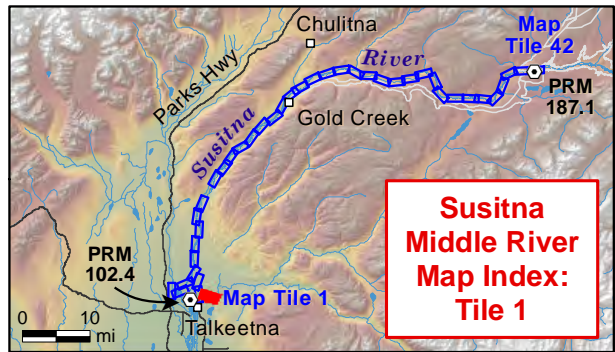


## Appendix A: Maps from 2014 Remote Mapping of Beaver Dams





**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

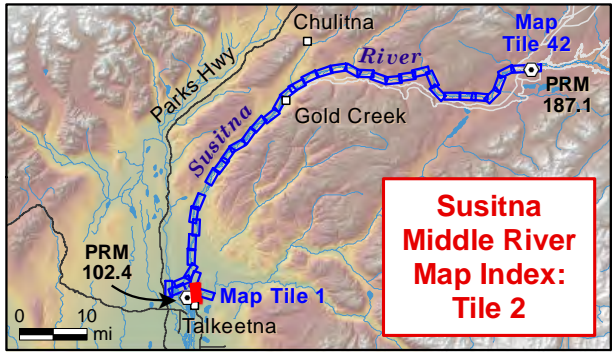
**Figure A-1**



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

**ALASKA ENERGY AUTHORITY**

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-2**

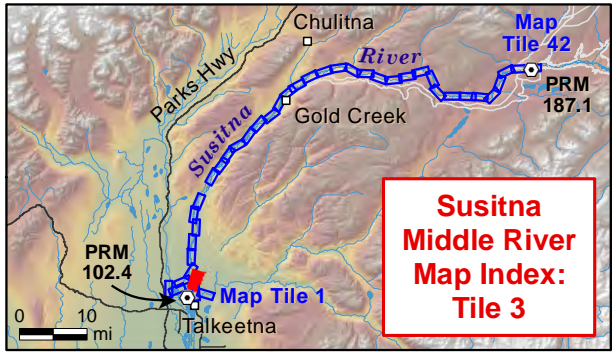
Map scale = 1:10,000

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: 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

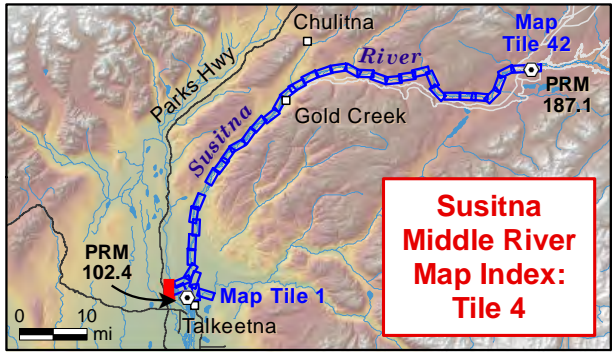
**Figure A-3**



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: 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-4

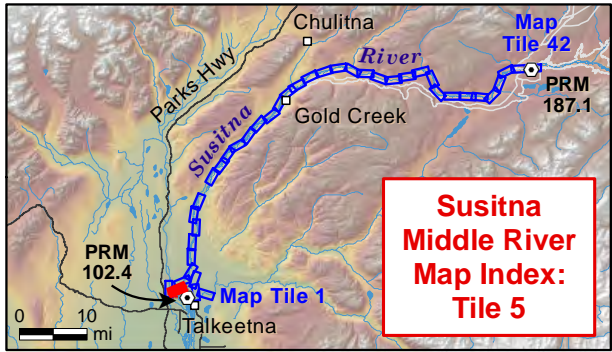
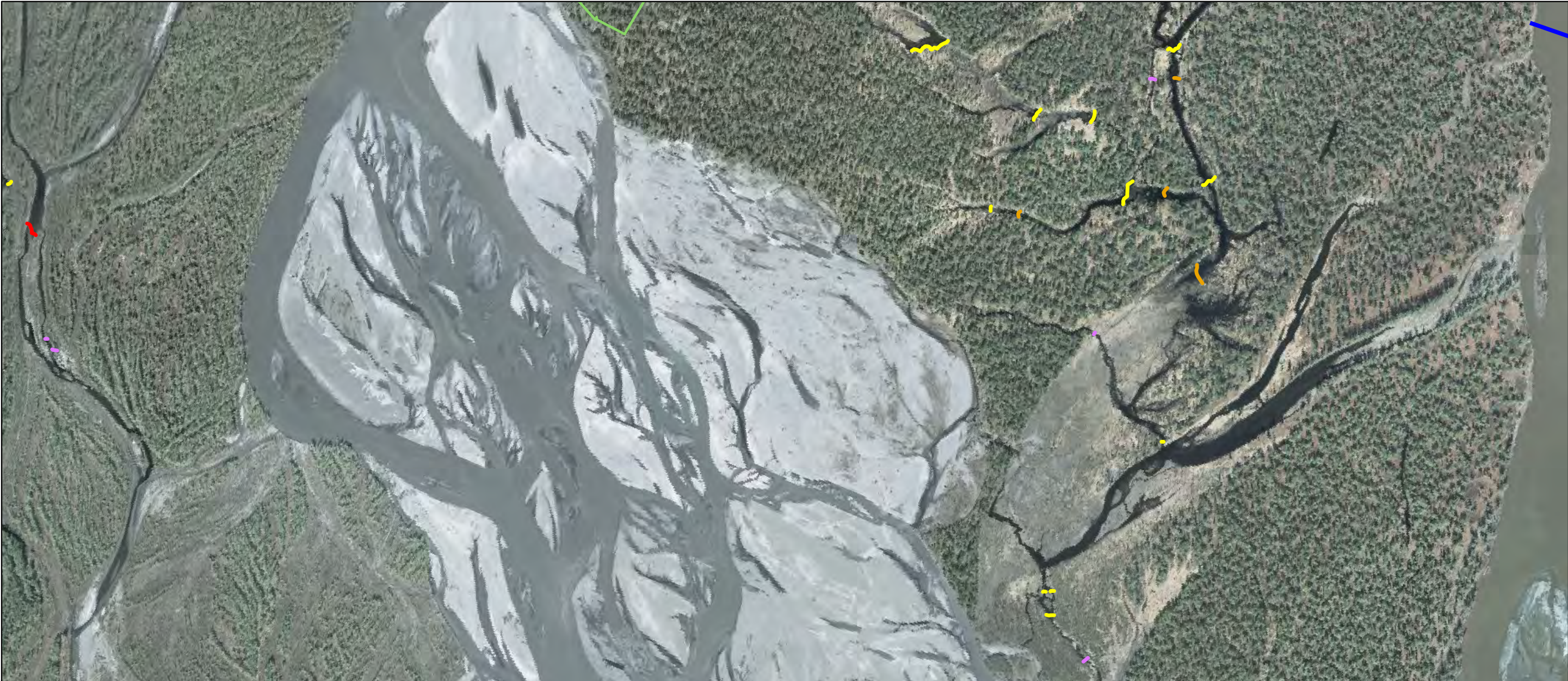
Map scale = 1:10,000

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



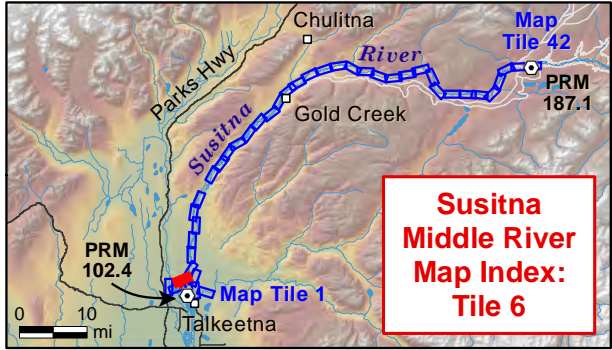
Data Sources:  
Beaver Dams: RIPR\_Cumul\_Beaver\_Dams\_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).  
Imagery: MatSu 2011 NatColor  
Proposed Project: MWH 20140818  
Base layers: AEA's Watana.gdb and SuWa\_Consultant\_SDE\_GINA.sde

**Figure A-5**



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-6

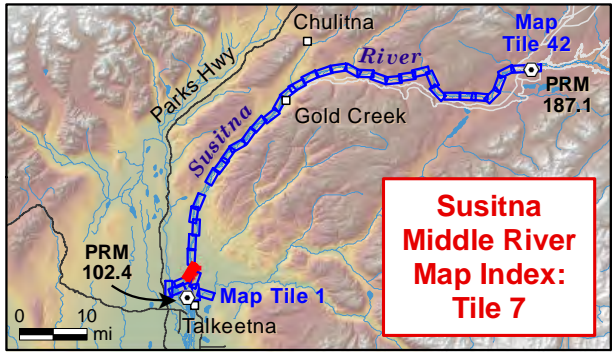
Map scale = 1:10,000

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



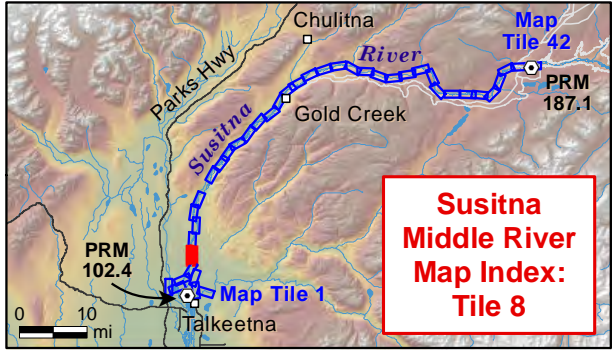
Data Sources:  
Beaver Dams: RIPR\_Cumul\_Beaver\_Dams\_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).  
Imagery: MatSu 2011 NatColor  
Proposed Project: MWH 20140818  
Base layers: AEA's Watana.gdb and SuWa\_Consultant\_SDE\_GINA.sde

**Figure A-7**



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: 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-8

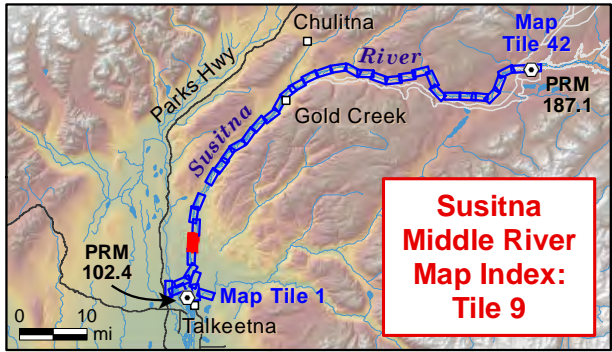
Map scale = 1:10,000

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

**ALASKA ENERGY AUTHORITY**

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-9**

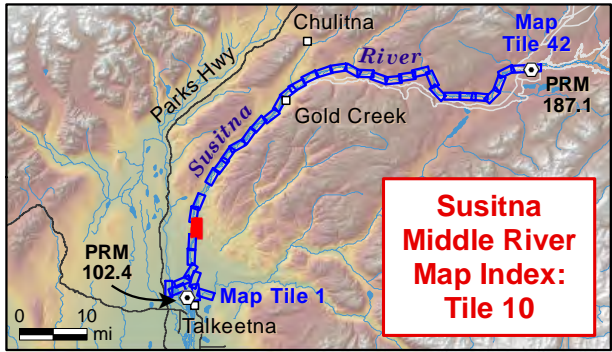
Map scale = 1:10,000

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

**ALASKA ENERGY AUTHORITY**

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-10**

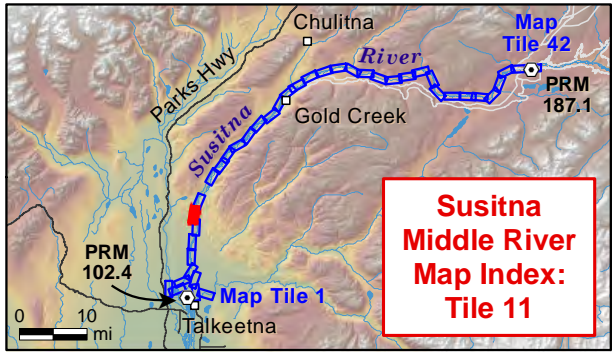
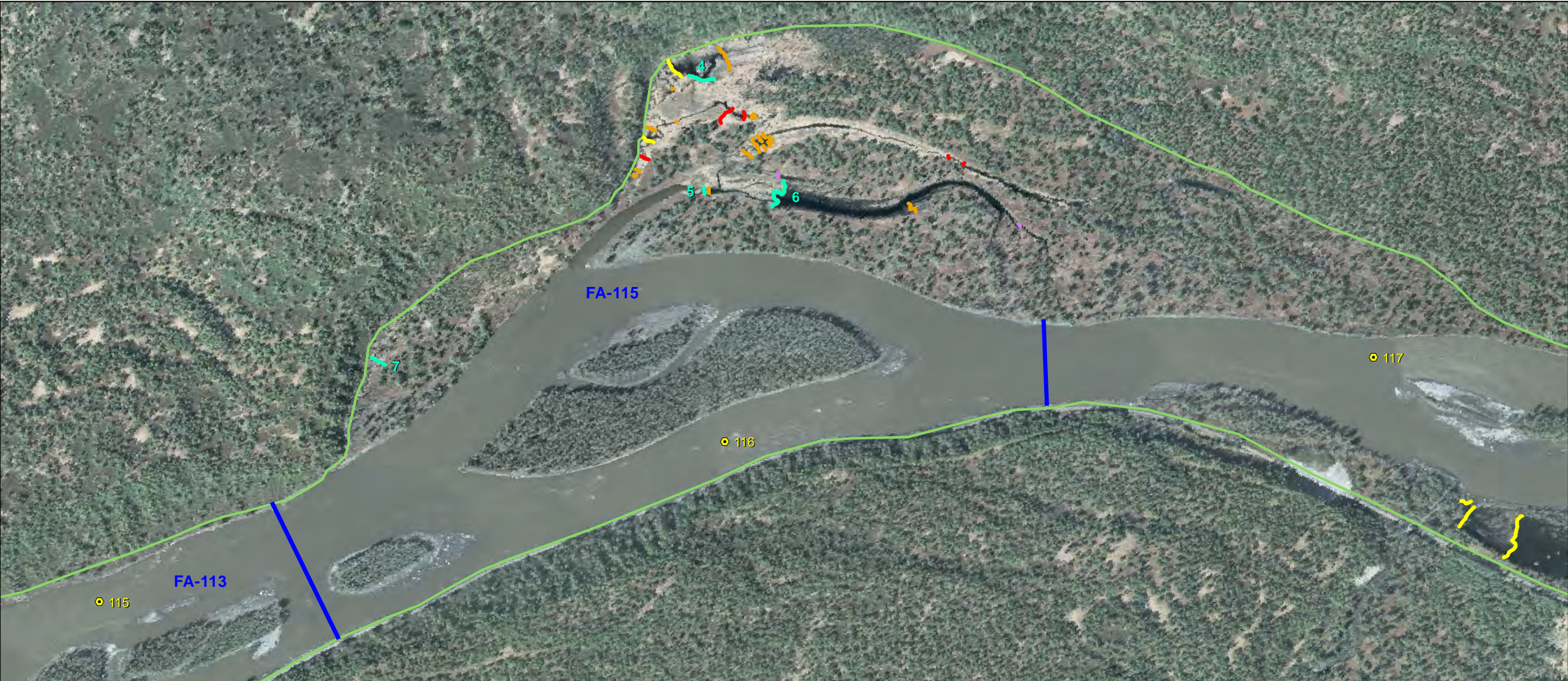
Map scale = 1:10,000

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

**ALASKA ENERGY AUTHORITY**

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-11**

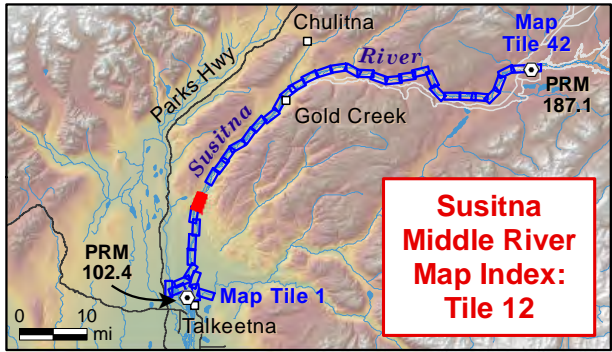
Map scale = 1:10,000

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: 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

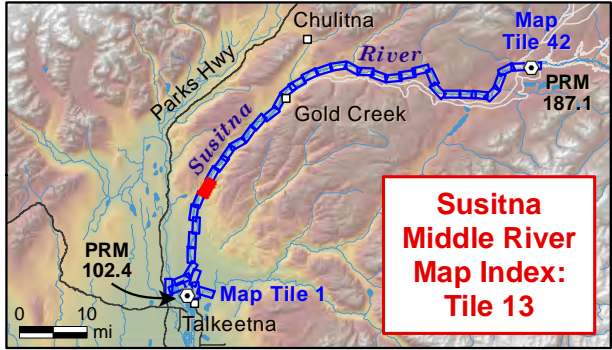
**Figure A-12**



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

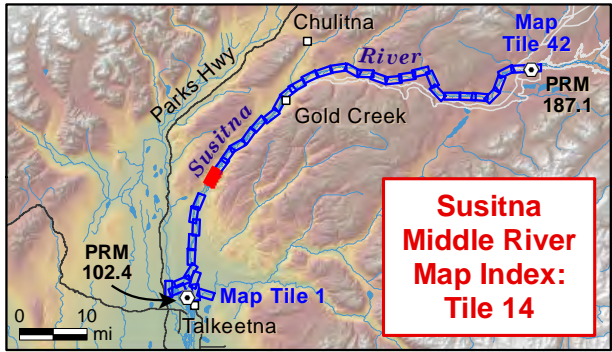
Data Sources:  
Beaver Dams: RIPR\_Cumul\_Beaver\_Dams\_v03 is ABR's comprehensive review of all previously identified potential beaver dams visible in imagery (incorporating Tetra Tech's beaver dam locations in focus areas).  
Imagery: MatSu 2011 NatColor  
Proposed Project: MWH 20140818  
Base layers: AEA's Watana.gdb and SuWa\_Consultant\_SDE\_GINA.sde

### Figure A-13

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: 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-14

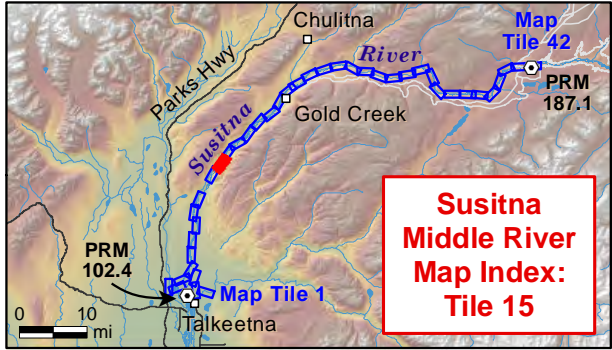
Map scale = 1:10,000

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-15

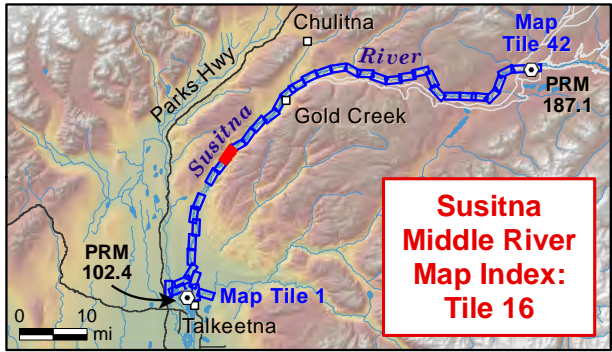
Map scale = 1:10,000

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: 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-16

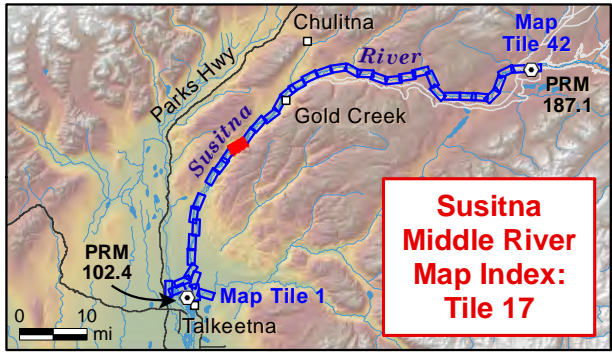
Map scale = 1:10,000

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

**ALASKA ENERGY AUTHORITY**

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-17**

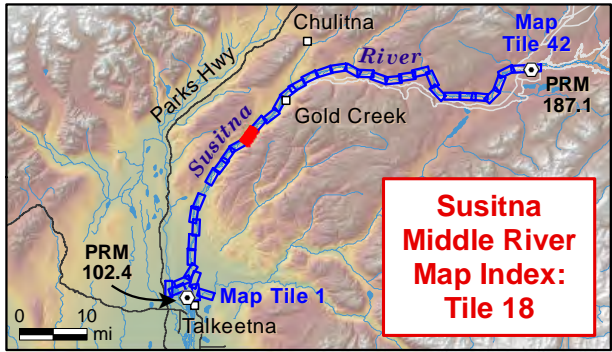
Map scale = 1:10,000

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

**ALASKA**  
ENERGY AUTHORITY

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-18**

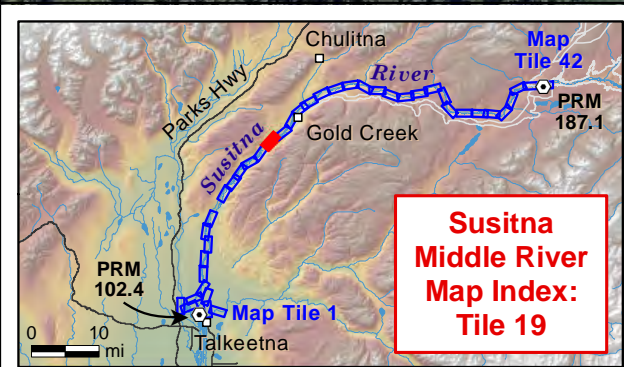
Map scale = 1:10,000

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

**ALASKA ENERGY AUTHORITY**

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-19**

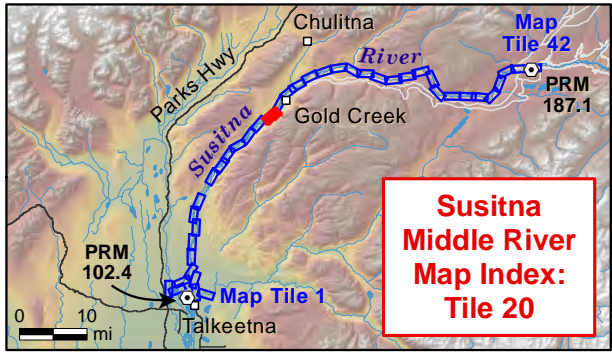
Map scale = 1:10,000

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

**ALASKA ENERGY AUTHORITY**

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-20**

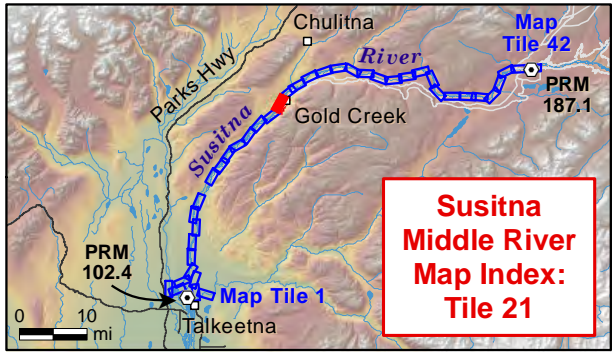
Map scale = 1:10,000

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

**ALASKA ENERGY AUTHORITY**

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-21**

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