



KING COUNTY

1200 King County Courthouse
516 Third Avenue
Seattle, WA 98104

Signature Report

FCDEC Motion

Proposed No. FCDECM2020-07.1

Sponsors

1 A MOTION adopting the Middle Fork Snoqualmie River
2 Capital Investment Strategy.

3 WHEREAS, the King County Flood Control District ("the District") Executive
4 Committee approved FCDECM2018-03, adopting the Middle Fork Snoqualmie River
5 Corridor Plan Capital Investment Strategy Floodplain Management Goals and Objectives,
6 and

7 WHEREAS, the scope of the proposed Middle Fork Snoqualmie River Corridor
8 Plan is the lower five miles of the Middle Fork Snoqualmie River ("the study area"),
9 where communities are most impacted by flooding and channel migration and where
10 King County maintains a discontinuous system of flood protection levees and revetments,
11 and

12 WHEREAS, King County water and land resources division ("WLRD") has
13 conducted analysis of the physical, biological, and social conditions of the study area,
14 identified of the location and severity of flood and erosion risks on the corridor; identified
15 and consulted with the multiple interests along the corridor including environmental and
16 recreational interests; and developed a comprehensive list of capital projects addressing
17 the most critical flood and erosion risks to life and property along the study area, and

18 WHEREAS, throughout the planning process WLRD engaged in a robust public
19 process including working with affected jurisdictions and hosting open house style

FCDEC Motion

20 meetings; and

21 WHEREAS, the proposed Middle Fork Snoqualmie River Capital Investment
22 Strategy is a strategic comprehensive prioritized or "worst first" list of capital projects
23 along the study area, and

24 WHEREAS, the District desires to provide WLRD with policy direction relating
25 to flood risk reduction projects along the study area;

26 NOW, THEREFORE, BE IT MOVED BY THE EXECUTIVE COMMITTEE OF
27 THE BOARD OF SUPERVISORS OF THE KING COUNTY FLOOD CONTROL
28 ZONE DISTRICT:

FCDEC Motion

29 The District the executive committee adopts the "Middle Fork Snoqualmie River
30 Capital Investment Strategy," which is Attachment A to this motion.
31

FCDEC Motion was introduced on and passed by the King County Flood Control District Executive Committee on 8/19/2020, by the following vote:

Yes: 3 - Mr. Dunn, Ms. Lambert and Mr. Upthegrove
Excused: 1 - Mr. von Reichbauer

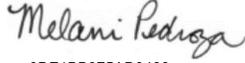
KING COUNTY FLOOD CONTROL ZONE
DISTRICT
KING COUNTY, WASHINGTON

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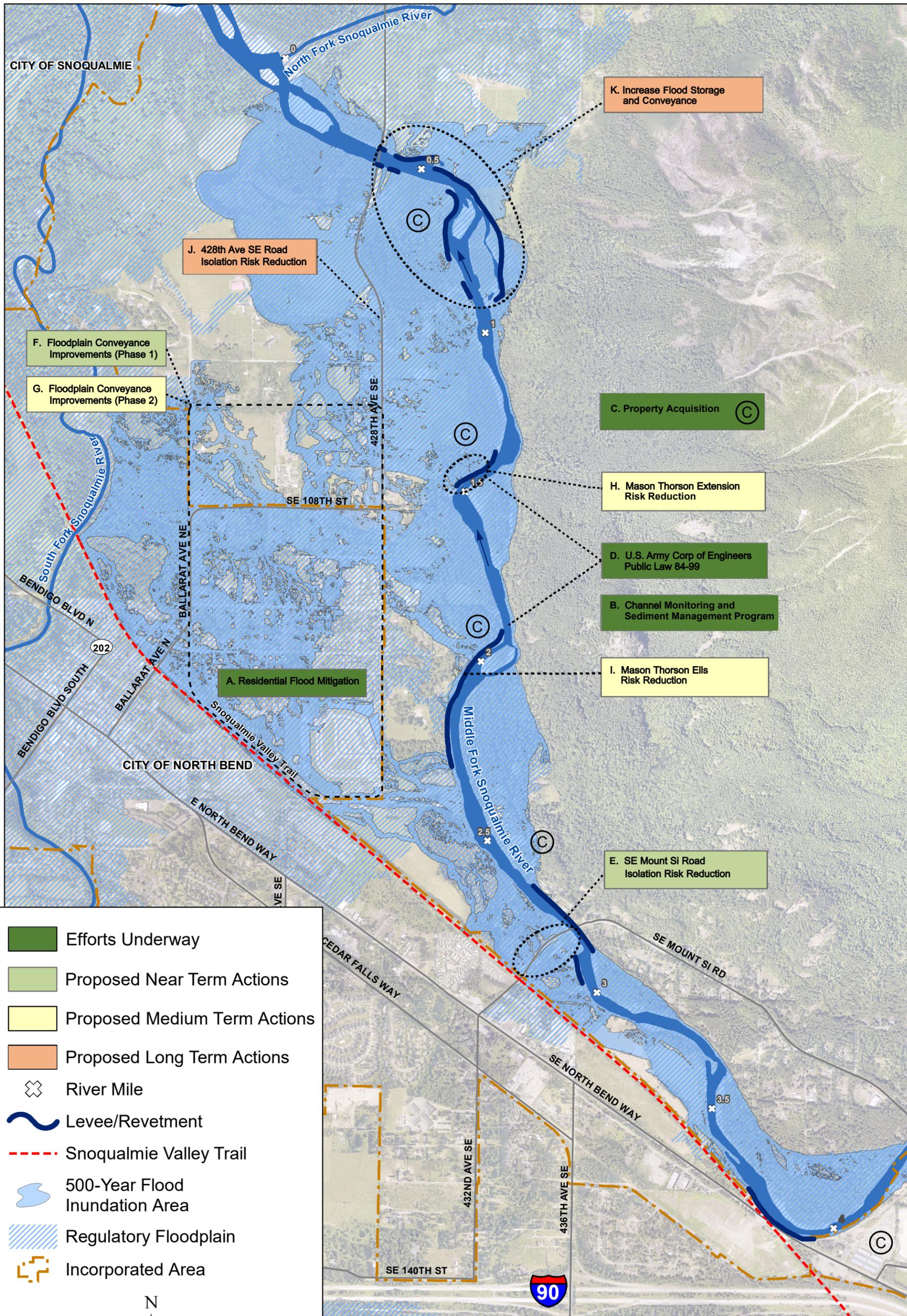
Dave Upthegrove, Chair

ATTEST:

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Melani Pedroza, Clerk of the District

Attachments: A. Middle Fork Snoqualmie River CIS Project Location Map, B. Middle Fork Snoqualmie River CIS Proposed Implementation Schedule, C. Middle Fork Snoqualmie River Capital Investment Strategy



- Efforts Underway
- Proposed Near Term Actions
- Proposed Medium Term Actions
- Proposed Long Term Actions
- + River Mile
- Levee/Revetment
- Snoqualmie Valley Trail
- 500-Year Flood Inundation Area
- Regulatory Floodplain
- Incorporated Area

N

0 0.25 0.5
Miles

Middle Fork Snoqualmie River Capital Investment Strategy Project Location Map



MIDDLE FORK SNOQUALMIE RIVER CAPITAL INVESTMENT STRATEGY

July 29, 2020

The Middle Fork Snoqualmie River basin drains 170 square miles beginning in the Cascade Mountains. The river flows through the Upper Snoqualmie River Valley at the base of Mount Si near the City of North Bend and merges with the North and South Forks of the Snoqualmie River near the City of Snoqualmie. The 12 discontinuous flood protection facilities on the Middle Fork Snoqualmie River do not contain flood flows. Fully implementing this strategy will reduce risks from flooding and erosion.

Scope: The corridor planning process will support decision makers in setting flood risk reduction priorities by:

- Defining flood and erosion hazards in the corridor planning area;
- Focusing on critical “worst first” public safety risks in the corridor; and
- Proposing a conceptual six-year Capital Investment Strategy consistent with budget placeholder.

Summary of Risk: Under existing conditions, the following risks are present:

For a 500-year Flood

- 362 homes at risk
- 7 miles of public roads at risk
- Approximately 700 homes isolated by flooded roads

Channel Migration

- 158 homes at risk
- Over 2 miles of public roads at risk



Proposed Risk Reduction Projects: Below is a sequenced action plan for implementing risk reduction efforts in the Middle Fork Snoqualmie River Corridor. The project sequence reflects current information on urgency, severity, consequence, responsibility or authority, and funding or partnership opportunities.

The current adopted 2020-2025 King County Flood Control District (FCD) Capital Improvement Program (CIP) includes:

- \$11.4M for Upper Snoqualmie Valley Residential Mitigation, a portion of which is annually programmed to cost share home elevations along the Middle Fork;
- \$8.4M for acquisitions of homes at risk from severe channel migration;
- \$150K to inspect and identify deficiencies that need to be addressed to make facilities enrolled in the US Army Corps of Engineers Public Law (PL) 84-99 program eligible for assistance; and
- \$3.9M allocated to the Middle Fork Snoqualmie River Near Term Actions, within the next six years (specific projects TBD).

PROJECT	PROBLEM	APPROACHES	COST ESTIMATES ¹
Efforts Underway²		(Funded Projects -2020 CIP)	
A. Residential Flood Mitigation	Approximately 204 homes outside of channel migration hazard area are in areas that flood at a 500-year flood.	Elevate 12 homes; assuming two homes per year over next six years. (Assumes two elevations per year of the total ten homes per year throughout the Upper Snoqualmie Basin). Propose maintaining this rate over the next six years, anticipate additional funding in out years. Prioritize homes within the 100-year floodplain.	Total: \$2.7M FCD CIP: \$2.4M ³ Homeowner Match: \$270K
B. Channel Monitoring and Sediment Management Program	Localized sediment accumulation can increase flood and erosion risks to homes and infrastructure within the floodplain.	Conduct channel monitoring of the Middle Fork Snoqualmie River channel as part of King County’s sediment management program. Consider sediment management actions as part of risk reduction projects involving levee modifications.	Total: \$240K ³ FCD CIP Request: \$240K
C. Property Acquisition	Eighteen homes at risk from channel migration are located in the severe channel migration zone area.	Acquire at risk homes from willing sellers. This request is limited to real estate services and appraisal costs. Individual purchase cost requests will occur prior to negotiations with property owners.	Total: \$8.4M FCD CIP Request: \$570K
D. US Army Corps of Engineers Public Law (PL) 84-99	Two levees are enrolled but not eligible for participation in the U.S. Army Corps of Engineers levee program. The two levees do not currently meet PL84-99 standards.	Inspect and identify deficiencies, develop deficiency action plan. Implement maintenance and repair projects to address deficiencies based upon FCD direction.	Total: \$150K FCD CIP Request: \$150K

¹ Cost estimates include best available projections regarding right-of-way acquisition, design, construction, 10-year site establishment, 10-year effectiveness monitoring. Cost estimates do not include maintenance and monitoring beyond 10 years.

² Currently funded Flood Control District projects.

³ Cost attributed to Operating Budget – not included in the six-year Capital Improvement Program project cost.

MIDDLE FORK SNOQUALMIE RIVER

CAPITAL INVESTMENT STRATEGY

July 29, 2020

PROJECT	PROBLEM	APPROACHES	COST ESTIMATES ¹
Proposed Near Term Actions (Years 0-6)			FCD CIP Placeholder: \$3.9M FCD CIP Request: \$3.9M Total Project Cost: \$3.9M
E. SE Mount Si Road Isolation Risk Reduction	Mount Si Road is flooded beginning at a 50-year flood, cutting off access to 415 homes.	Potential solutions include elevating the bridge approaches, placing new culverts, and redirecting flows away from the roadway.	Total: \$2.0M ² FCD CIP Request: \$2.0M
F. Floodplain Conveyance Improvements (Phase 1 – planning and implementation)	Overflow channels originating from the Middle Fork Snoqualmie River flow through neighborhoods and cross roads creating risk to homes and infrastructure.	Potential solutions include channel modifications, enhancements, and culvert improvements.	Total: \$12M ³ FCD CIP Request: \$1.9M
Proposed Medium Term Actions (Years 7 – 10)			(Unfunded Projects) Total Project Cost: \$21.1M - \$26.1M
G. Floodplain Conveyance Improvements (Phase 2 – continued implementation)	Overflow channels originating from the Middle Fork Snoqualmie River flow through neighborhoods and cross roads creating risk to homes and infrastructure.	Potential solutions include channel modifications, enhancements, and culvert improvements.	Total: \$12M ³ FCD 7-10 YR Request: \$10.1M
H. Mason Thorson Extension Risk Reduction	This levee creates a flow constriction exacerbating sediment deposition, erosion, and flooding. Damage to the upstream end of levee continues to occur; the levee overtops beginning at a 20-year flood.	Potential solutions include levee modifications, levee setback, and sediment management.	Total: \$5.4M
I. Mason Thorson Ells Risk Reduction	This levee creates a flow constriction exacerbating sediment deposition, erosion, and flooding.	Potential solutions include levee modifications, levee setback, and sediment management.	Total: \$5.6M to \$10.6M
Proposed Long Term Actions (Beyond 10 Years)			(Unfunded Projects) Total Project Cost: \$2M to \$8.5M
J. 428 th Ave SE Road Isolation Risk Reduction	428 th Ave SE floods beginning at a 10-year flood contribute to limited access to more than 300 homes.	Potential solutions include elevating the roadway and replacing culverts to increase conveyance.	Total: \$1.2M
K. Increase Flood Storage and Conveyance	Select flood protection facilities no longer protect infrastructure or development and take up valuable flood storage and conveyance capacity.	Potential solutions include levee setbacks, levee modifications, levee removals, and sediment management.	Total: \$800K to \$7.3M
Total Middle Fork Capital Investment Strategy estimated implementation costs excluding projects A , B, C & D - funded through authorized projects or programs.			Total Project Cost: \$27.0M to \$38.5M Already Allocated CIP or Operating \$11.2M

¹ Cost estimates include best available projections regarding right-of-way acquisition, design, construction, 10-year site establishment, 10-year effectiveness monitoring. Cost estimates do not include maintenance and monitoring beyond 10 years.

² Assumes implementation in coordination with project partner – King County Roads Services Division. CIP request includes Feasibility Study funding and placeholder funding for construction. Additional funding may be required based on the outcome of the Feasibility Study.

³ Assumes implementation in coordination with project partner – City of North Bend. Total Project Cost \$12M; \$1.9M included in near term total project cost and \$10.1M in the medium term total project cost.

Certificate Of Completion

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Document Pages: 7	Signatures: 2
Certificate Pages: 5	Initials: 0
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