LOCAL IMPROVEMENT DISTRICT (LID)

HESCO Flood Barrier Mitigation Project

Ordinance 2024-40 Exhibit A - 16ft flood inundation

Public Meeting

January 3, 2025 | Thunder Mountain Middle School Auditorium

Katie Koester, City Manager | CBJ

Nathan Rumsey, Deputy Director, Engineering & Public Works | CBJ

John Bohan, Chief CIP Engineer | CBJ

Michael Records, Civil Engineer | USACE *Hydrology & Hydraulics Section, Alaska District*

Welcome

Housekeeping Notes

- Purpose of the meeting
- Thank you
- Quick Agenda/flow of meeting
- Questions at the end
- **New HESCO Barrier Phase 1 website.**
  - www.juneau.org/hesco

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The Flood - What Just Happened?

Emergency Response

Assist Impacted Residents and Clean up

What to do next?

How we got to HESCO…

- **Nathan Rumsey,** Deputy Director, Engineering & Public Works | CBJ
- **John Bohan,** Chief CIP Engineer | CBJ
- **Michael Records**, Civil Engineer | USACE *Hydrology & Hydraulics Section, Alaska District*

How we got to HESCO…

- *Try to comprehend the extreme magnitude of the GLOF Flooding*
- *Enlist the Technical Experts*
- *Parallel Path Solutions: Short Term and Long Term*
  - *Short Term – Flood Fighting and H&H Inundation Study*
  - *Long Term – USACE General Investigation (GI) Study*
- *Short Term –*
  - *Hydrologic and Hydraulic Inundation Study*
  - *Buying Time! - Flood Fighting – keep water in River – sandbag or sandbag equivalent barriers*


August 6, 5:00 am
1.5 hour after flood peak
Riverside Dr
Emily Way
Sharon St.
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N. Meander Way –
August 6, 4:30 am
1 hour after flood peak

Meeting with the Experts

September 6 - Technical Work Session with technical experts in Anchorage

- USACE,USFS, NWS, USGS, AKDOT&PF, CCTHITA, NRCS, CBJ
- Reps from Senators Murkowski's and Sullivan's Offices

Discussed and analyzed all potential solutions presented to CBJ

Brainstormed for other Solutions

Finding: NEED Hydraulic and Hydrologic Modeling to make informed decisions on solutions

Finding: NEED Short Term Solution – proper analysis of long term solutions will take longer than time available before Summer 2025 GLOF

OUTCOME: Parallel Path Solutions: Pursue Short Term AND Long Term solutions simultaneously

Parallel Paths

Immediate pursuit of all options

- **Long Term:**
  - USACE General Investigation (GI) Study
- **Short Term:**
  - Hydraulic and Hydrologic Analysis
  - Buying Time – Flood Fighting
- **Work on Short Term and Long Term solutions has been occurring concurrently since mid-September**

Long Term Solution:
USACE General Investigation Study

- **General Investigation Studies:**
  - *Are authorized by Congress.*
  - *Address flood risk management and other needs.*
  - *Identify alternative plans and recommended solutions.*
  - *May result in a follow-on project for construction.*
- **Criteria for GI Project Development:**
  - Federal interest.
  - Economically justified.
  - Environmentally acceptable.
  - Must include a local sponsor.
- **Status:**
  - Disaster Supplemental Funding in American Relief Act
  - USACE has 60 days to advise Congress on use of funds.
  - *CBJ / USFS Participating Agreement - $1 Million*

Buying time…

Short Term Solutions:

- **Hydrologic & Hydraulic Study** and Flood Inundation Mapping New Analysis based on the new flood elevation and river alignment - post erosion and flooding events.

- **Flood Fighting** - Keeping the flood waters **IN THE RIVER**

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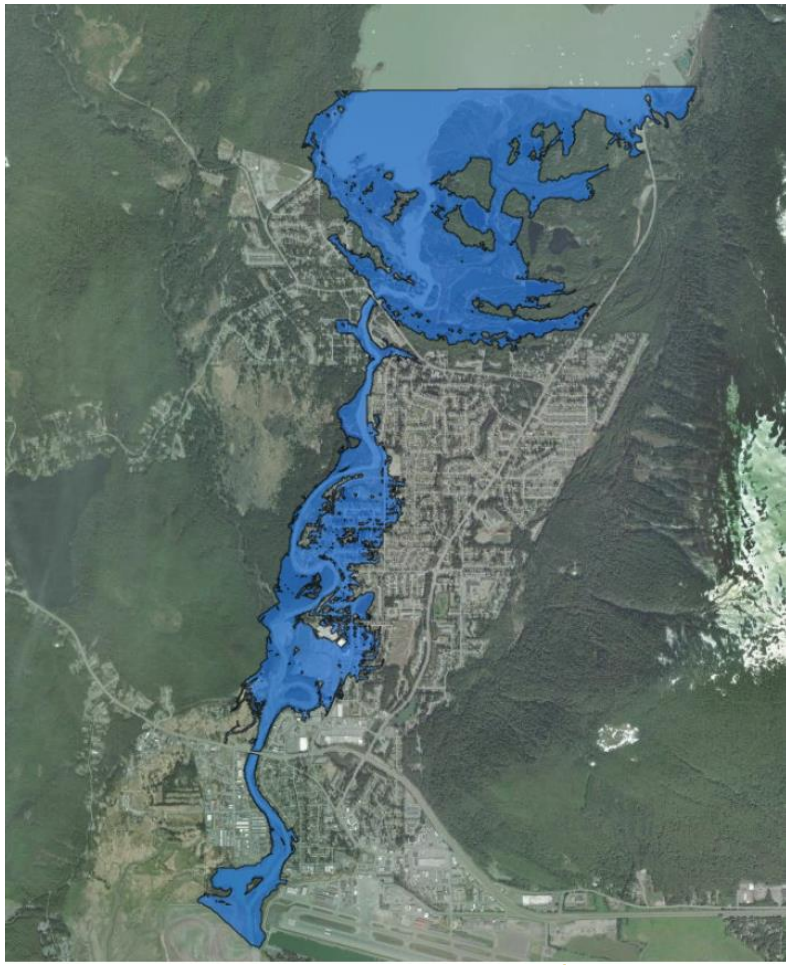
Hydrologic & Hydraulic Study:

- Michael Baker International (MBI) under Contract and working
  - Provide river modeling above and beyond the currently available - 16’ Flood Inundation Mapping - and incorporating the newer changes in the river.
  - Analyze and incorporate deployment of HESCO barriers
    - Refine HESCO phase 1 alignment
    - Identify new potential areas of inundation with HESCO phase 1 barriers in place
  - Anticipate having the first run of modelling from MBI late February / early March 2025.
  - H&H work is being completed at level at high level detail for incorporation into USACE GI study.



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Short Term Solutions:

- Flood Fighting - Keeping the flood waters **IN THE RIVER**
- Sandbags or Sandbag Equivalents and other alternatives to build levee system along the riverbank
- USACE Flood Fighters offer to provide CBJ HESCO Barriers and Flood Fighting Technical Assistance.
- CBJ required to select the route and install HESCOs **with** USACE Technical Assistance

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What are HESCO Barriers?

- Extremely robust and overgrown sandbags: 3’w x 4’h x 15’ long (in 5 cells @ 3’ each) fabric lined gabion (heavy wire mesh) baskets connected to each other and filled with sand.

- Placed between the river and homes along the river, back from the edge of the river (USACE recommendation) to keep the Mendenhall flood waters contained within the river instead of overrunning the banks and into adjacent homes and neighborhoods.

- Recommended for use in Flood Fighting by the US Army Corps of Engineers and used by the USACE for Flood Fighting across the U.S.

- Drainage: pipes with check valves will be installed through the bottoms of the HESCOs. Pipe sizes will vary depending on size of drainage areas (6” or 8” for yard vs 12”,18”, 24” etc. for larger drainages)

Completed A Street HESCO barrier on the right bank of the White River in Auburn, looking downstream. Credit: King County

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Short Term Flood Fighting:

HESCO Flood Barrier Project along developed riverbank

- Permitting – FEMA, USACE, State
- Bank Armoring (where needed)
- Site Preparation (*site specific, as needed*)
  - Soil Stabilization (as necessary)
  - Obstruction Removal
- Barrier Installation
  - Drainage Construction
- Barrier Fill (including all materials)

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How was Phase 1 Developed?

- **Flood barriers**
  - Flooding observations and data
  - Constructability / Timeline
  - Protection of life and property – Protect highest number of flood vulnerable residents and homeowners
  - USACE Technical Experts Consultations and Site Visits to refine and validate Phase 1 alignment
  - Designed to protect for a greater event than 2024 GLOF
- **Local Improvement District Boundary**
  - 16’ Flood Inundation Map limits to Rivercourt Way – (water touches these properties according to the mapping)
  - Defensible data that incorporates areas anticipated to be protected from flooding by deployment of Phase 1 HESCO barriers

USACE Technical Support - Site Visits

What will they look like in my area?

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4293 Marion down to 4101 Riverside - 1high x 1 wide

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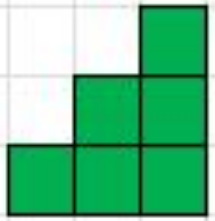
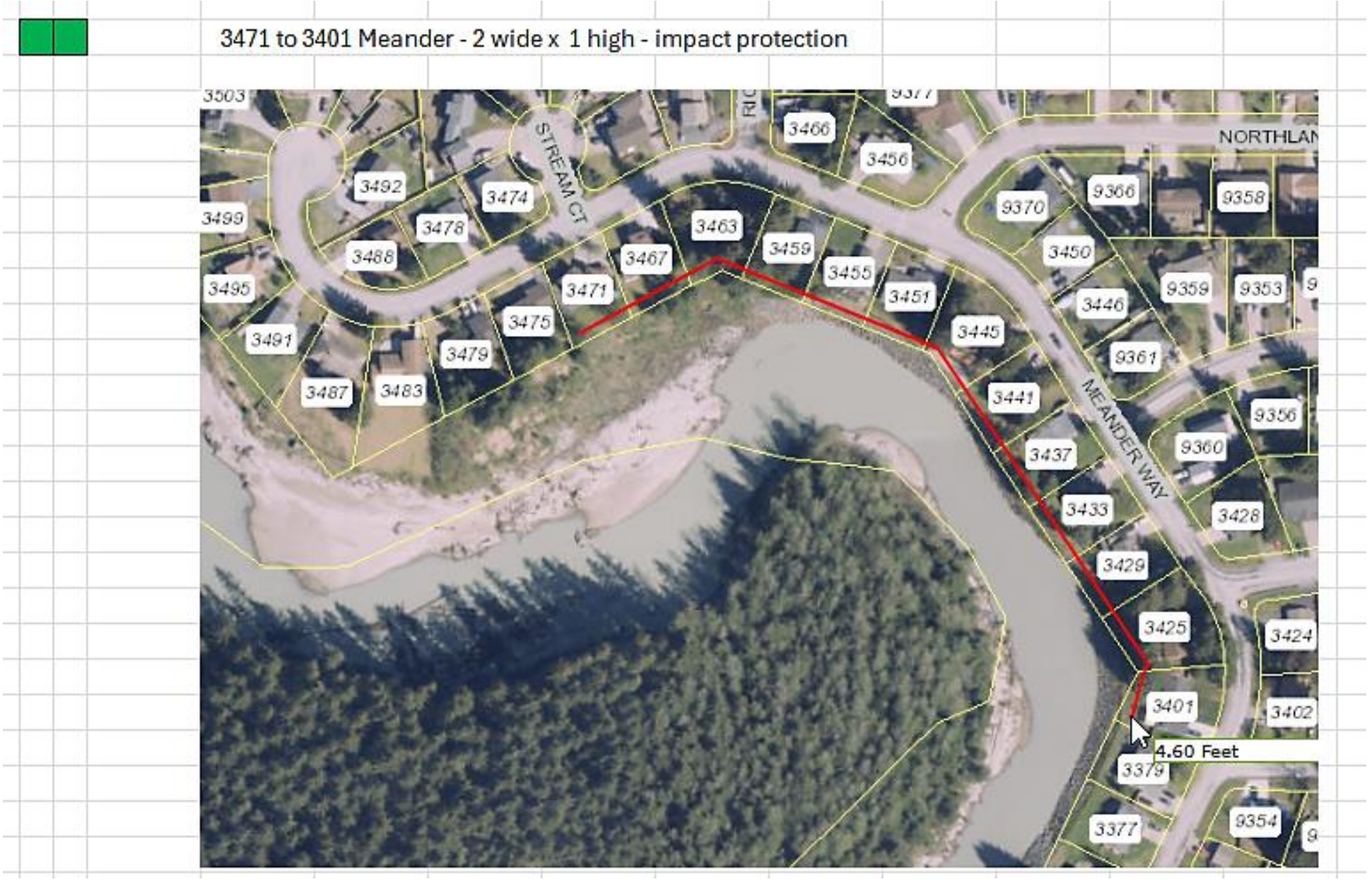


3479, 3475 Meander - 3 high pyramid x 3 wide base for lower ground

What will they look like in my area?



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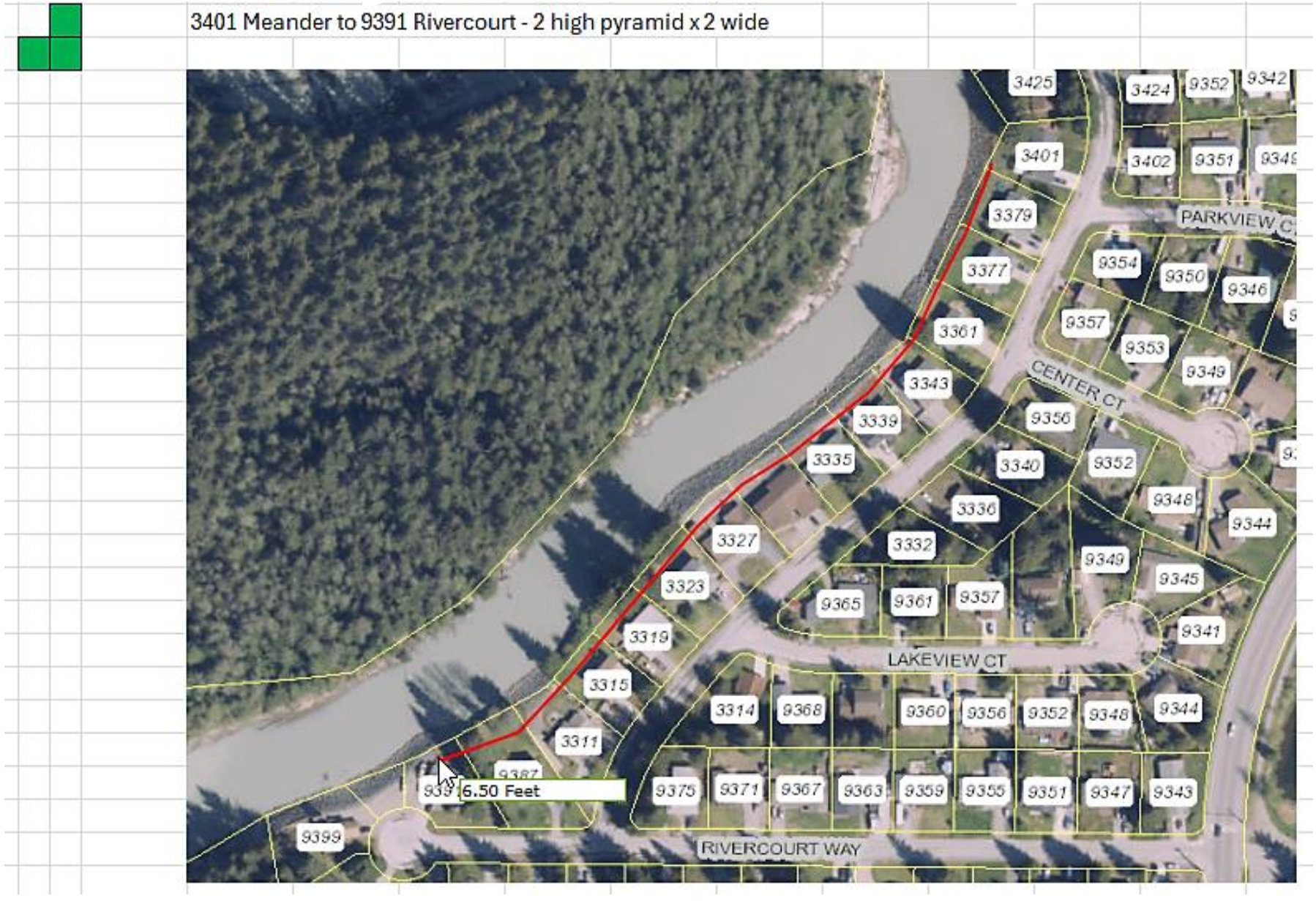
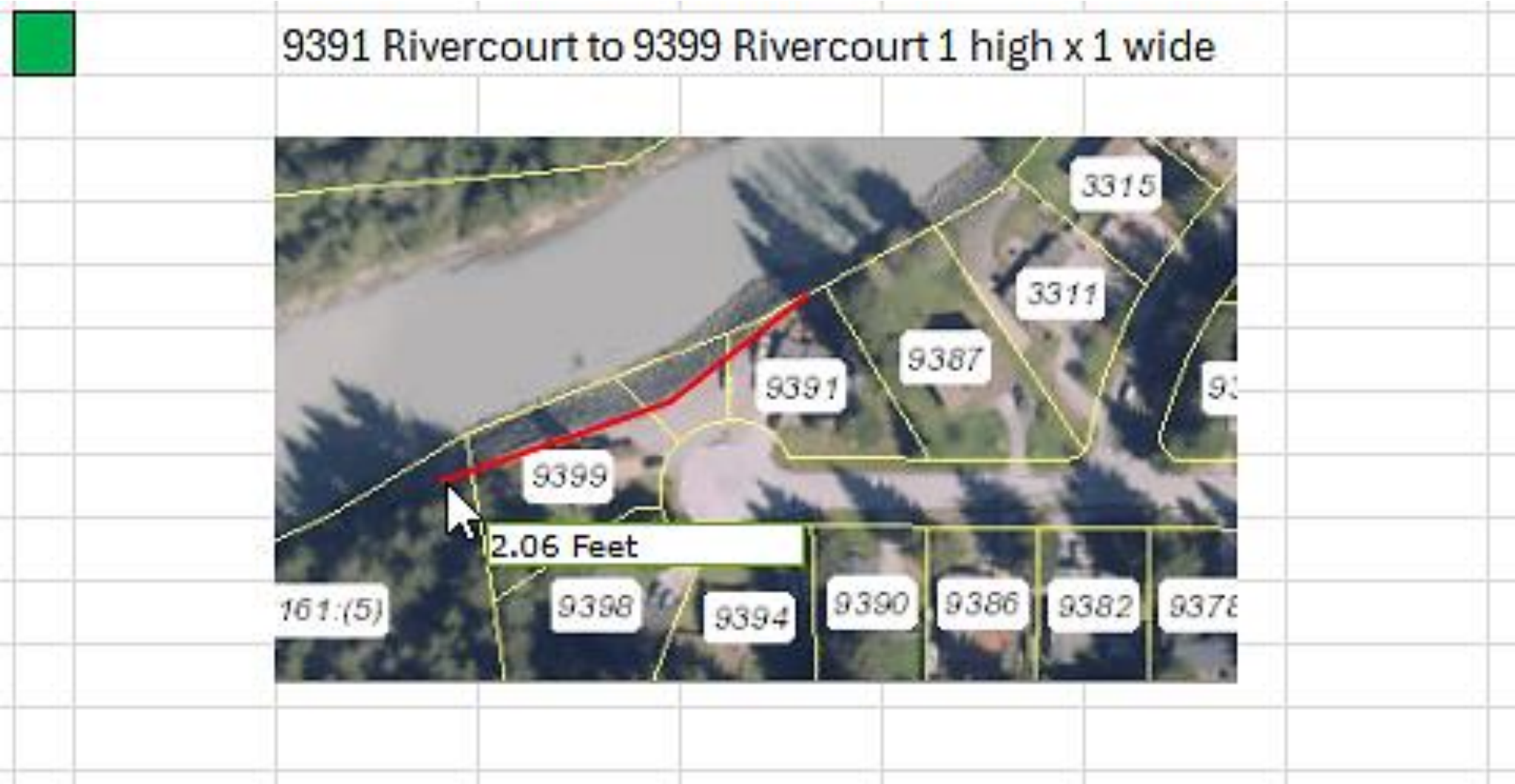



Rivercourt Way

What will they look like in my area?



Drainage through HESCOs

Drainage will be Installed

- Pipes integrally run through HESCOs on top of ground at low points
  - Installed through wire mesh
  - Wrapped with filter fabric prior to filling with sand
- Yard drainage – 6” or 8”pipes
- Large Drainages – sized accordingly (12”,18”, 24” etc)
- Check valves will be installed in each pipe

HESCO Deployment Strategy

- Construct bank armoring in advance of barrier installation
- Construct access, move obstructions and deploy barriers in one operation – as practical
- USACE Installation Experts will be on site to provide training and oversight for the deployment crews.
- Barrier deployment anticipated to occur in multiple locations at a time in order to meet time schedule prior to next potential GLOF.

Ordinance 2024-40 Exhibit A - 16ft flood inundation

Frequently Asked Questions: HESCO Flood Barriers - General

- What happens if water gets on the inside of the HESCO barriers?
- How effective has this solution been?
- Are there any potential downstream impacts?
- What studies are being done to inform the project?
- How will the HESCO project impact a long-term solution?

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Frequently Asked Questions: HESCO Flood Barriers - *Riverfront*

- Can I install the HESCO barriers on my property?
- Can I install my own flood fighting measures on my property?
- Who pays for what? (removal, etc.)
- Phase 2?

Manager’s Office - LID

- Katie Koester - CBJ City Manager
- Robert Barr – CBJ Deputy City Manager

What is an LID?

A Local Improvement District, or LID, is a mechanism in CBJ code for a benefited property to pay for an infrastructure improvement (in this case, the installation of the infrastructure to protect properties and homes from flooding). LIDs are governed under Title 15.10 Local Improvements and Special Assessments.

What would the HESCO Flood Mitigation Project LID pay for?

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Short Term Flood Fighting:

HESCO Phase 1 Flood Barrier Project along developed riverbank

- Permitting– FEMA, USACE, State
- Bank Armoring (where needed)
- Site Preparation (*site specific, as needed*)
  - Soil Stabilization
  - Obstruction Removal
- Barrier Installation
  - Drainage Construction
- Barrier Fill (including all materials)
- *Contingency*
- *Re-installation of property-owner structures post barrier removal*

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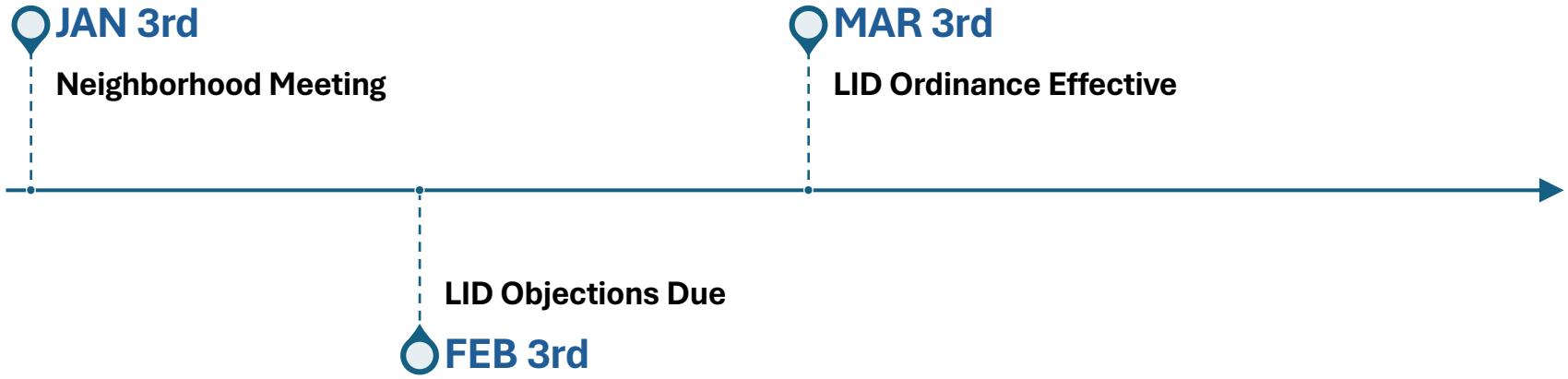
Timeline & Next Steps of LID Process



- Ordinance No. 2024-40(am) established a 60/40 split, with LID-included properties assessed $6,292.
- 10-year payment program with 4.78% interest rate.
- Objections must be received in writing by February 3rd, 2025.
- Failure to object will be deemed acceptance of the LID.

Frequently Asked Questions: LID

- **Is CBJ pursuing other potential funding sources?**
  What happens if the LID is approved and other funding is secured?
- **Can more properties be added to the LID?**
- **Can my assessment increase from $6,292?**
- **What happens if I sell my house?**
- **How do I pay my assessment?**
- **Can I pay it in full?**
- **When do I have to pay my assessment?**
- **Will the barriers still be installed if the LID fails?**
- **What will the city do if barriers are not installed?**
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Questions?

New HESCO project website

www.juneau.org/hesco

floodresponse@juneau.gov