

- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



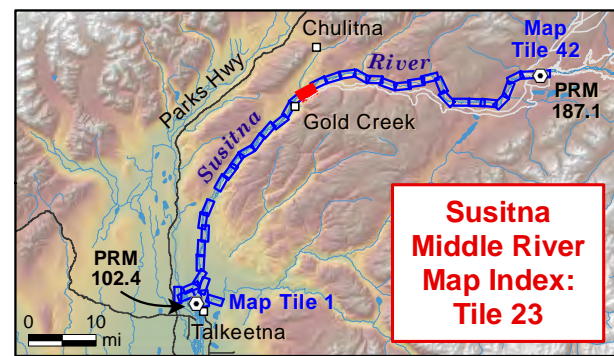
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-22

Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



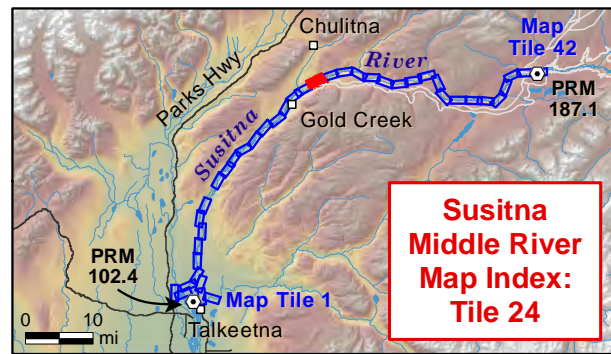
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-23

Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



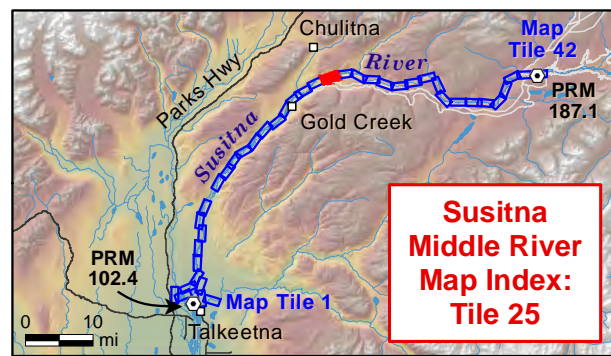
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-24

Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



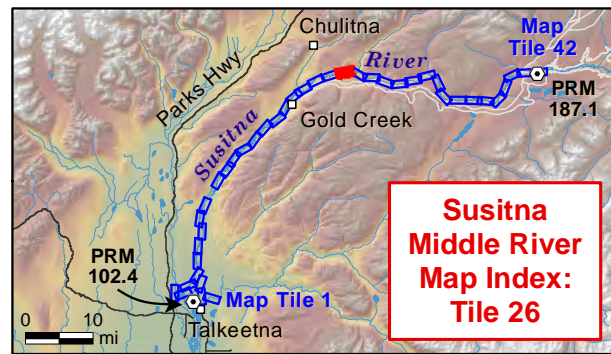
Data Sources:
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 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-25

Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



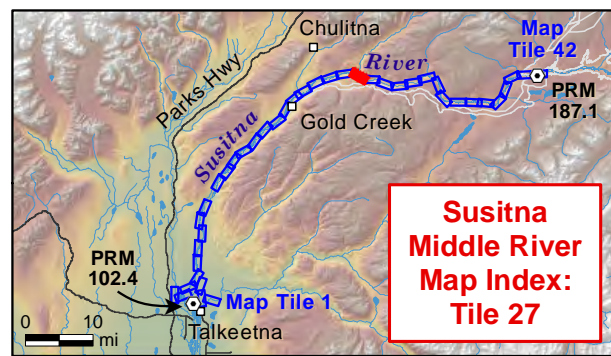
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-26

Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



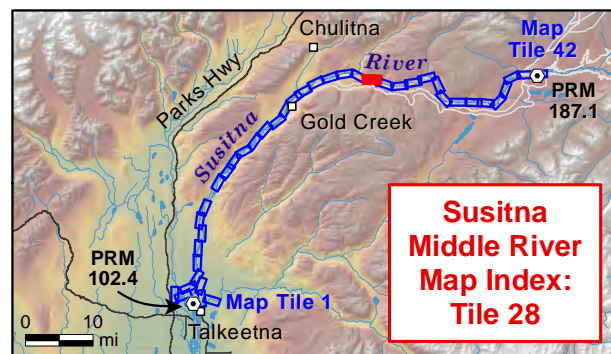
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-27

Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



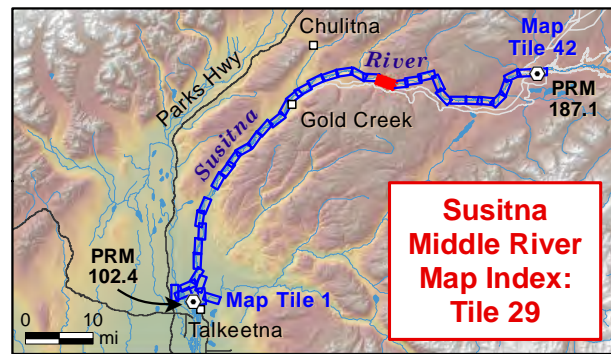
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde












Figure A-28

Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
-  Project River Mile
 -  Instream Flow Focus Area (Upper and Lower Extent)
 -  Riverine Physiography Area
 -  Proposed Project Area

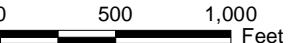

- Potential Beaver Dams Structure Status from Imagery**
-  Intact
 -  Partial
 -  Undetermined
 -  Not Intact
 -  Field Verified 2013



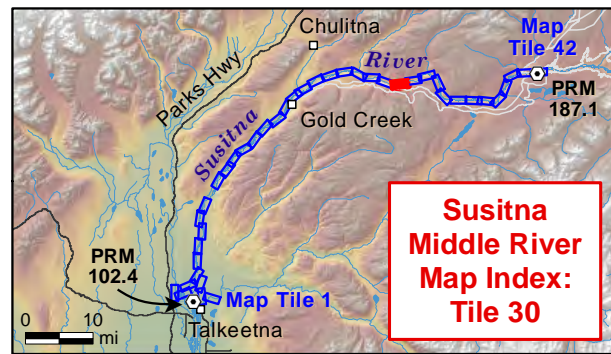
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde












Figure A-29

Map scale = 1:10,000
 Feet
 Meters

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
-  Project River Mile
 -  Instream Flow Focus Area (Upper and Lower Extent)
 -  Riverine Physiography Area
 -  Proposed Project Area

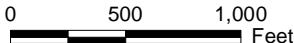

- Potential Beaver Dams Structure Status from Imagery**
-  Intact
 -  Partial
 -  Undetermined
 -  Not Intact
 -  Field Verified 2013



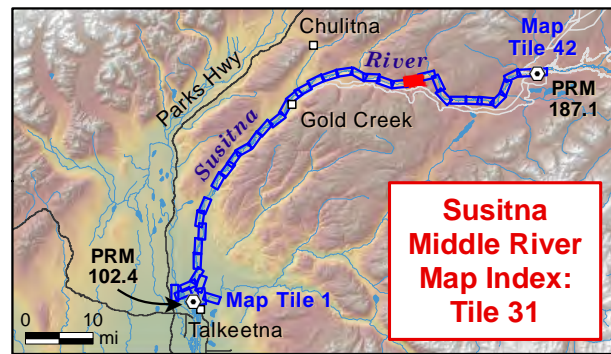
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-30

Map scale = 1:10,000
 Feet
 Meters

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



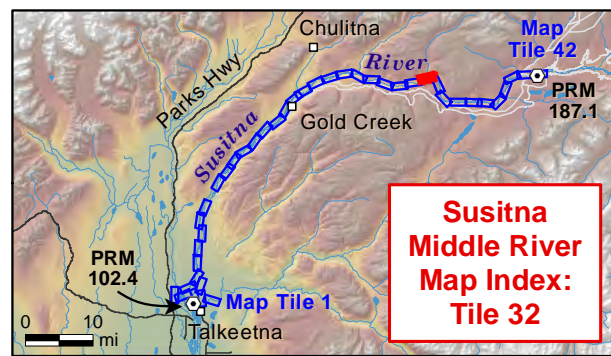
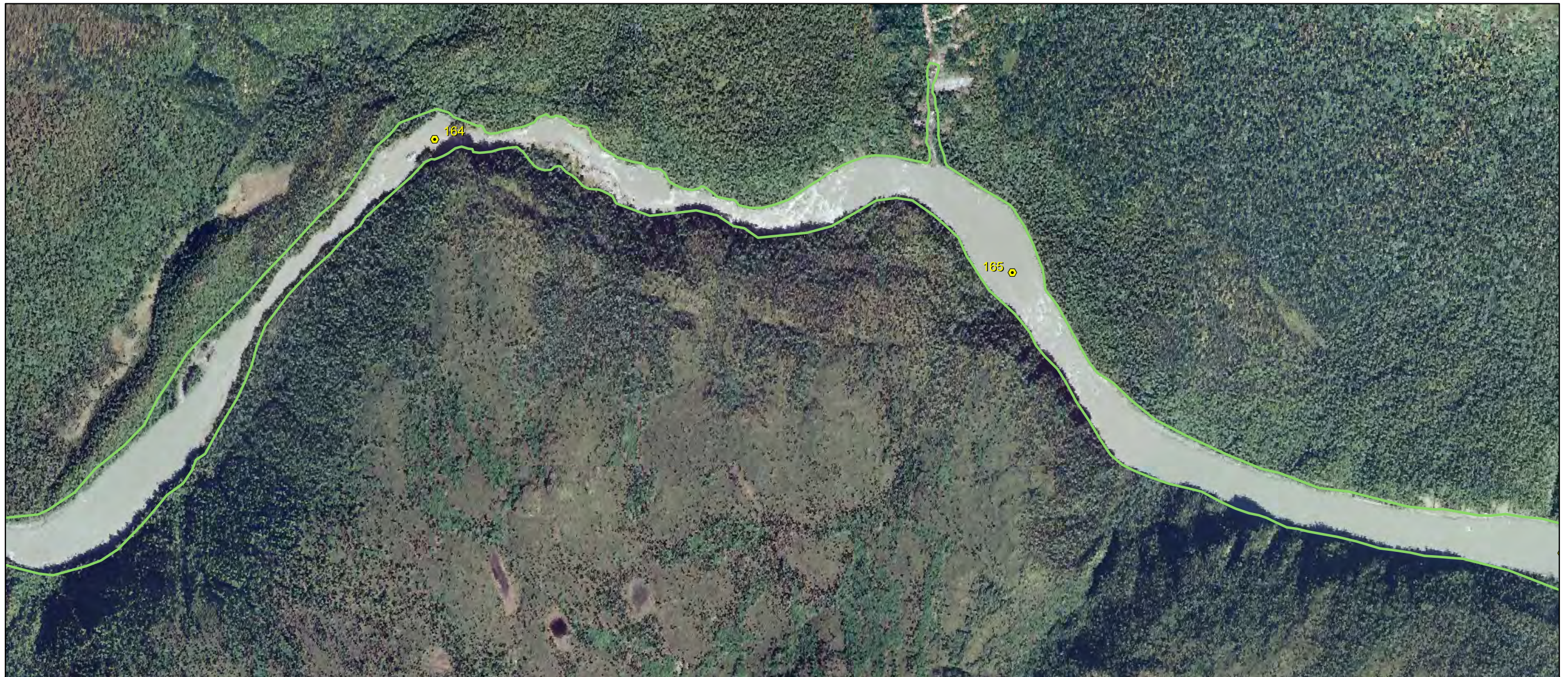
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde












Figure A-31

Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
-  Project River Mile
 -  Instream Flow Focus Area (Upper and Lower Extent)
 -  Riverine Physiography Area
 -  Proposed Project Area



- Potential Beaver Dams Structure Status from Imagery**
-  Intact
 -  Partial
 -  Undetermined
 -  Not Intact
 -  Field Verified 2013



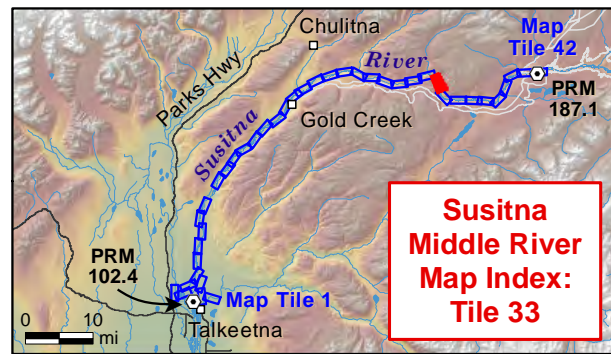
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-32

Map scale = 1:10,000
 Feet
 Meters

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



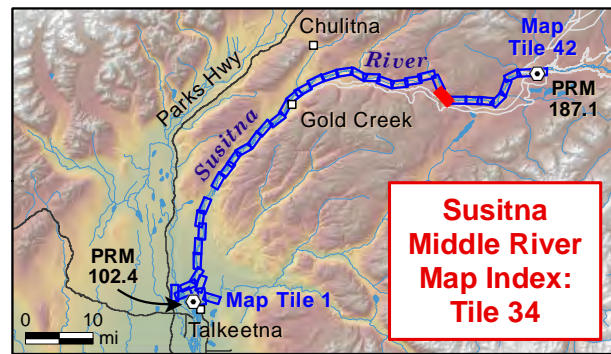
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-33

Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



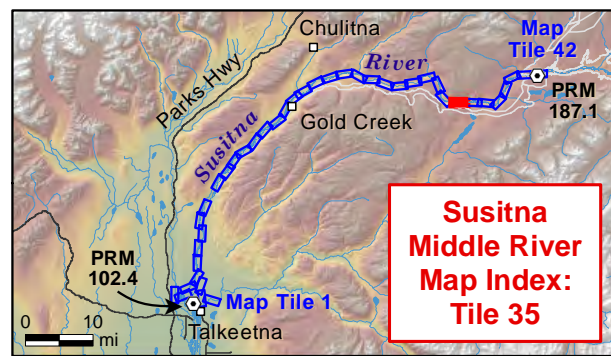
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-34

Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



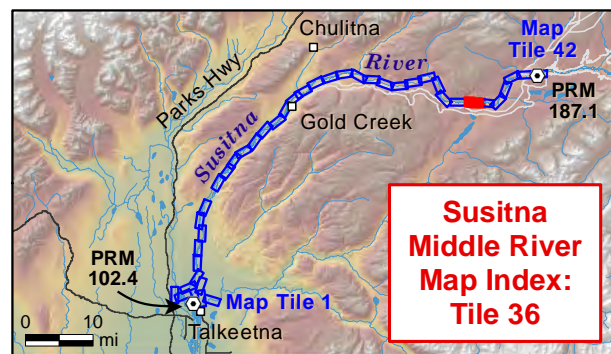
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-35

Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



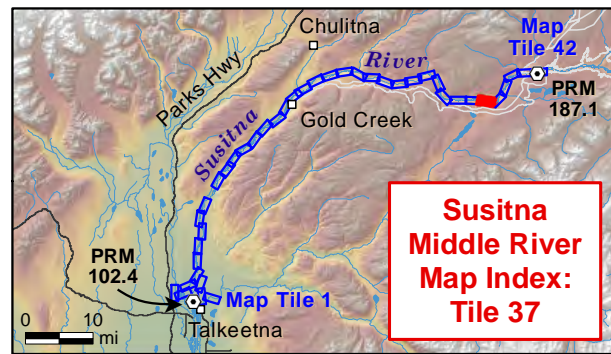
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-36

Map scale = 1:10,000
 0 500 1,000 Feet
 0 100 200 300 Meters

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



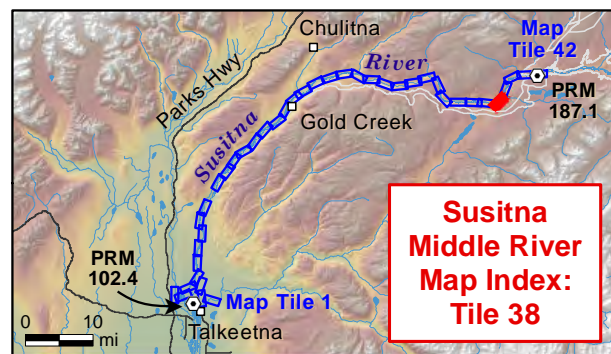
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde












Figure A-37

Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
-  Project River Mile
 -  Instream Flow Focus Area (Upper and Lower Extent)
 -  Riverine Physiography Area
 -  Proposed Project Area

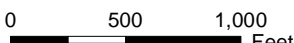

- Potential Beaver Dams Structure Status from Imagery**
-  Intact
 -  Partial
 -  Undetermined
 -  Not Intact
 -  Field Verified 2013



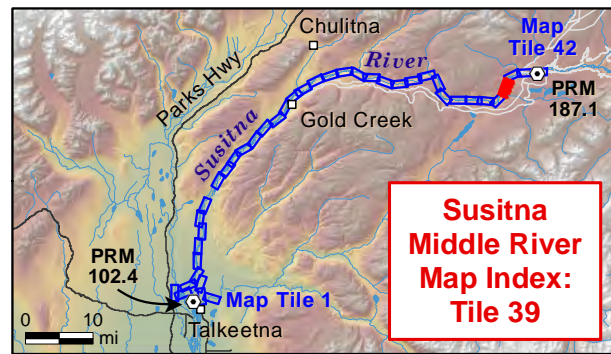
Data Sources:
 Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



Figure A-38

Map scale = 1:10,000



Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



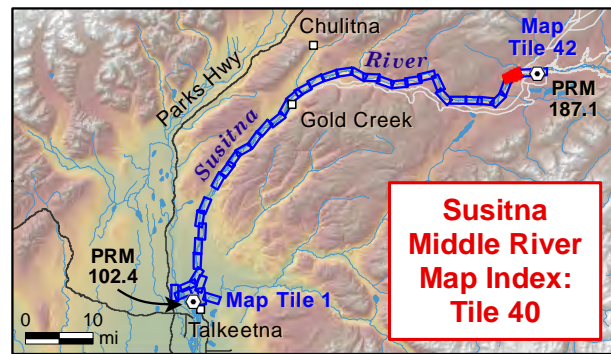
Data Sources:
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 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



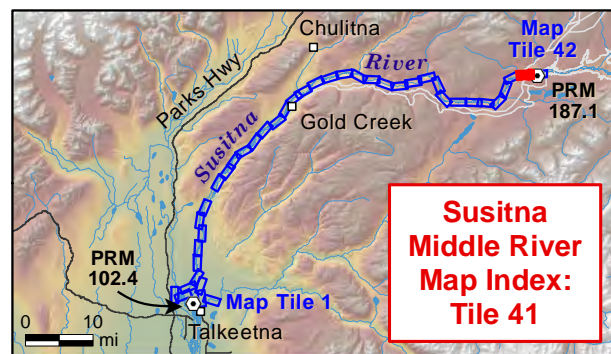
Figure A-39

Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



Legend	Potential Beaver Dams Structure Status from Imagery		Figure A-40
<ul style="list-style-type: none"> Project River Mile Instream Flow Focus Area (Upper and Lower Extent) Riverine Physiography Area Proposed Project Area 	<ul style="list-style-type: none"> Intact Partial Undetermined Not Intact Field Verified 2013 	<p>Data Sources: Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas). Imagery: MatSu 2011 NatColor Proposed Project: MWH 20140818 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde</p>	<p>Map scale = 1:10,000</p> <p>0 500 1,000 Feet</p> <p>0 100 200 300 Meters</p> <p>Projection: AK State Plane Zone 4 NAD 1983 Date Saved: 10/18/2015 Map Author: ABR, Inc. - Allison Zusi-Cobb File: SuWa_MidR_BeaverDams_SIR_v01.mxd</p>



- Legend**
- Project River Mile
 - Instream Flow Focus Area (Upper and Lower Extent)
 - Riverine Physiography Area
 - Proposed Project Area

- Potential Beaver Dams Structure Status from Imagery**
- Intact
 - Partial
 - Undetermined
 - Not Intact
 - Field Verified 2013



Data Sources:
 Beaver Dams: RIPR_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
 Imagery: MatSu 2011 NatColor
 Proposed Project: MWH 20140818
 Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde



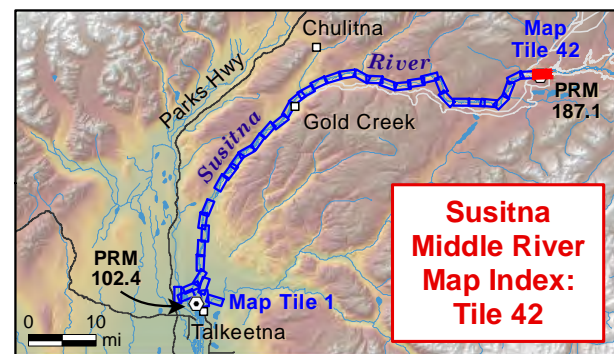
Figure A-41

Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd



Proposed Watana
Dam Site



Legend

- Project River Mile
- Instream Flow Focus Area (Upper and Lower Extent)
- Riverine Physiography Area
- Proposed Project Area

**Potential Beaver Dams
Structure Status from Imagery**

- Intact
- Partial
- Undetermined
- Not Intact
- Field Verified 2013



Data Sources:
Beaver Dams: RIPP_Cumul_Beaver_Dams_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).
Imagery: MatSu 2011 NatColor
Proposed Project: MWH 20140818
Base layers: AEA's Watana.gdb and SuWa_Consultant_SDE_GINA.sde

Figure A-42



Map scale = 1:10,000

Projection: AK State Plane Zone 4 NAD 1983
 Date Saved: 10/18/2015
 Map Author: ABR, Inc. - Allison Zusi-Cobb
 File: SuWa_MidR_BeaverDams_SIR_v01.mxd