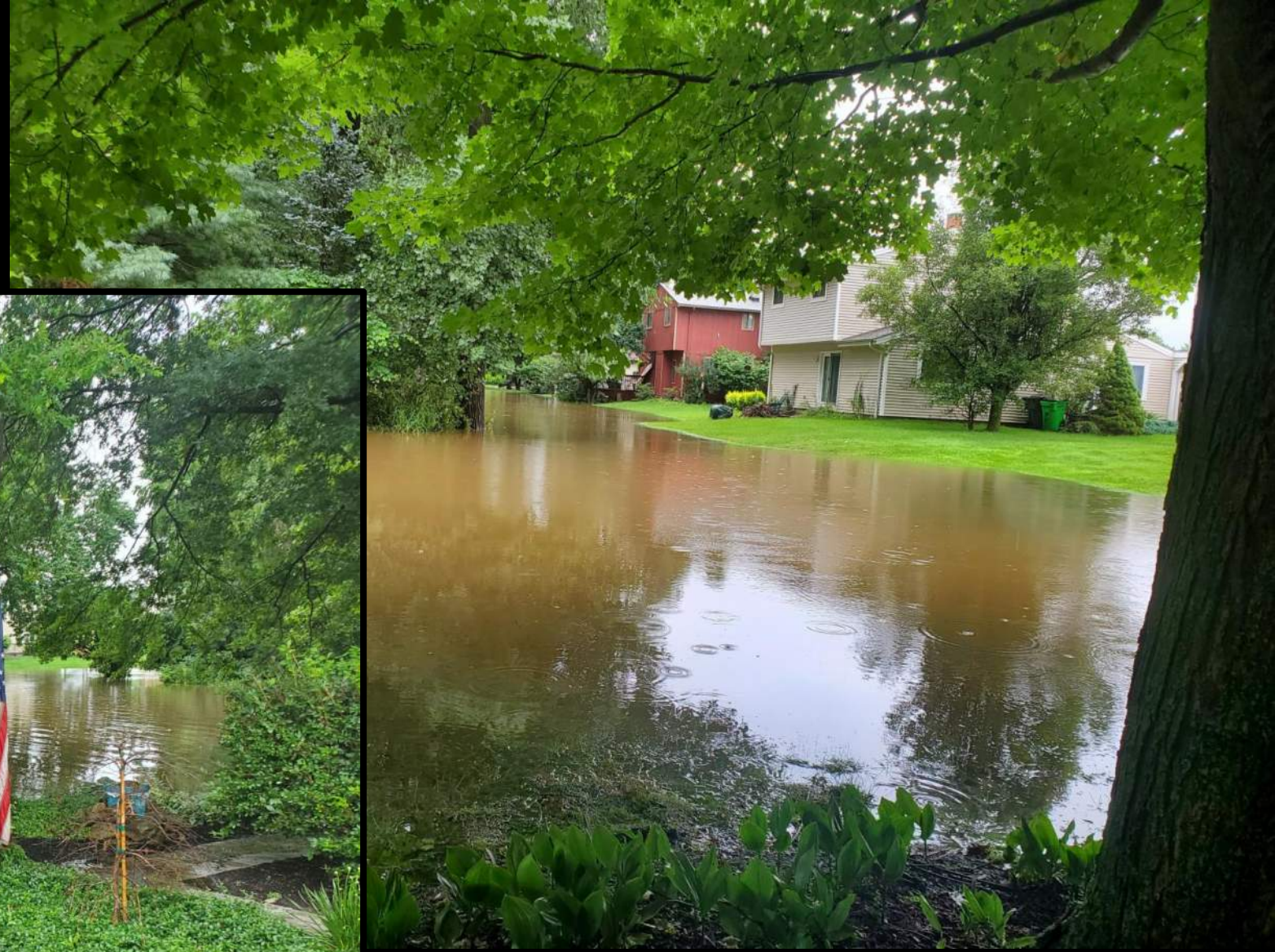
Nautilus Trail

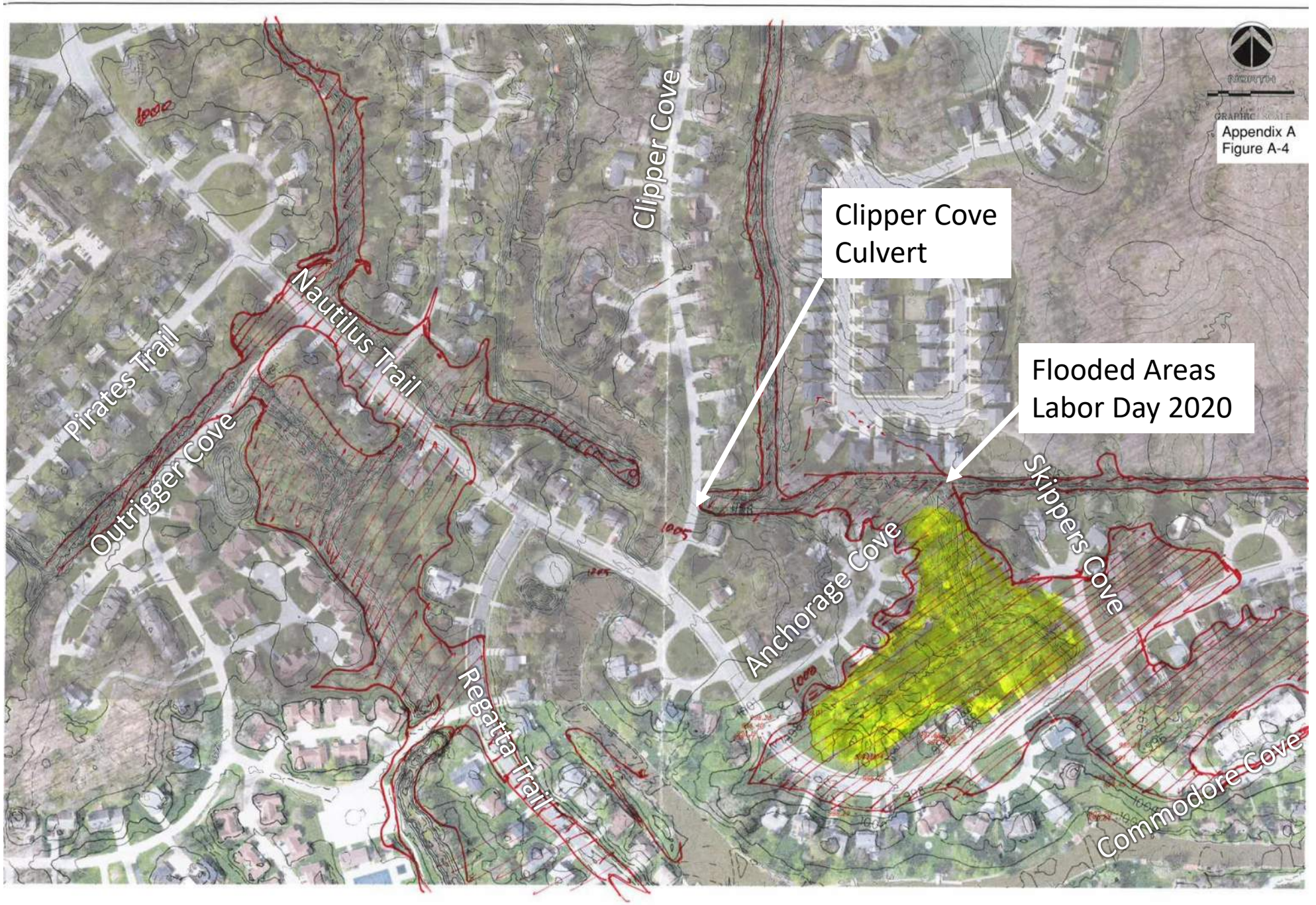
California Street

Nautilus Trail

Regatta Trail






Appendix A
Figure A-4
Clipper Cove
Clipper Cove Culvert
Flooded Areas Labor Day 2020
Pirates Trail
Nautilus Trail
Outrigger Cove
Anchorage Cove
Skippers Cove
Regatta Trail
Commodore Cove

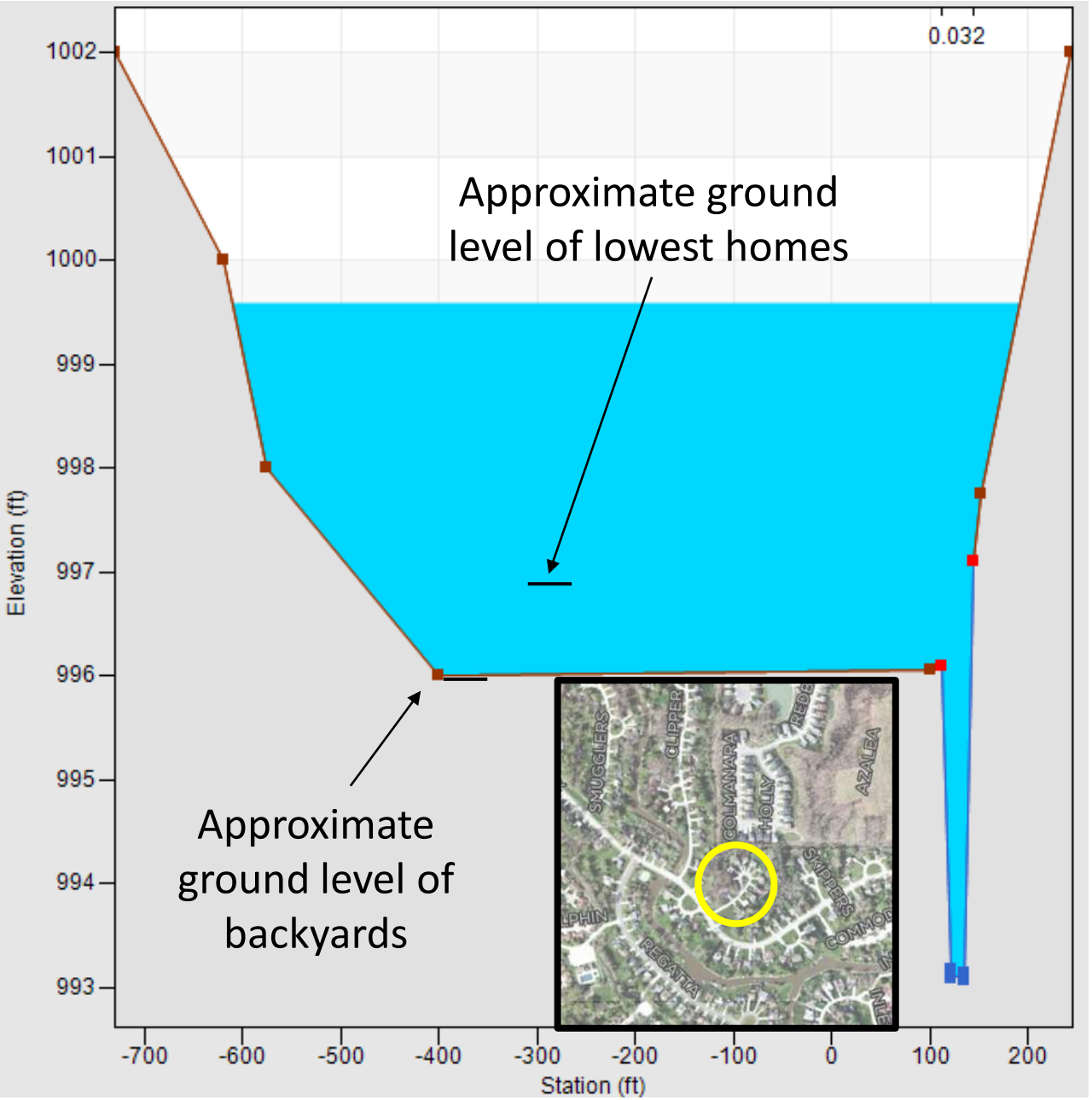
Recurrence Interval	24-hour Rainfall (inches)
1-year	2.05
2-year	2.46
5-year	3.06
10-year	3.55
25-year	4.27
50-year	4.87
100-year	5.52

Labor Day 2020 storm was close to a 50-year storm

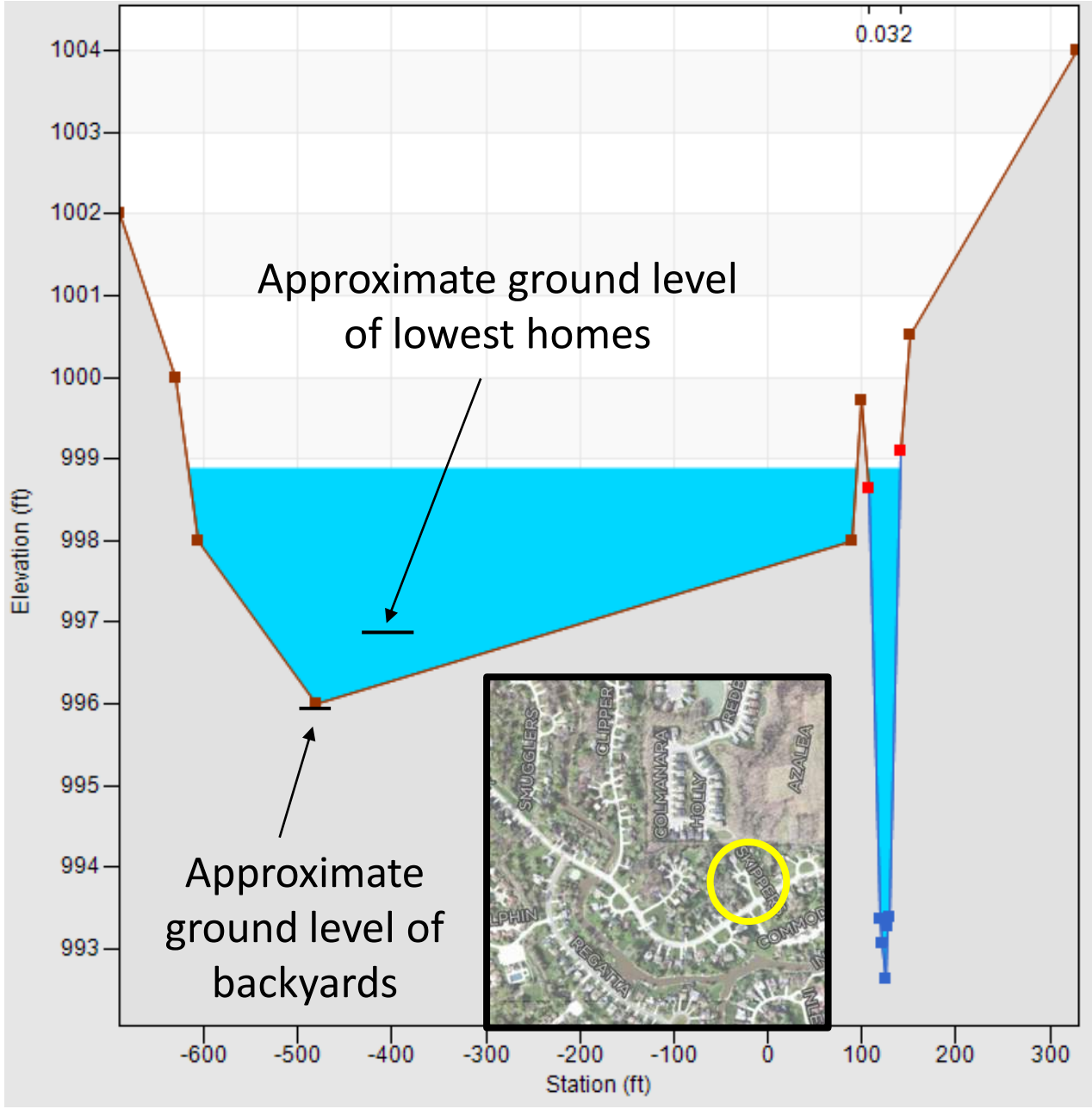

Clipper Cove
Culvert
SOLON
REMINDERVILLE
TWINSBURG
AURORA
SMUGGLERS
CLIPPER
OUTRIGGER
HOLLY
AZALEA
REDBUD
FIRETHORN
NAUTILUS
SKIPPERS
COMMODORE
INLET
DOLPHIN
REGATTA
GLENWOOD
GLENBROOK
LIBERTY LEDGES
SHADY TIMBER (PROPOSED)
LIBERTY PARK

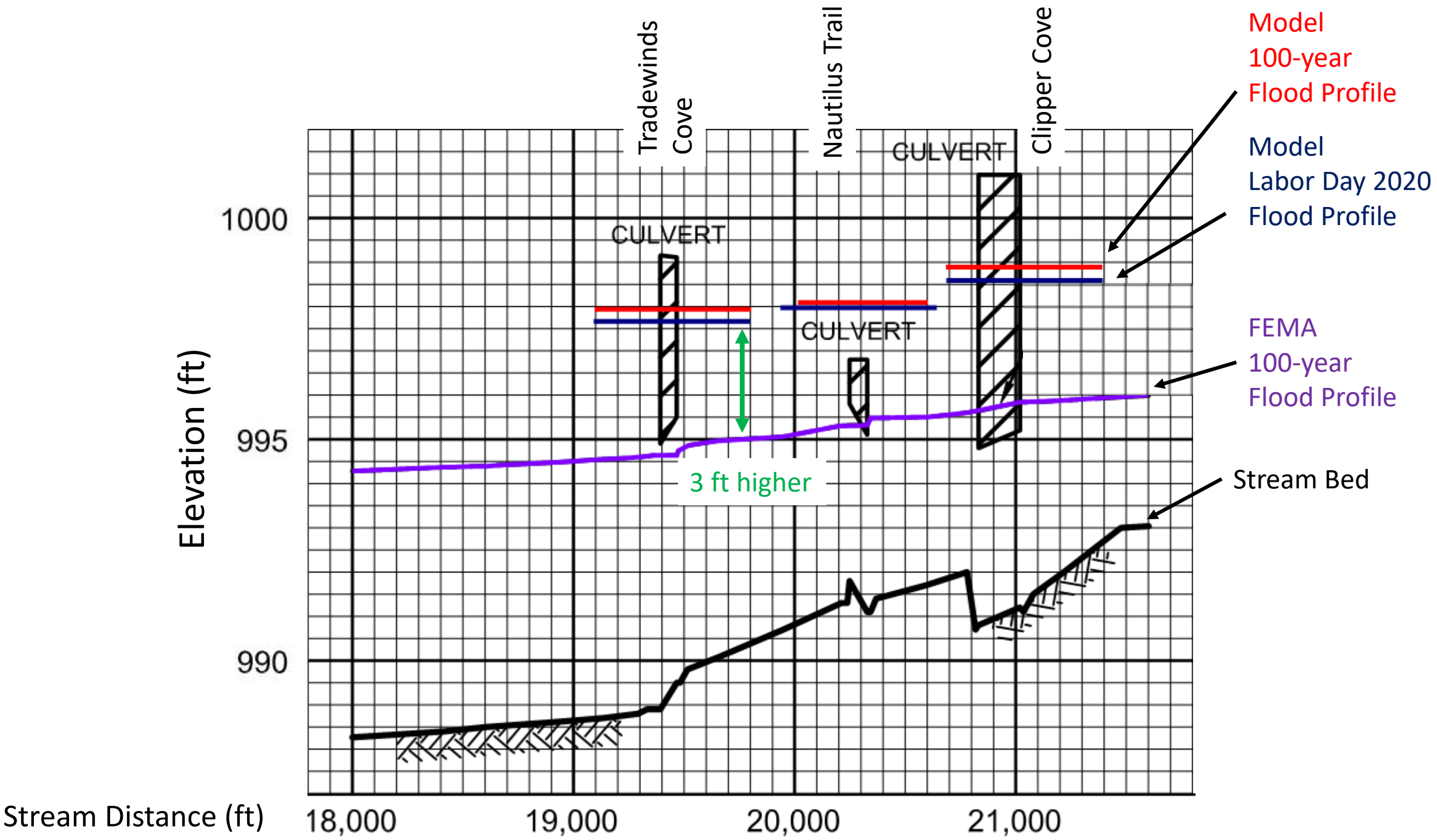

Upstream
Signature of Solon Golf Course
Walmart
Clipper Cove culvert
Pond Brook Downstream
Downstream
SOLON
REMINDERVILLE
AURORA
TWINSBURG
SEA RAY
PEBBLE BEACH
WS NEST
SURF
State of Ohio GISSC

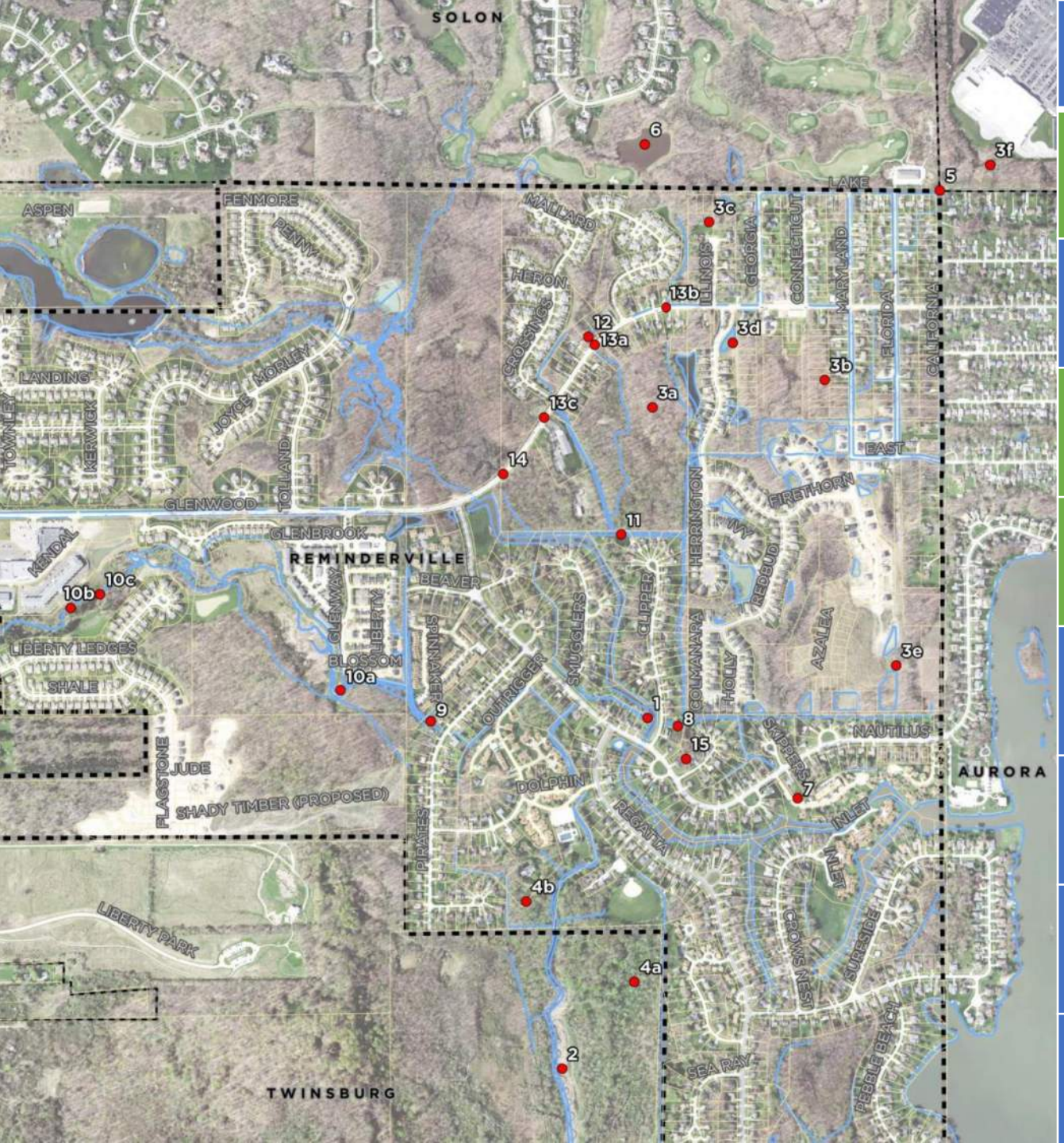
Labor Day 2020 Flooding at Anchorage Cove



Labor Day 2020 Flooding at Skippers Cove




Tradewinds Cove
Nautilus Trail
Clipper Cove
CULVERT
CULVERT
CULVERT
Model 100-year Flood Profile
Model Labor Day 2020 Flood Profile
FEMA 100-year Flood Profile
Stream Bed
3 ft higher
Elevation (ft)
1000
995
990
Stream Distance (ft)
18,000
19,000
20,000
21,000



PROPOSED ALTERNATIVES

Culvert

Regrade channel

Storage

Storage + Culvert

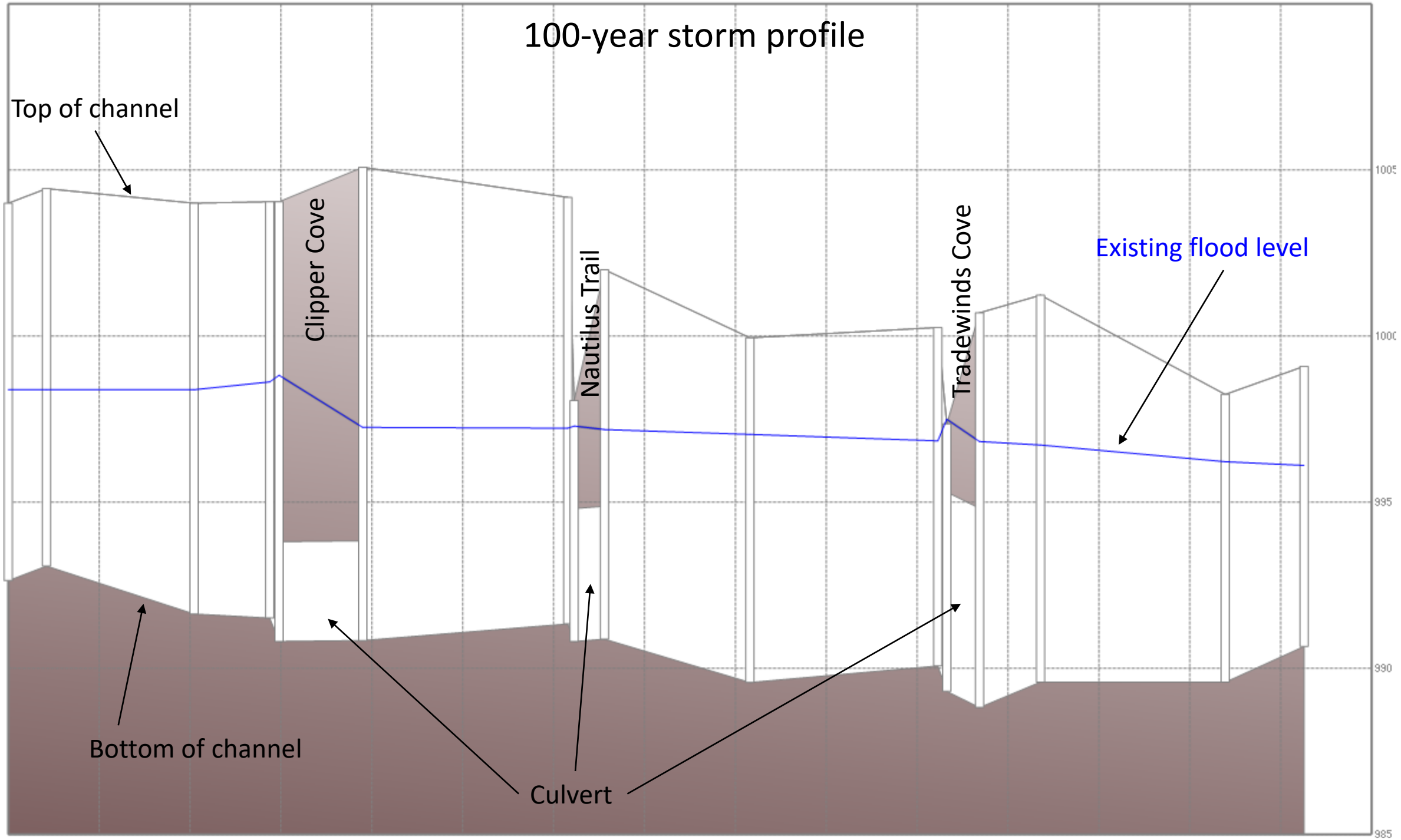
Divert flow

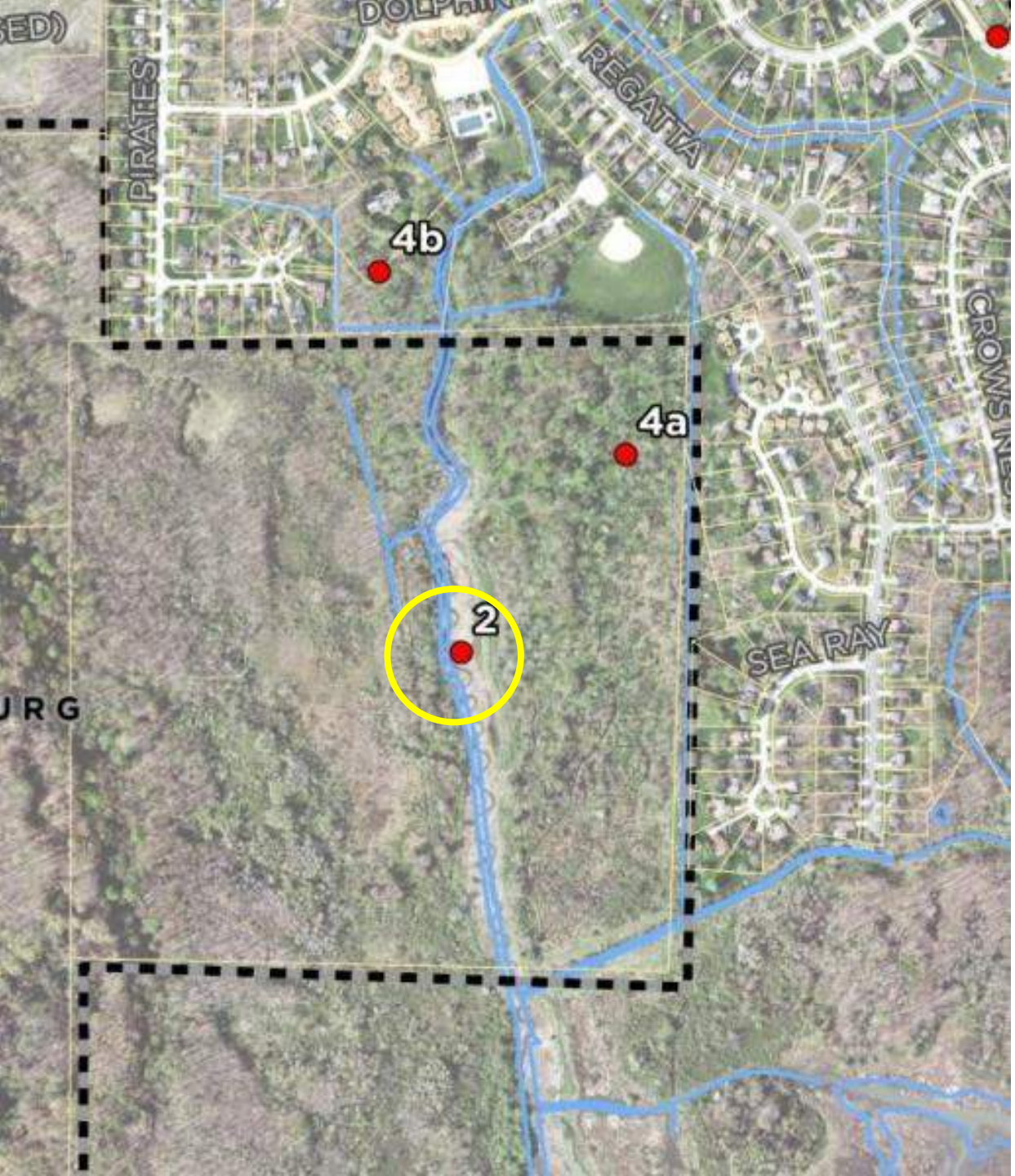
Large pump station

Small pump station

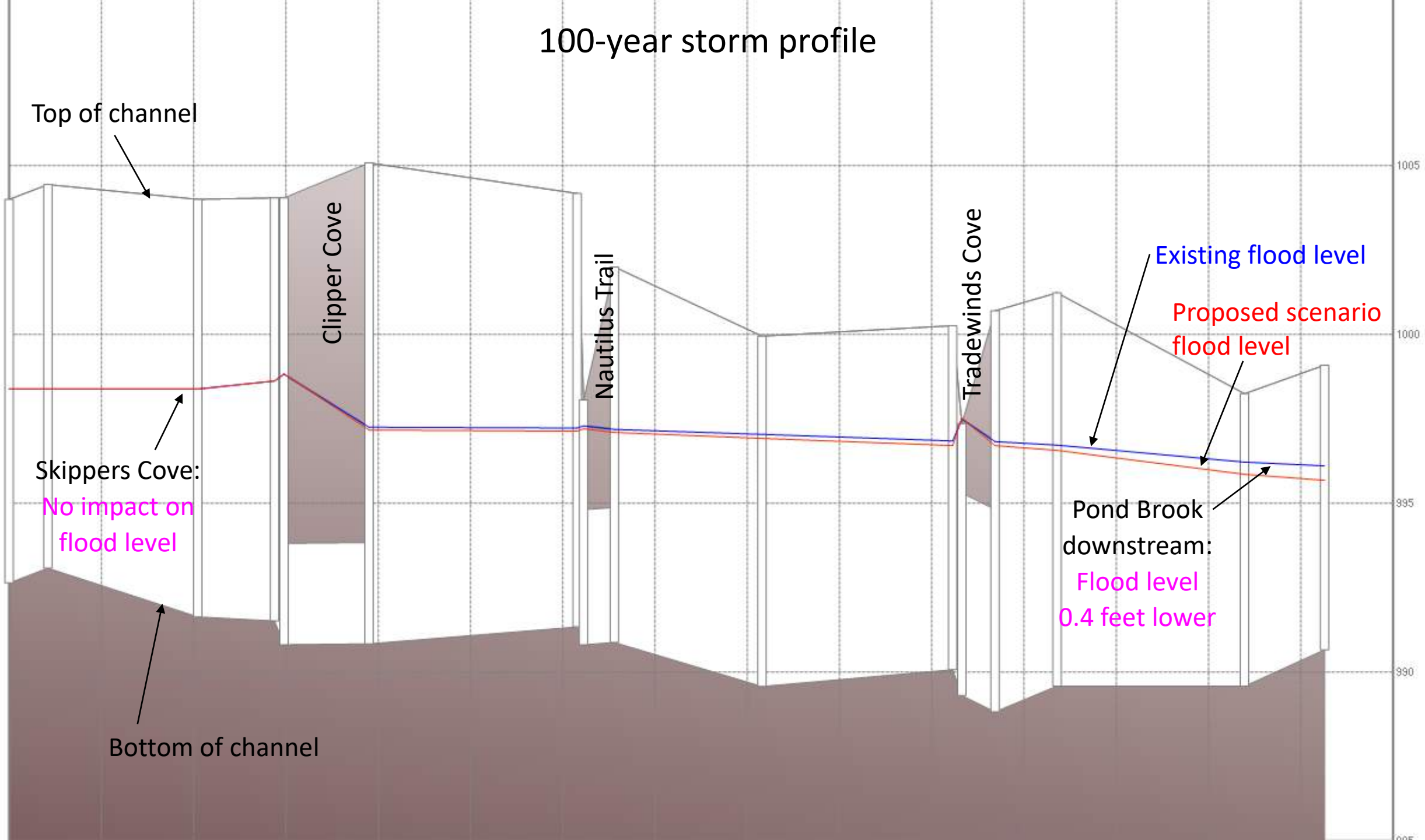
Weirs

PROPOSED ALTERNATIVES	COST ESTIMATE
Culvert	$720,000
Regrade channel	Not estimated
Storage	$1,900,000
Storage + Culvert	$2,600,000
Divert flow	Not estimated
Large pump station	$5,400,000
Small pump station	$2,400,000
Weirs	Not estimated


100-year storm profile
Top of channel
Clipper Cove
Nautilus Trail
Tradewinds Cove
Existing flood level
Bottom of channel
Culvert
1005
1000
995
990
985

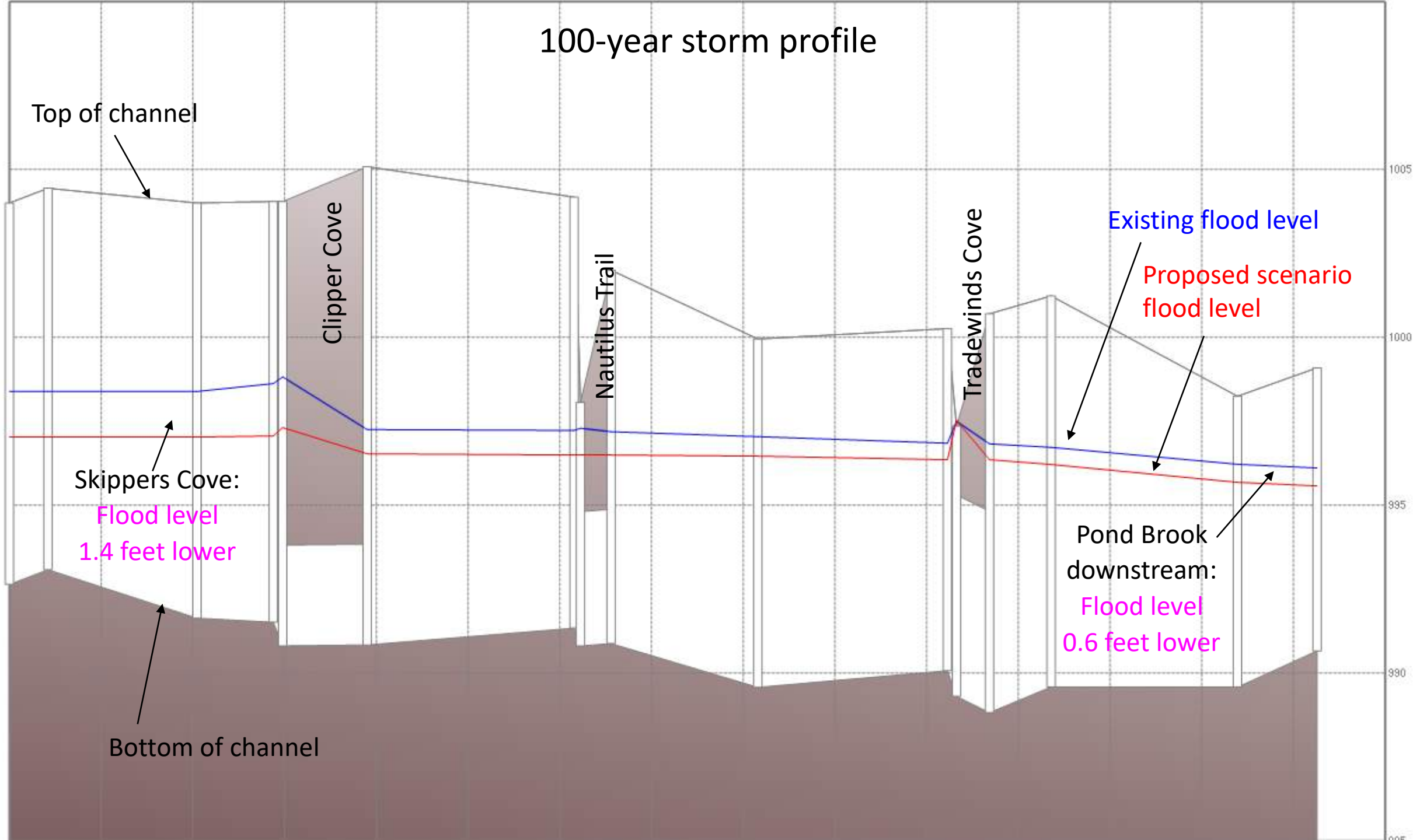


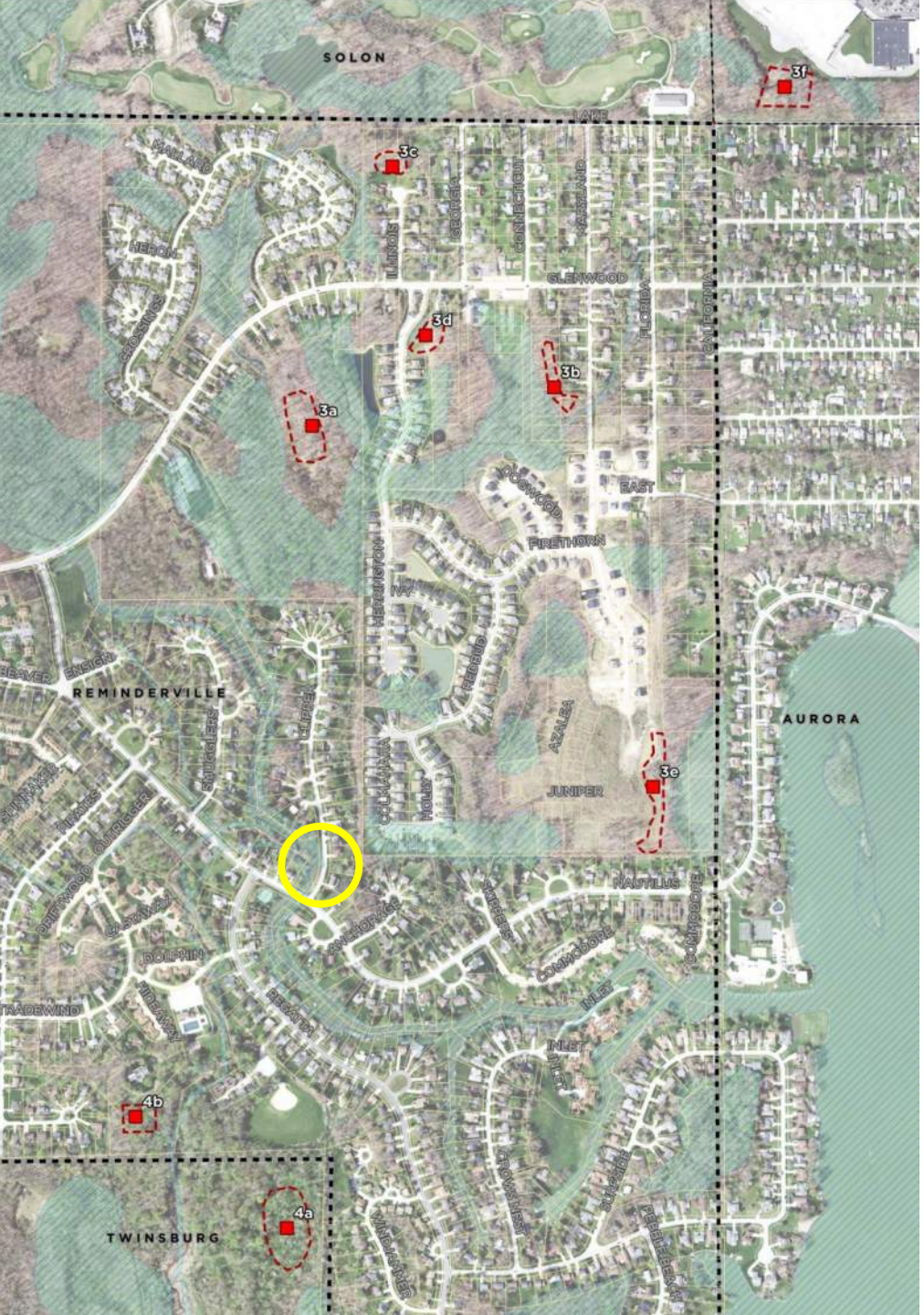
Regrade Channel


100-year storm profile
Top of channel
Clipper Cove
Nautilus Trail
Tradewinds Cove
Existing flood level
Proposed scenario flood level
Skippers Cove:
No impact on flood level
Pond Brook downstream:
Flood level 0.4 feet lower
Bottom of channel
1005
1000
995
990

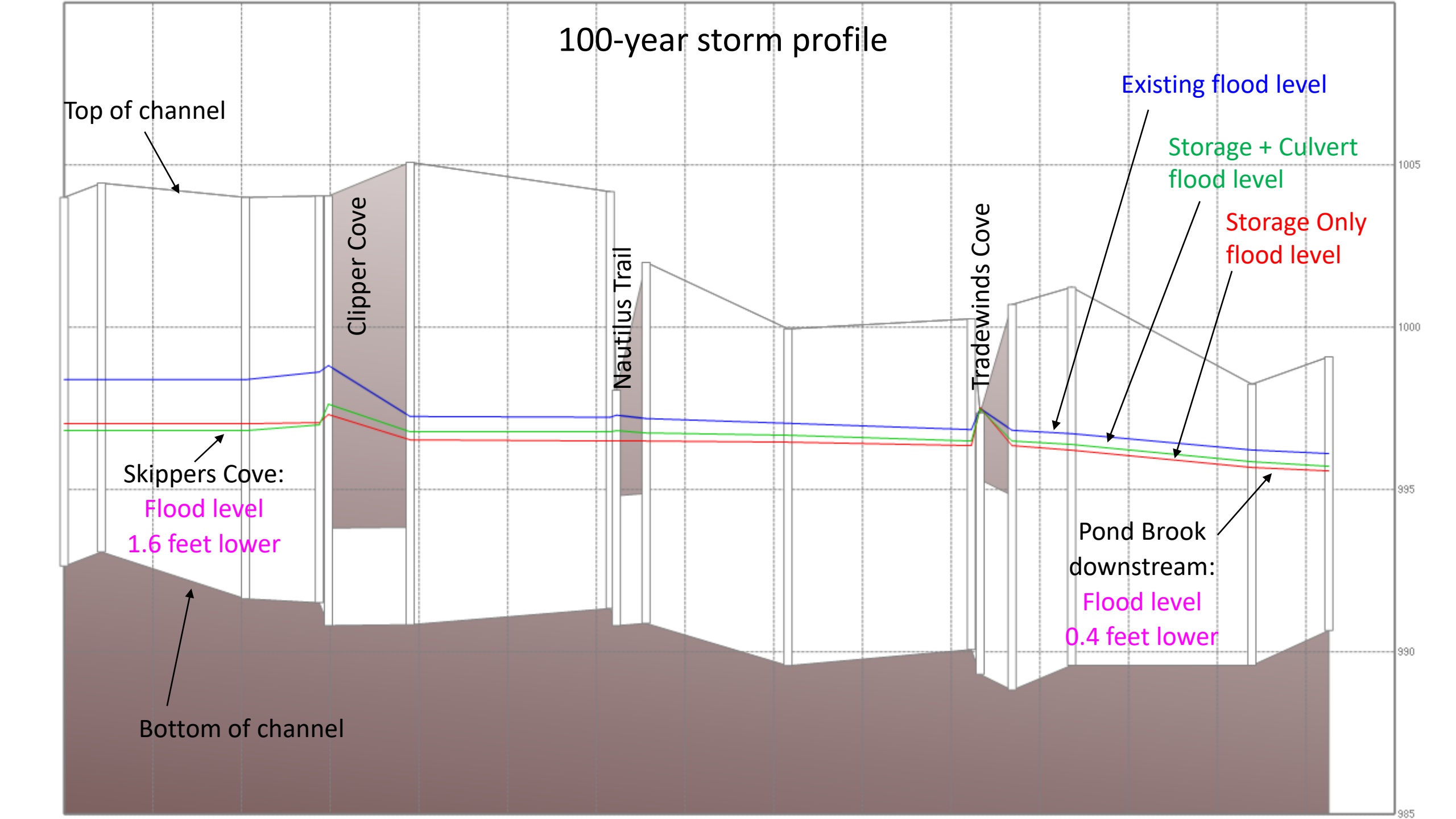

Proposed Storage
Wetlands
SOLON
REMINDERVILLE
AURORA
TWINSBURG
3a
3b
3c
3d
3e
3f
4a
4b

Storage


100-year storm profile
Top of channel
Clipper Cove
Nautilus Trail
Tradewinds Cove
Existing flood level
Proposed scenario flood level
Skippers Cove:
Flood level
1.4 feet lower
Pond Brook downstream:
Flood level
0.6 feet lower
Bottom of channel
1005
1000
995
990



Storage + Culvert


100-year storm profile
Top of channel
Clipper Cove
Nautilus Trail
Tradewinds Cove
Existing flood level
Storage + Culvert flood level
Storage Only flood level
Skippers Cove:
Flood level
1.6 feet lower
Pond Brook downstream:
Flood level
0.4 feet lower
Bottom of channel
1005
1000
995
990
985

Other Alternatives

PROPOSED ALTERNATIVES	Flood Level Reduction at Anchorage Cove			
	1-year	10-year	100-year	Labor Day
Culvert	0.4	0.4	0.5	1.1
Regrade channel	0.0	0.0	0.0	0.1
Storage	1.1	1.2	1.4	1.9
Storage + Culvert	1.3	1.6	1.6	2.4
Divert flow	0.0	0.0	0.0	0.1
Large pump station	0.6	1.3	1.9	2.3
Small pump station	-0.7	0.2	1.0	1.0
Weirs	Not modeled			

Key Findings

- Slow down flow upstream with more storage
- Widen culvert to release more flow downstream
- Need both to have significant reduction
- Will not eliminate all flooding from all areas for all storms

Key Recommendations for City

- Plan a series of high-impact projects
- Each project contributes to flood reduction
- Be prepared for floodplain permit process

How Can Residents Help?

- Basic maintenance: review Ordinance
- Support the City’s projects
- Assist the City with property acquisition for projects

Questions?