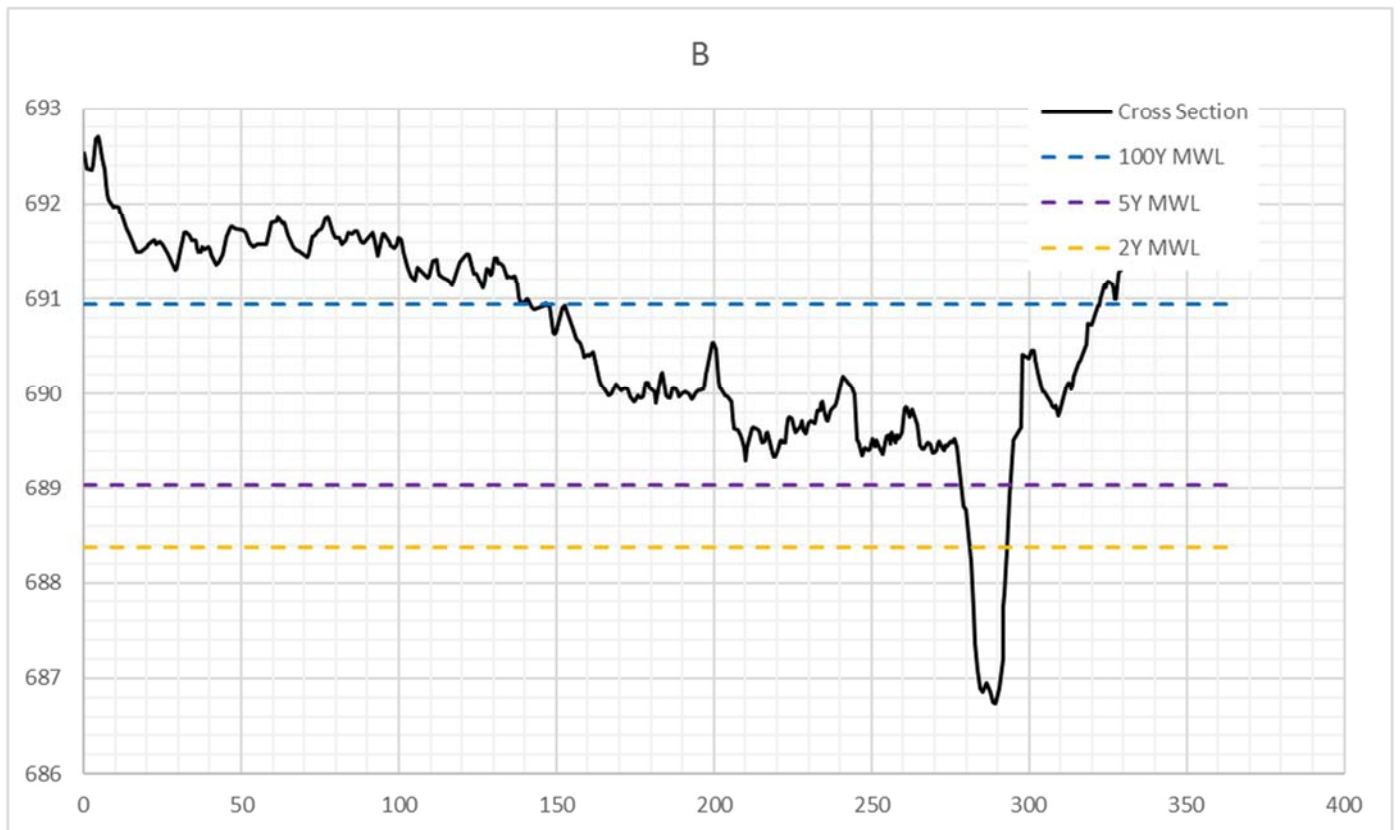
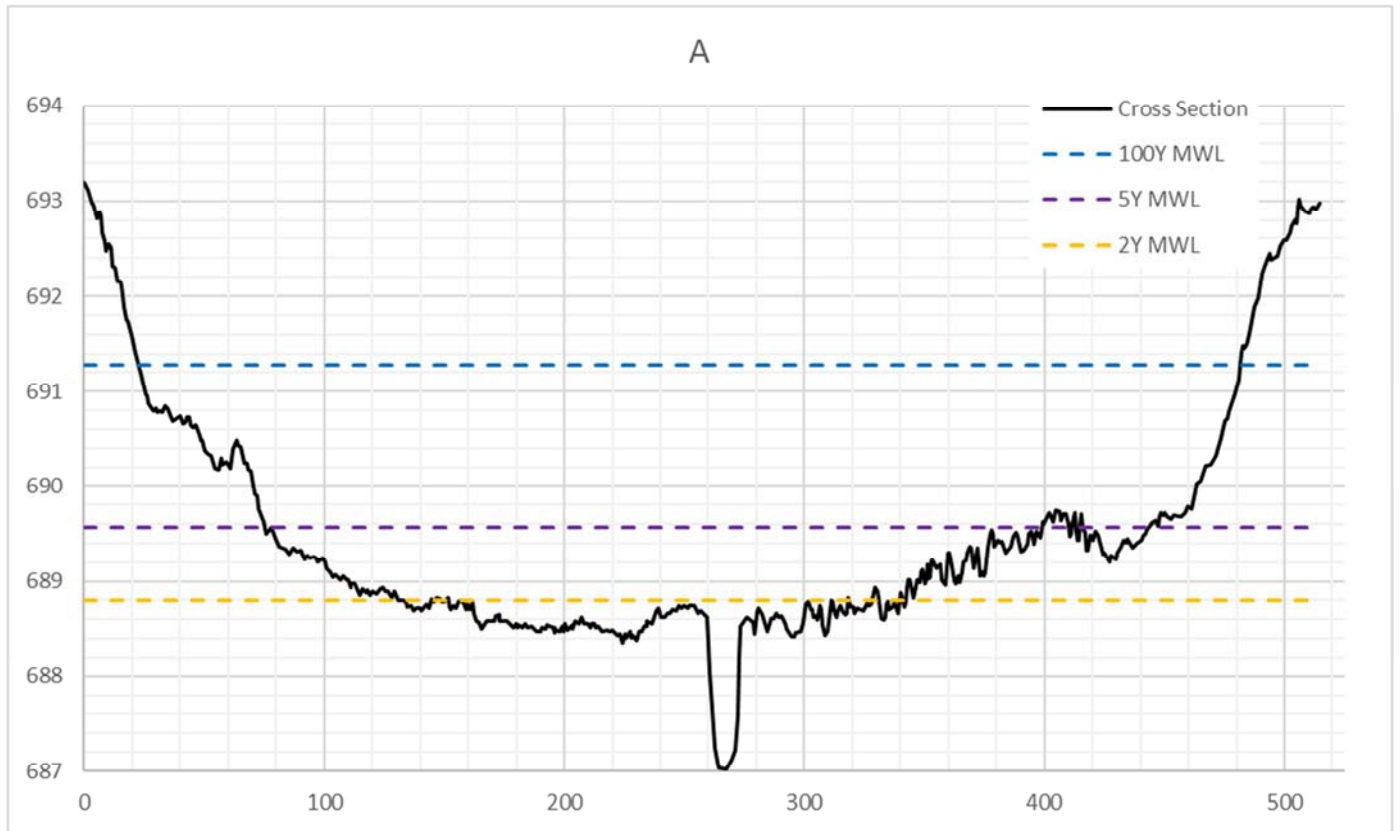


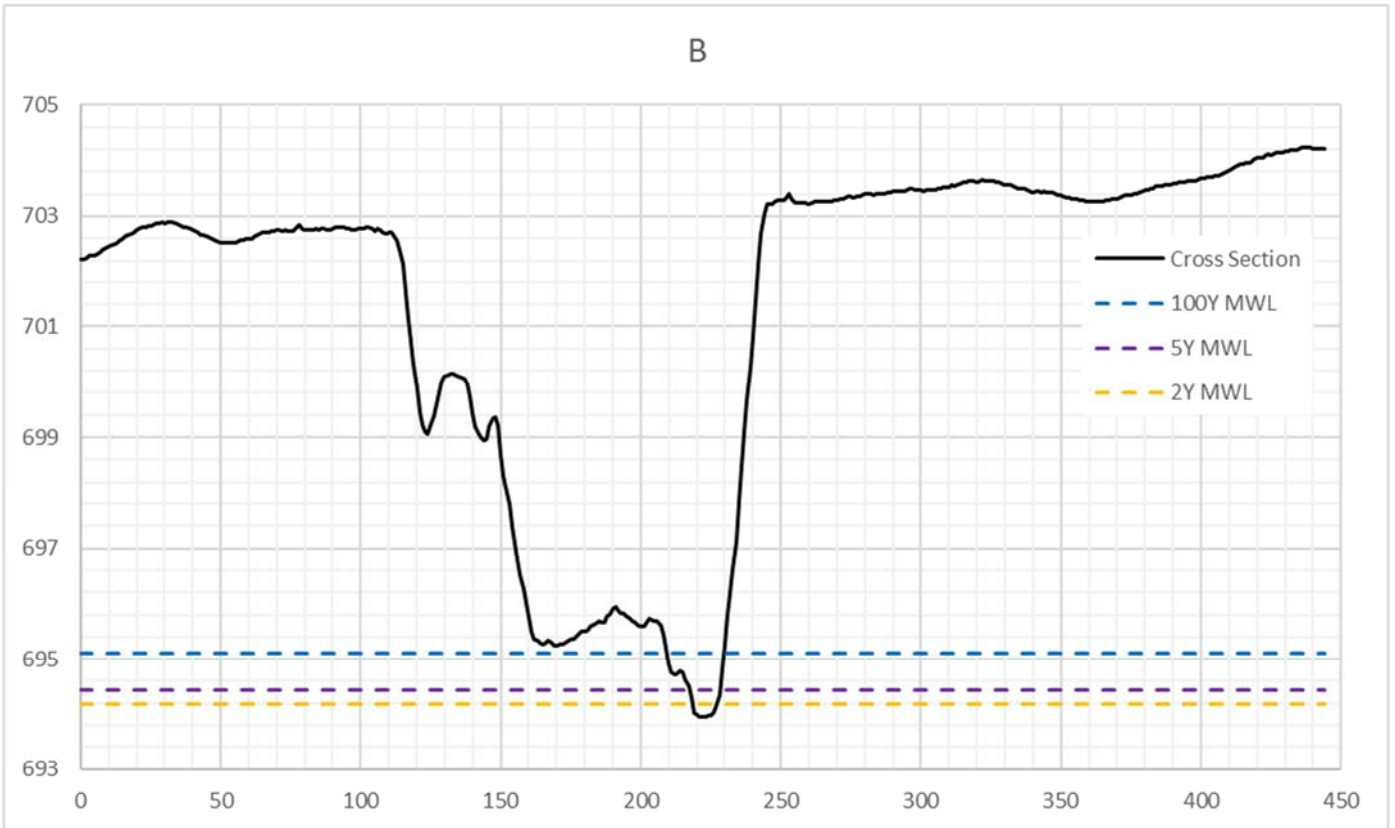
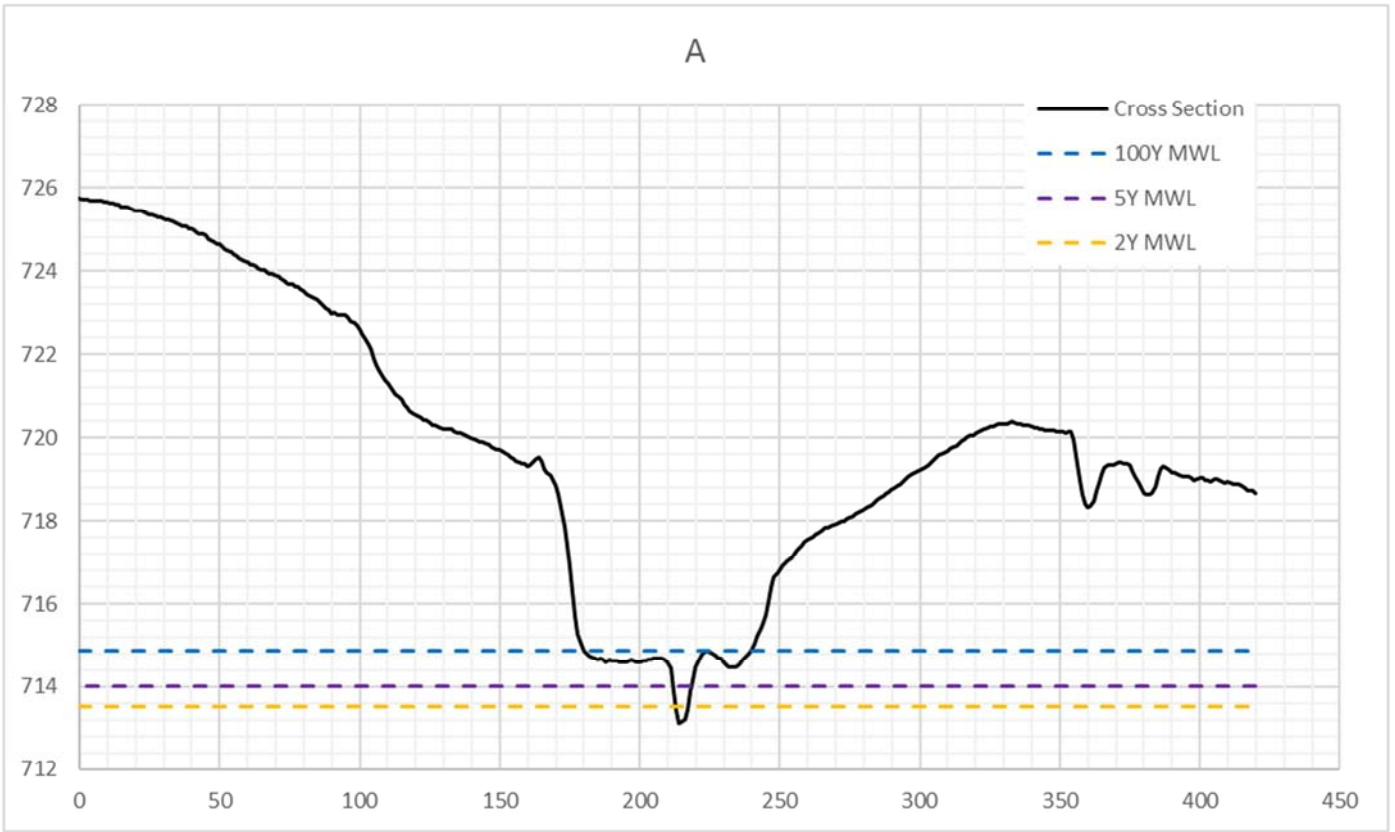
## Appendix D - Typical Cross Sections



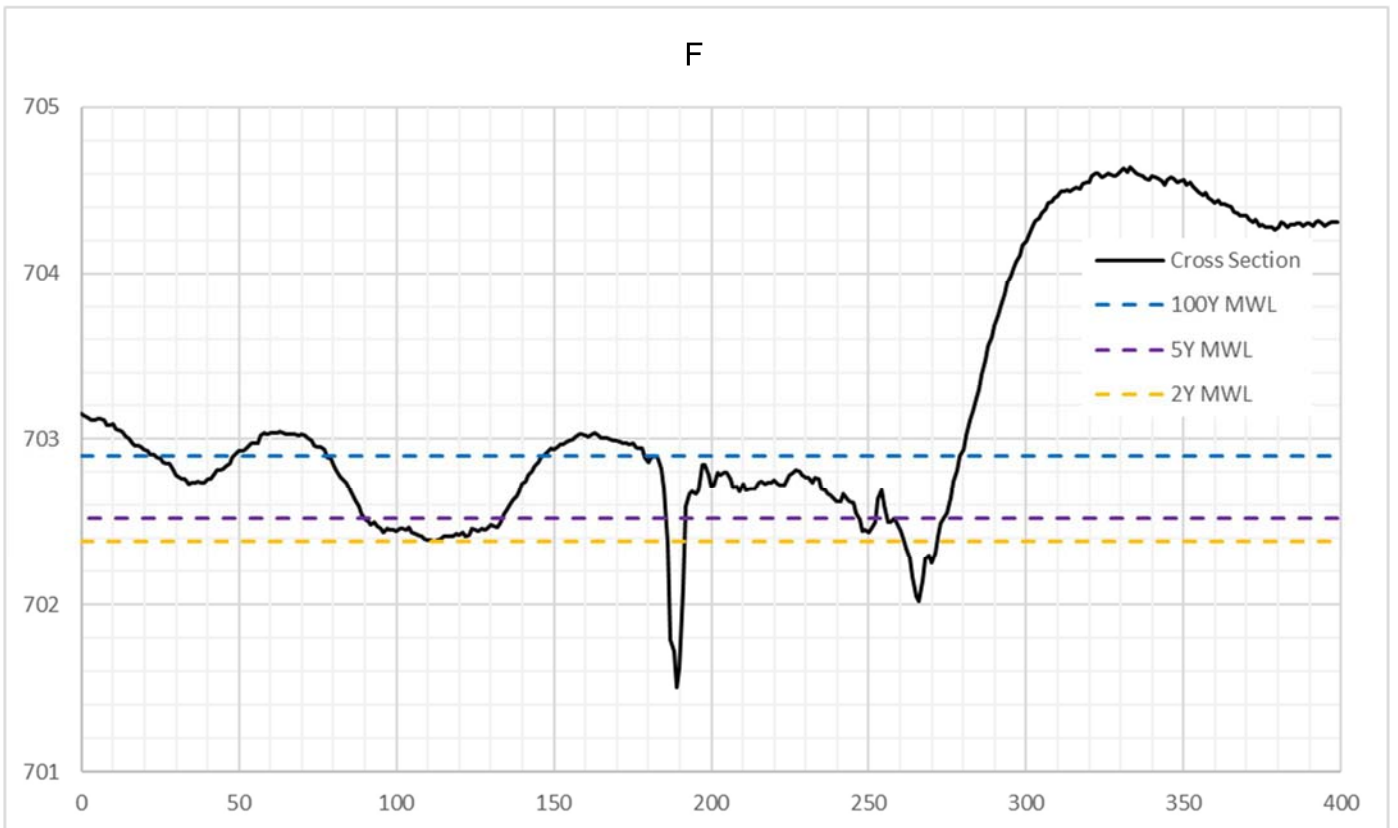
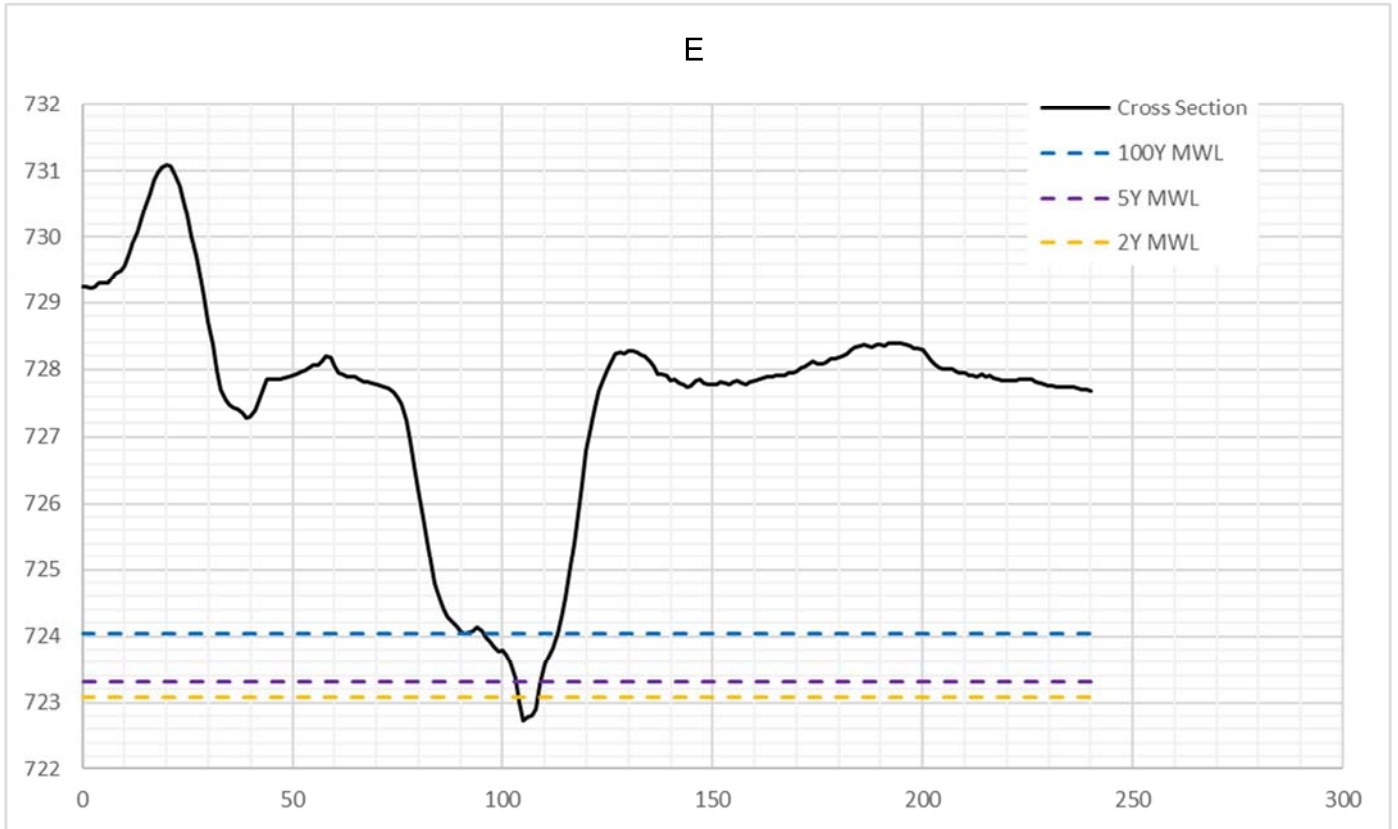
# Blackmud Creek Cross Sections



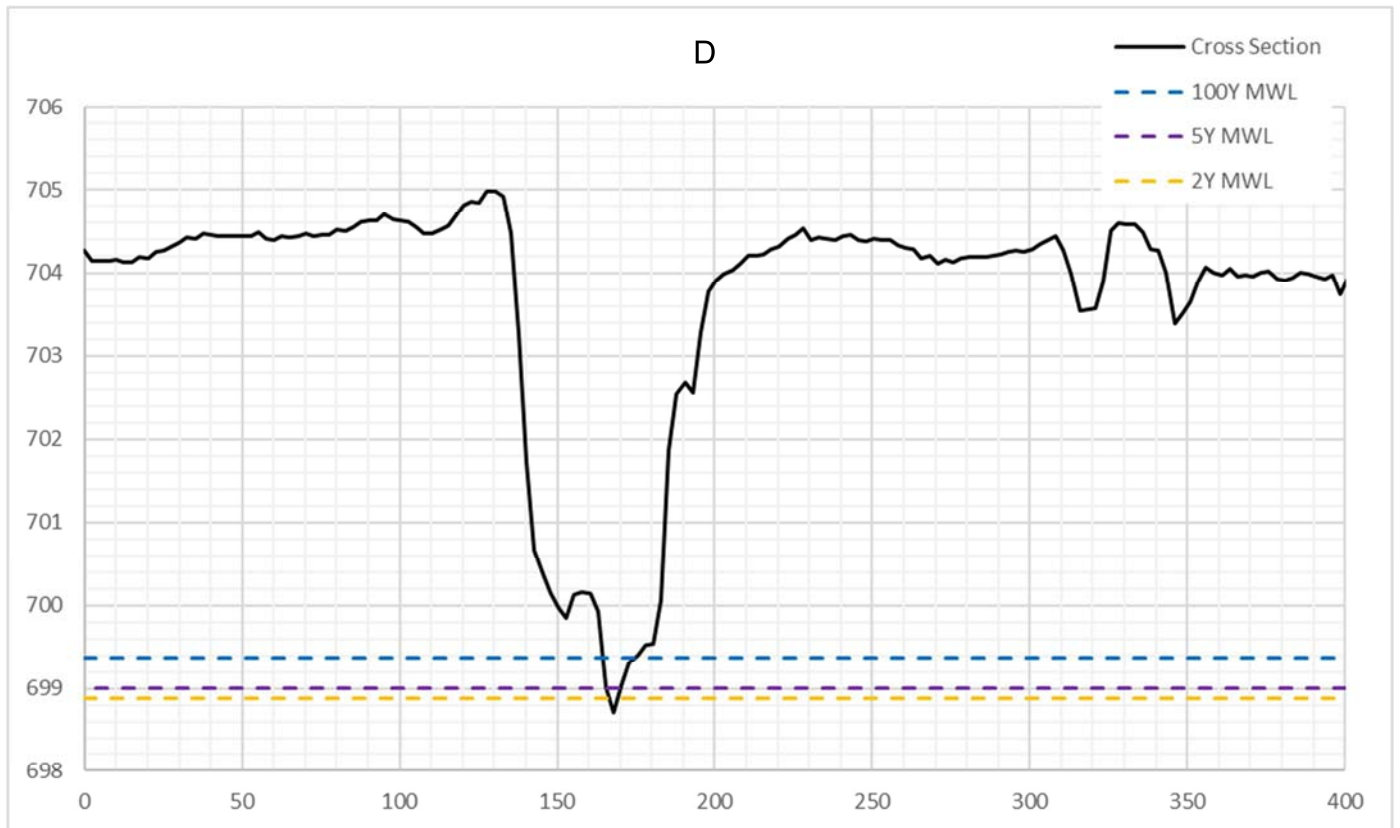
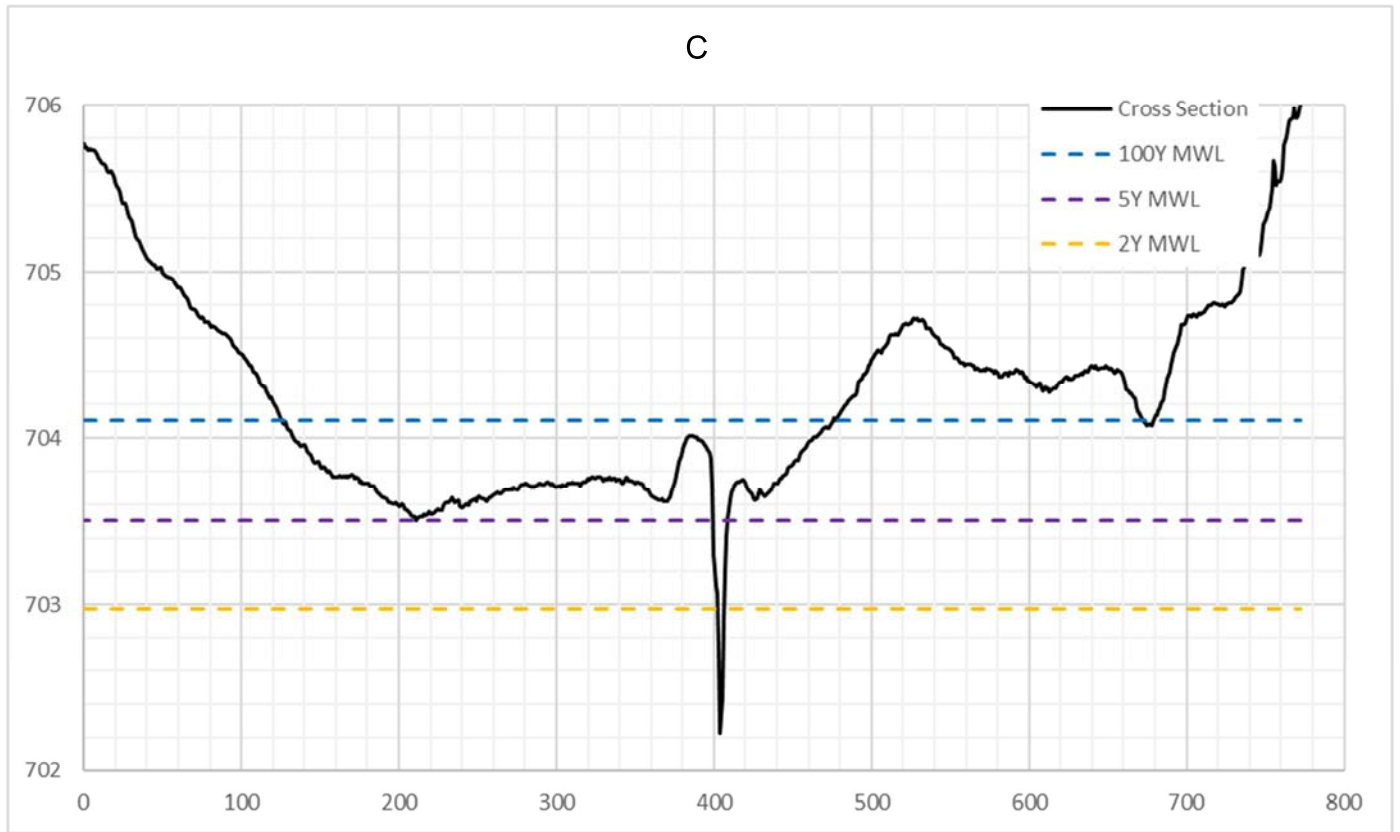
# Clearwater Creek Cross Sections



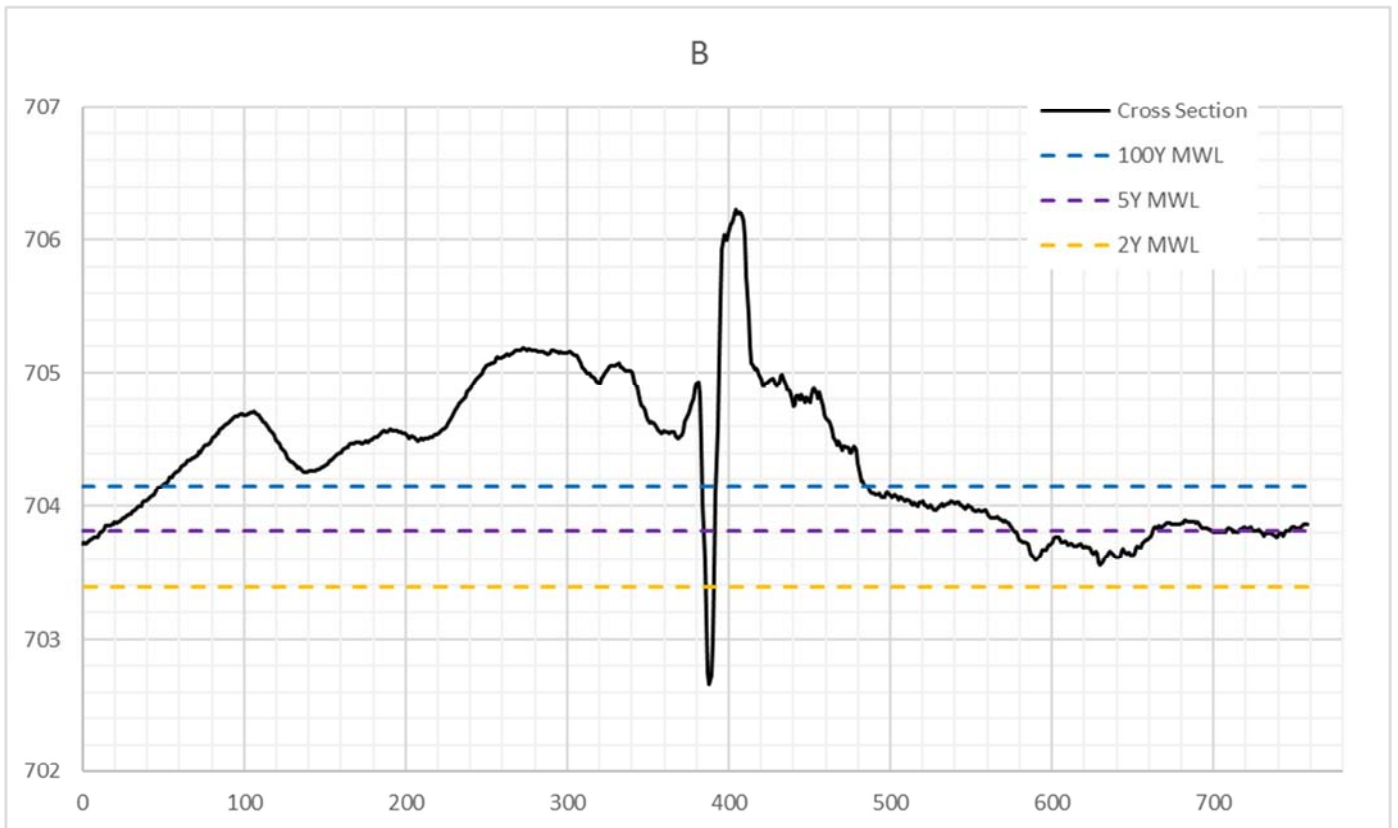
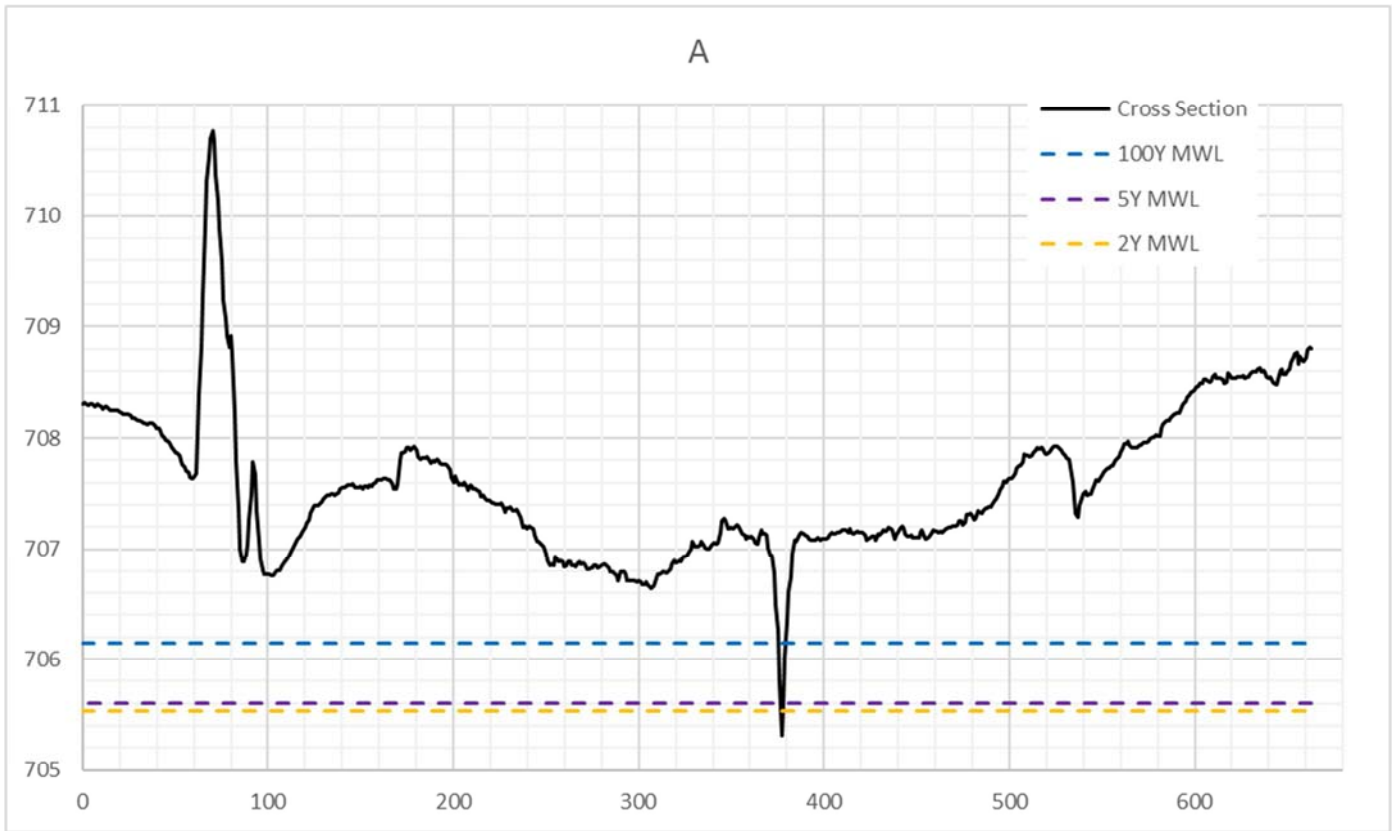
# Deer Creek Cross Sections



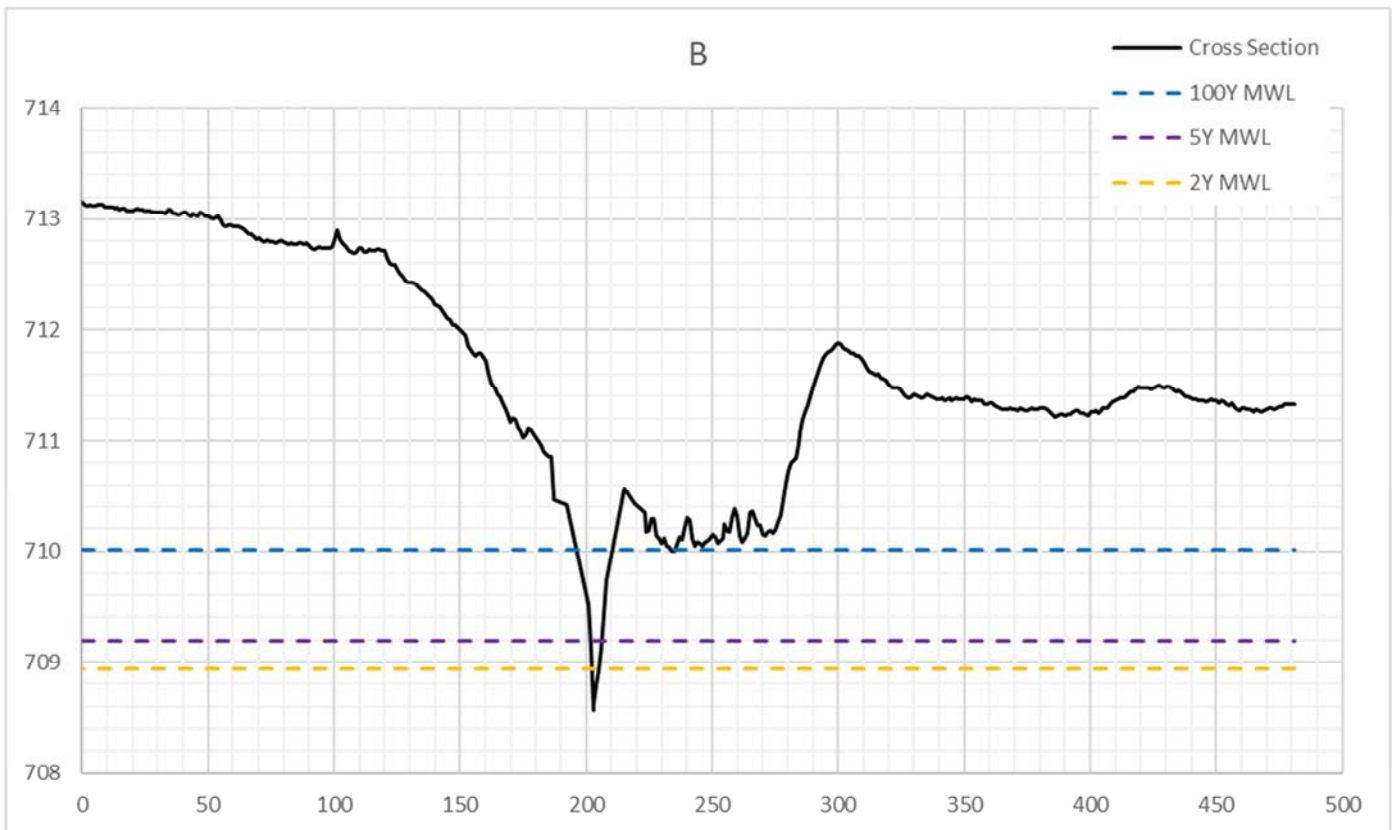
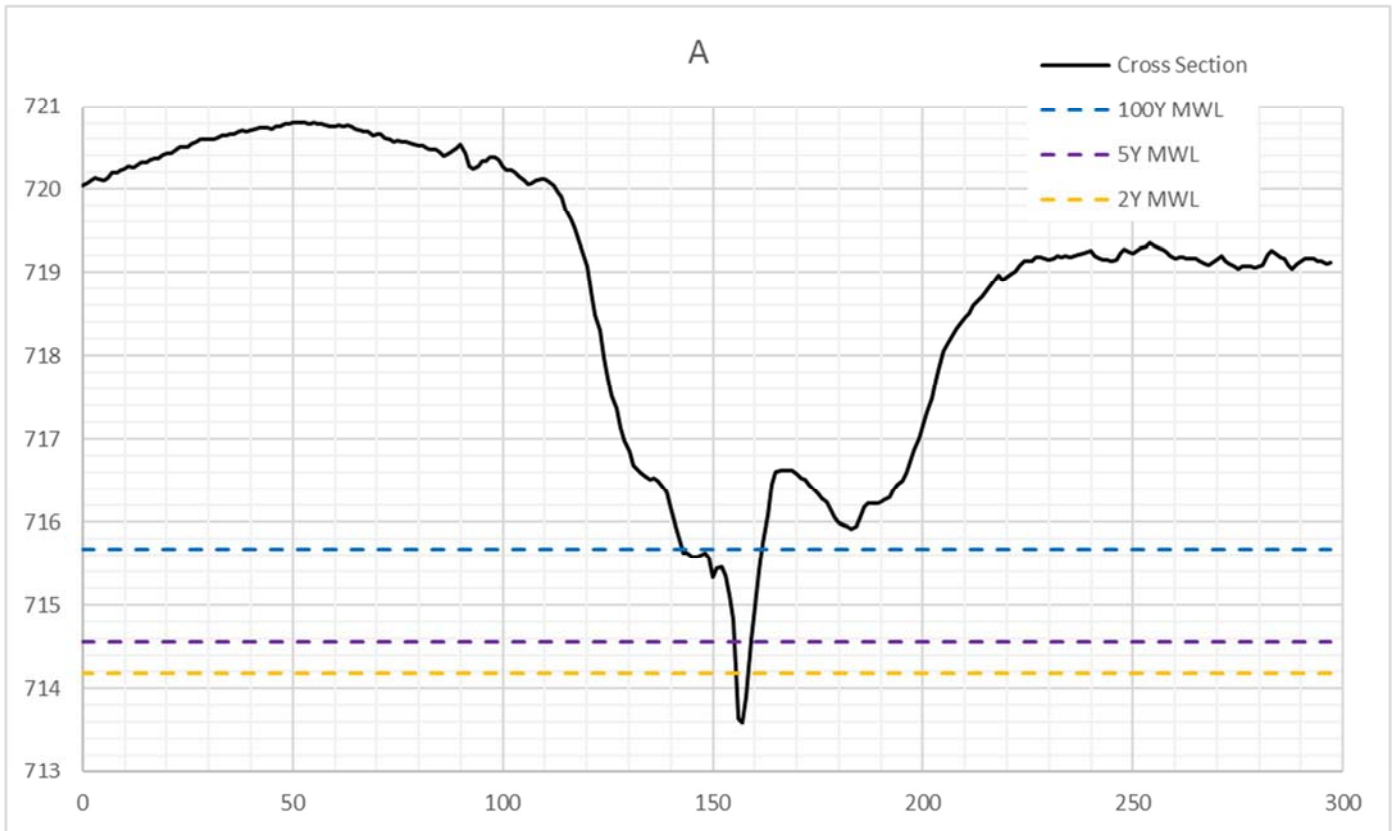
# Irvine Creek Cross Sections



# LeBlanc Canal Cross Sections

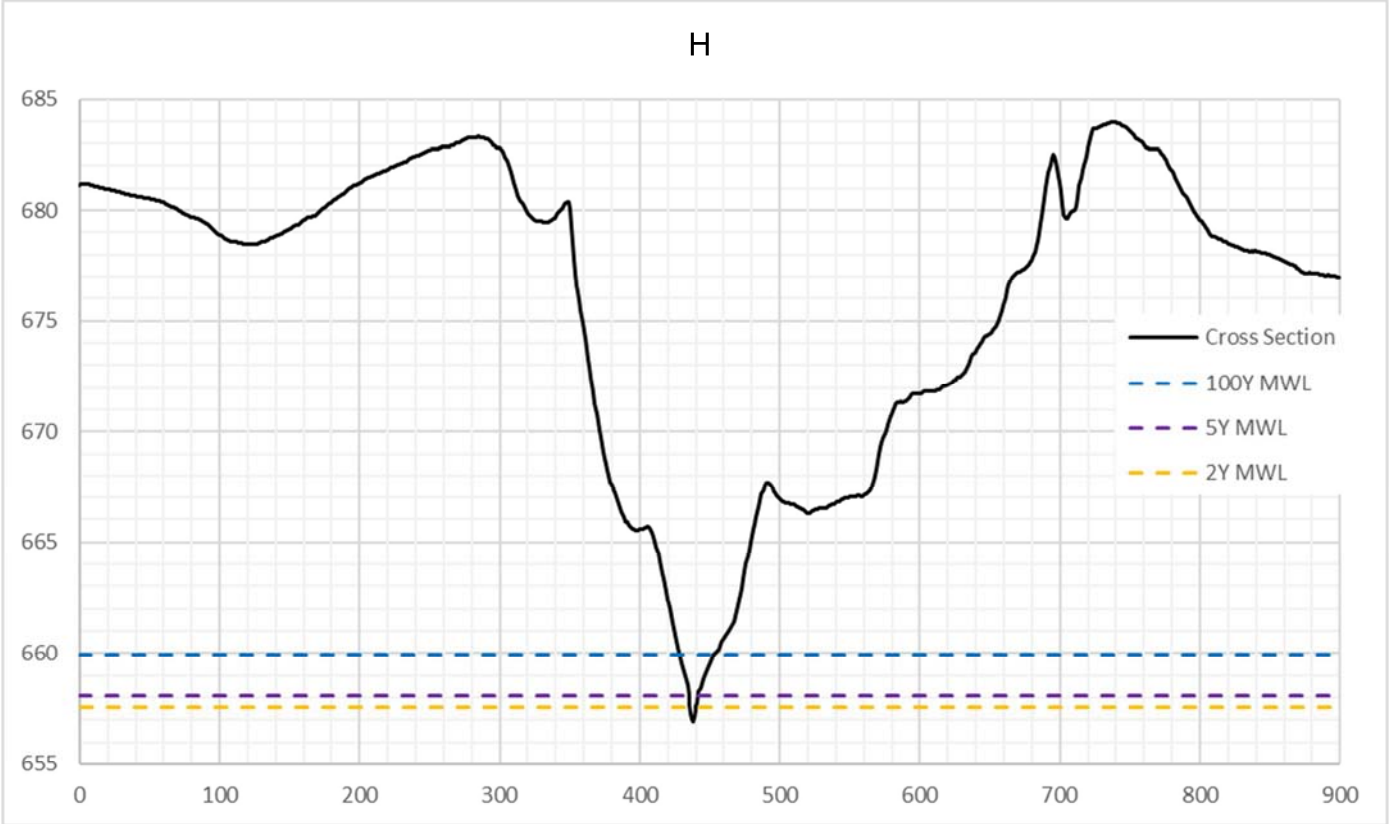
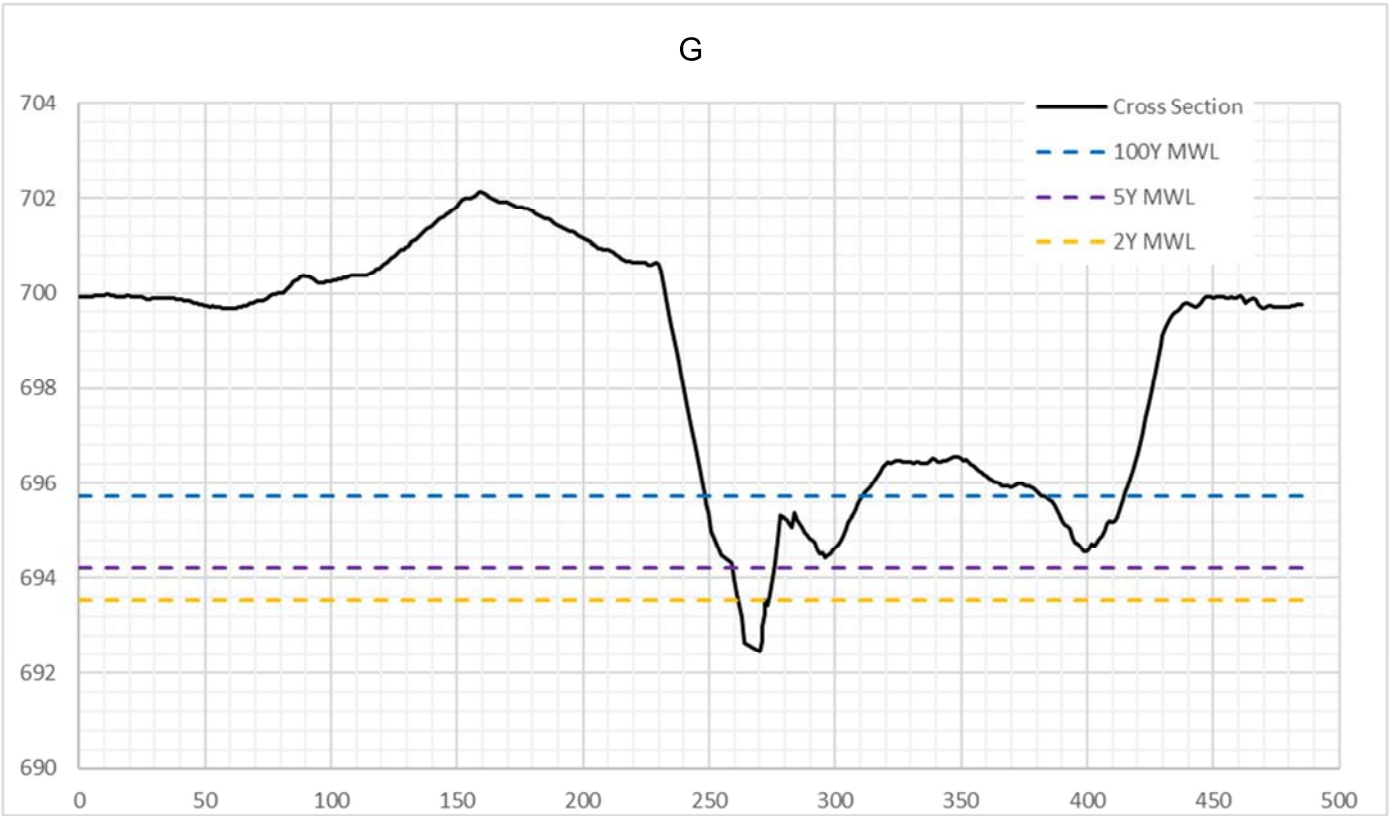


# West Whitemud Creek Cross Sections





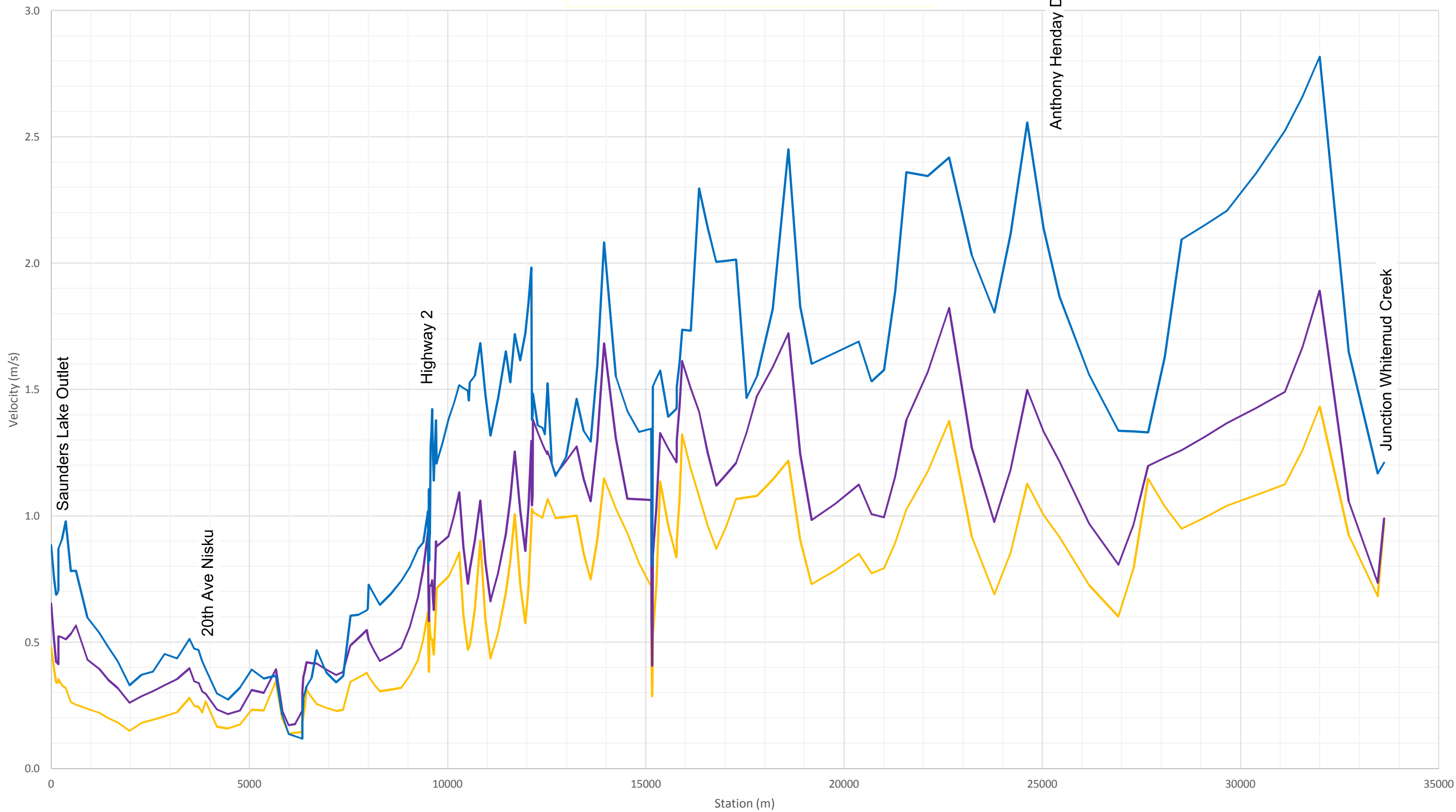
# Whitemud Creek Cross Sections



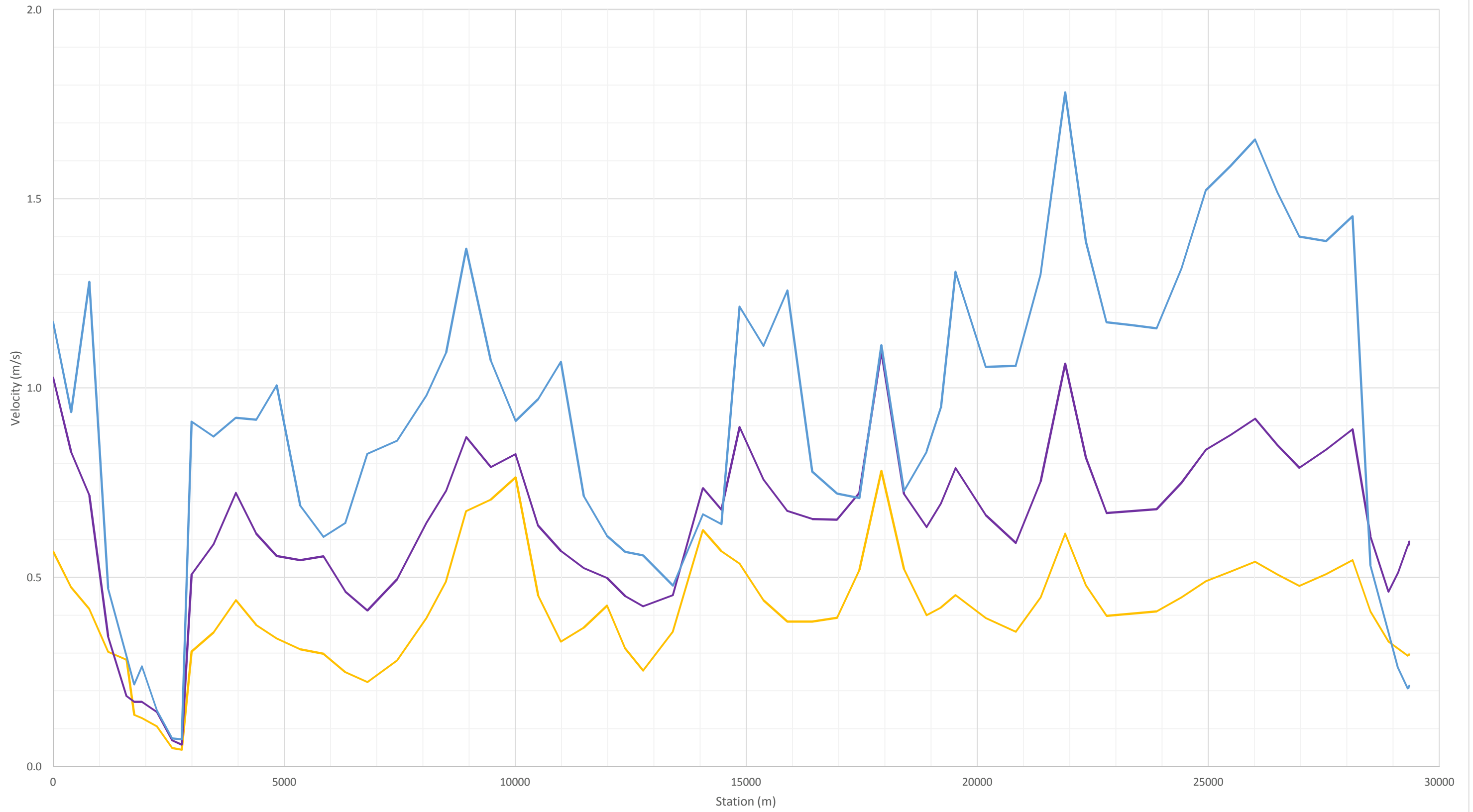
**Appendix E - Velocity Profiles**



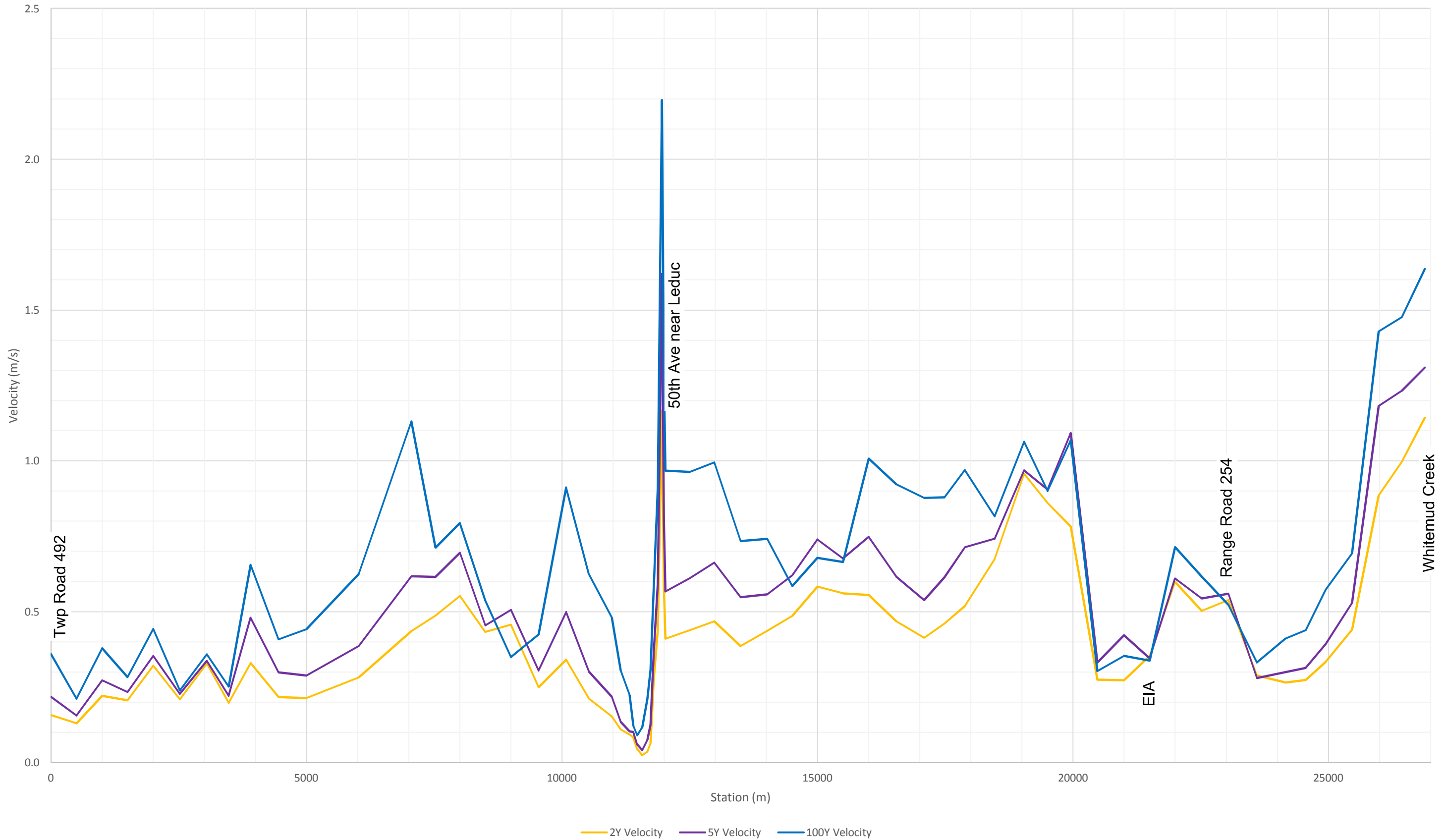
Blackmud Creek Velocities



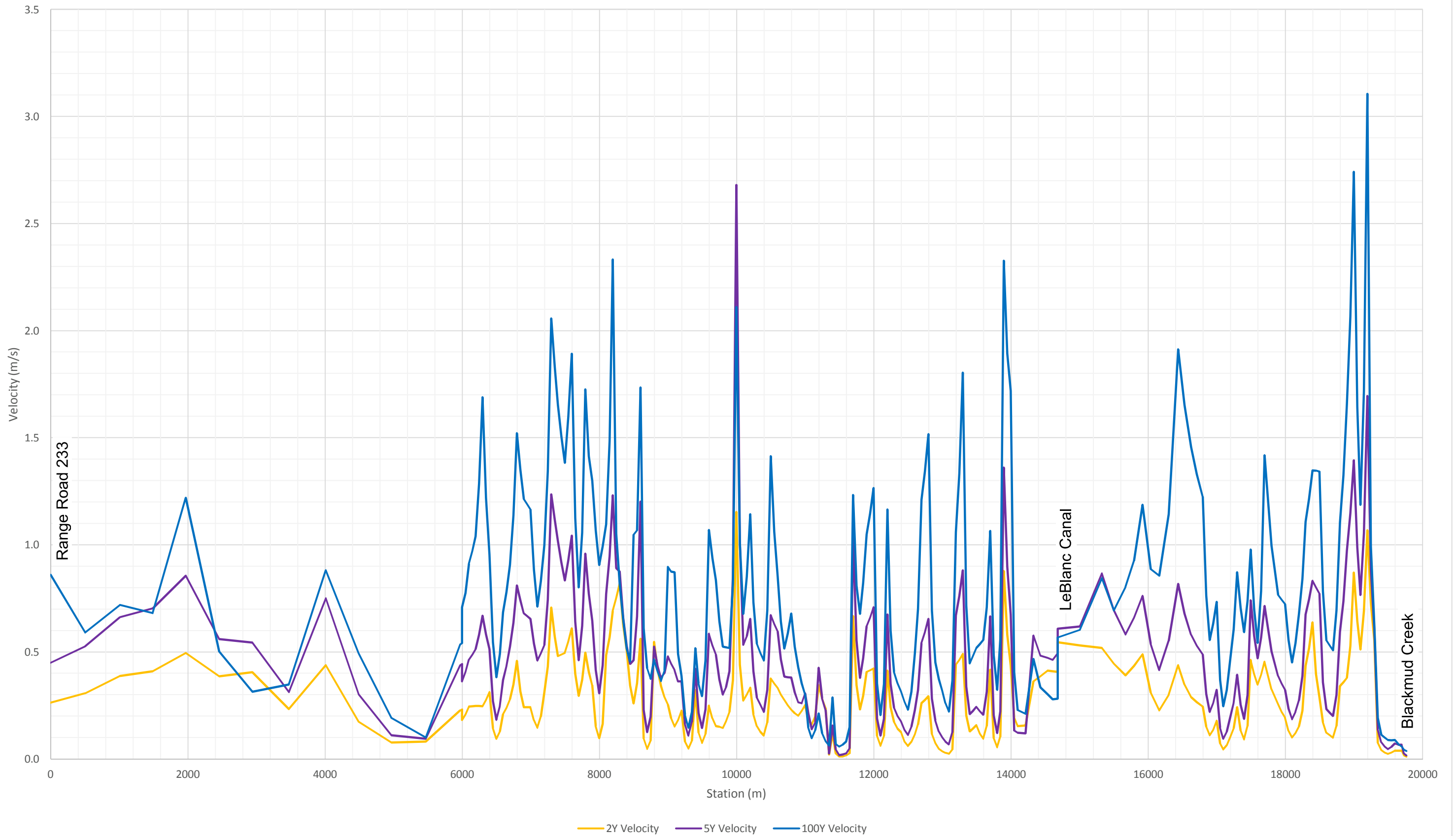
Clearwater Creek Velocities



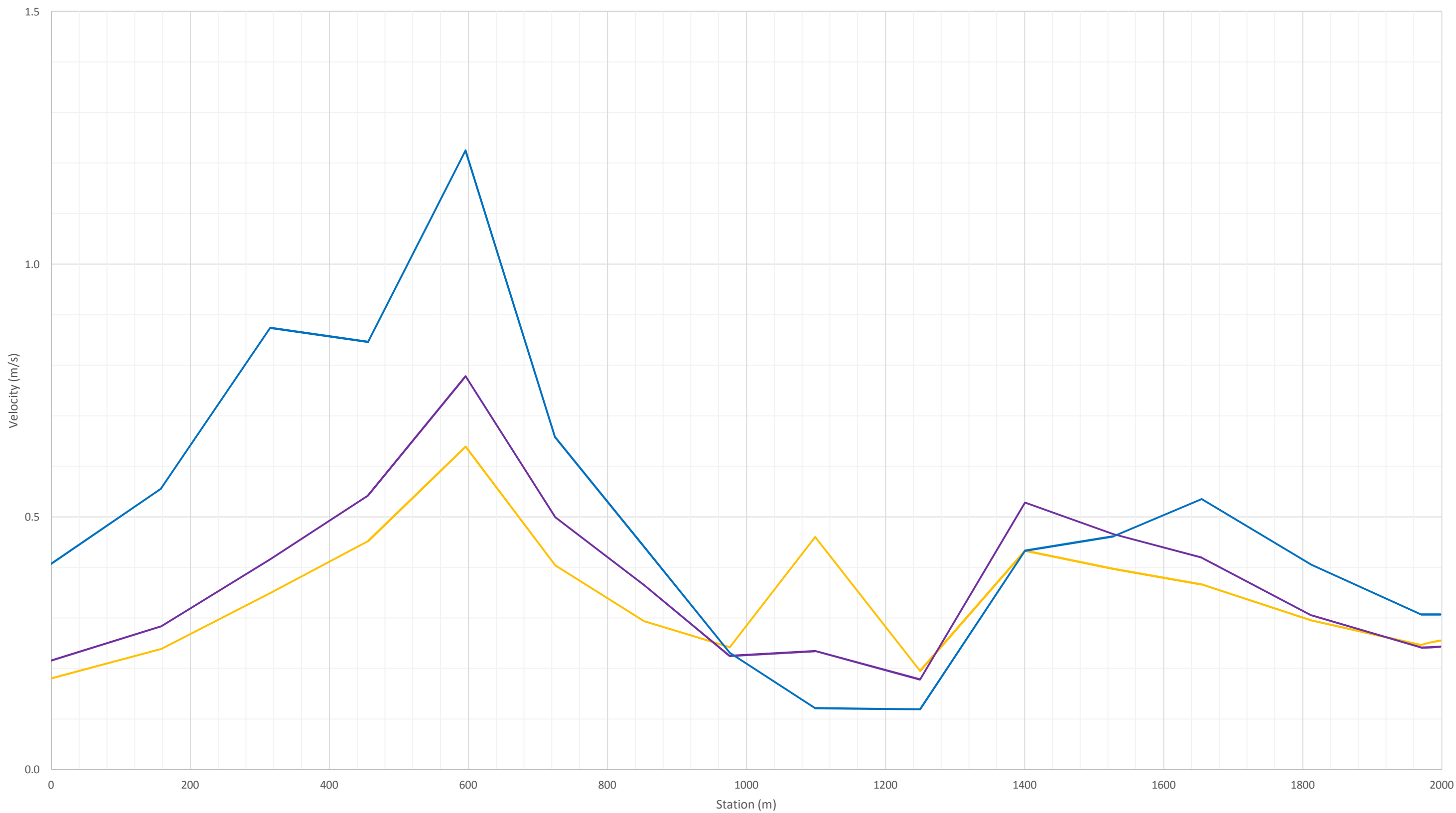
# Deer Creek Velocities



# Irvine Creek Velocities

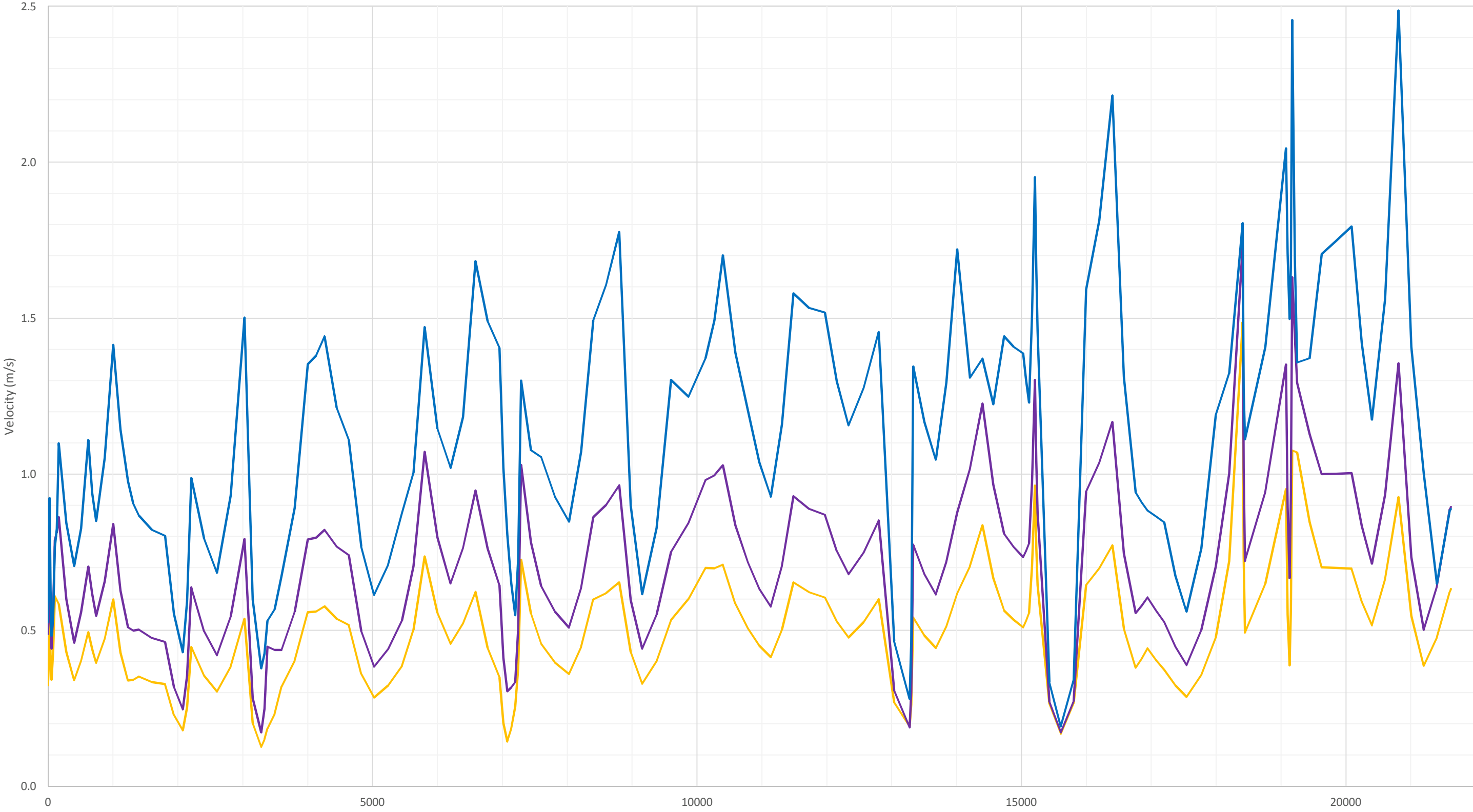


LeBlanc Canal Velocities



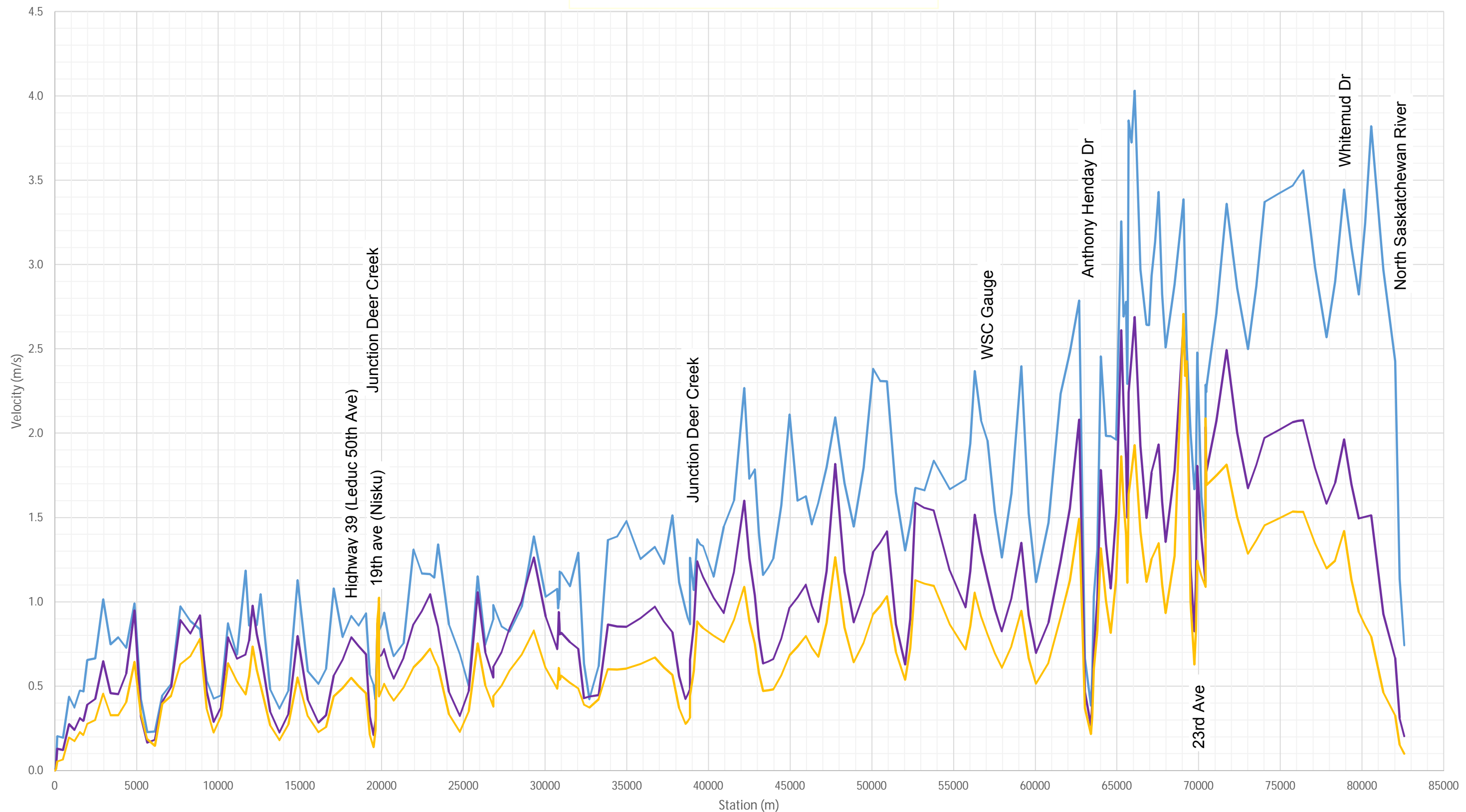


West Whitemud Creek Velocities



— 2Y Velocity — 5Y Velocity — 100Y Velocity

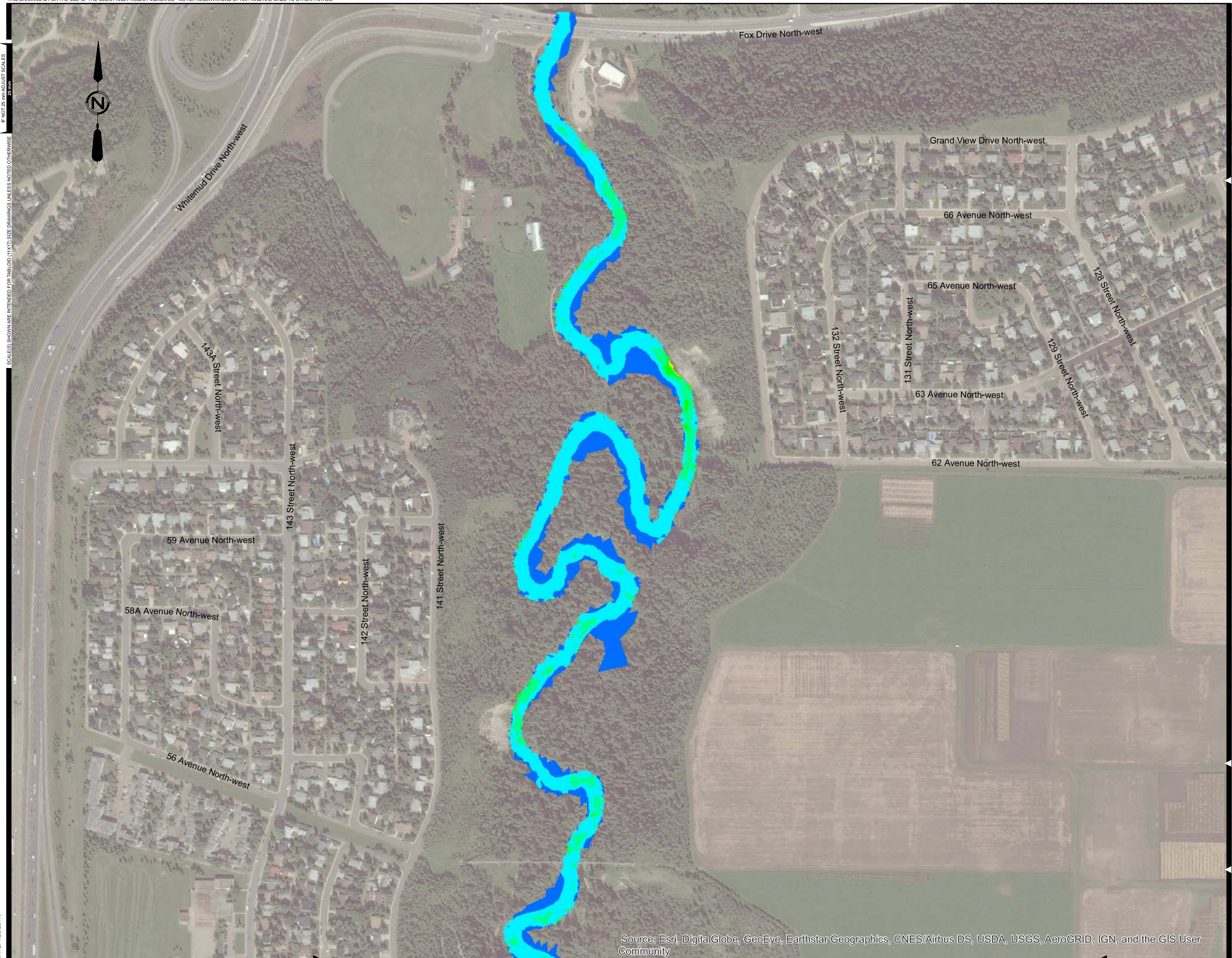
# Whitemud Creek Velocities



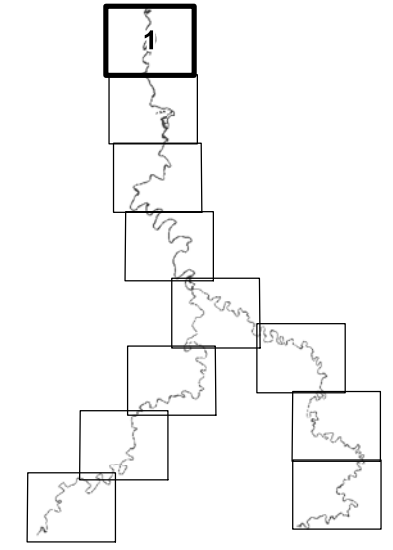
— 100Y Velocity — 5Y Velocity — 2Y Velocity

**Appendix F - 2D Velocities**

IF NOT 25 mm ADJUST SCALES  
 SCALES SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE



- Legend:**  
 Velocity (m/s)
- >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



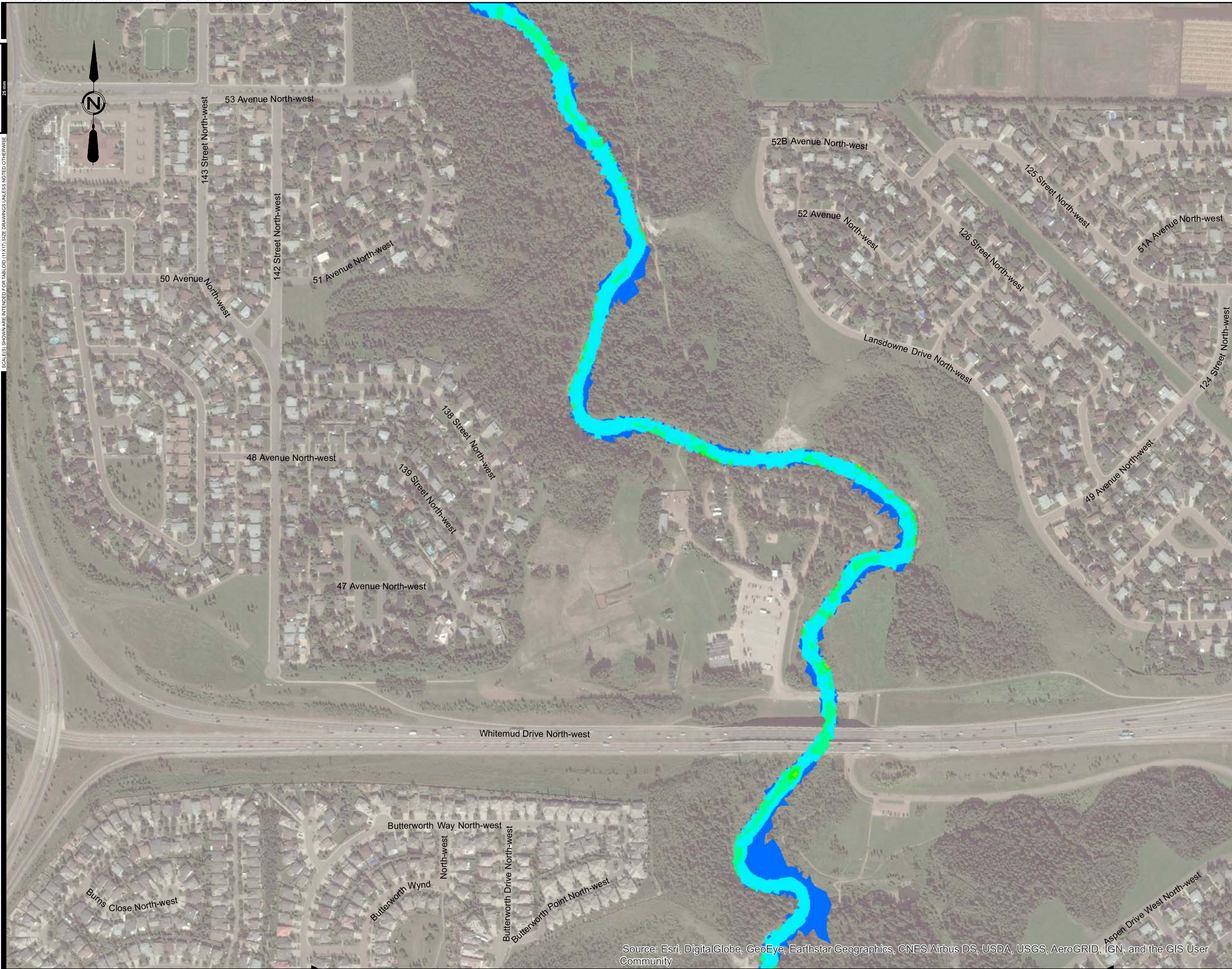
Note: Maps are preliminary and subject to change.

**FIGURE No. F-2**  
 BLACKMUD/WHITEMUD CREEK  
 WATERSHED MANAGEMENT STUDY  
 2 YEAR  
 VELOCITY

<b>AE PROJECT No.</b>	2016-3785
<b>SCALE</b>	1:5,000
<b>APPROVED</b>	
<b>DATE</b>	2017 JANUARY
<b>REV</b>	
<b>DESCRIPTION</b>	ISSUED FOR REPORT

IF NOT 28 mm ADJUST SCALES

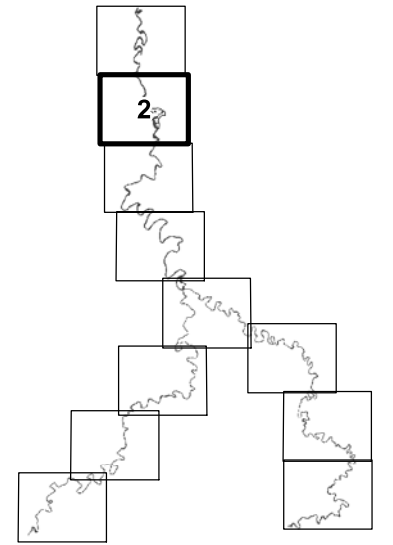
SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE



Legend:

Velocity (m/s)

- >3.5 - 4.0
- >3.0 - 3.5
- >2.5 - 3.0
- >2.0 - 2.5
- >1.5 - 2.0
- >1.0 - 1.5
- >0.5 - 1.0
- >0.0 - 0.5



Note: Maps are preliminary and subject to change.

FIGURE No. F-3

BLACKMUD/WHITEMUD CREEK  
WATERSHED MANAGEMENT STUDY

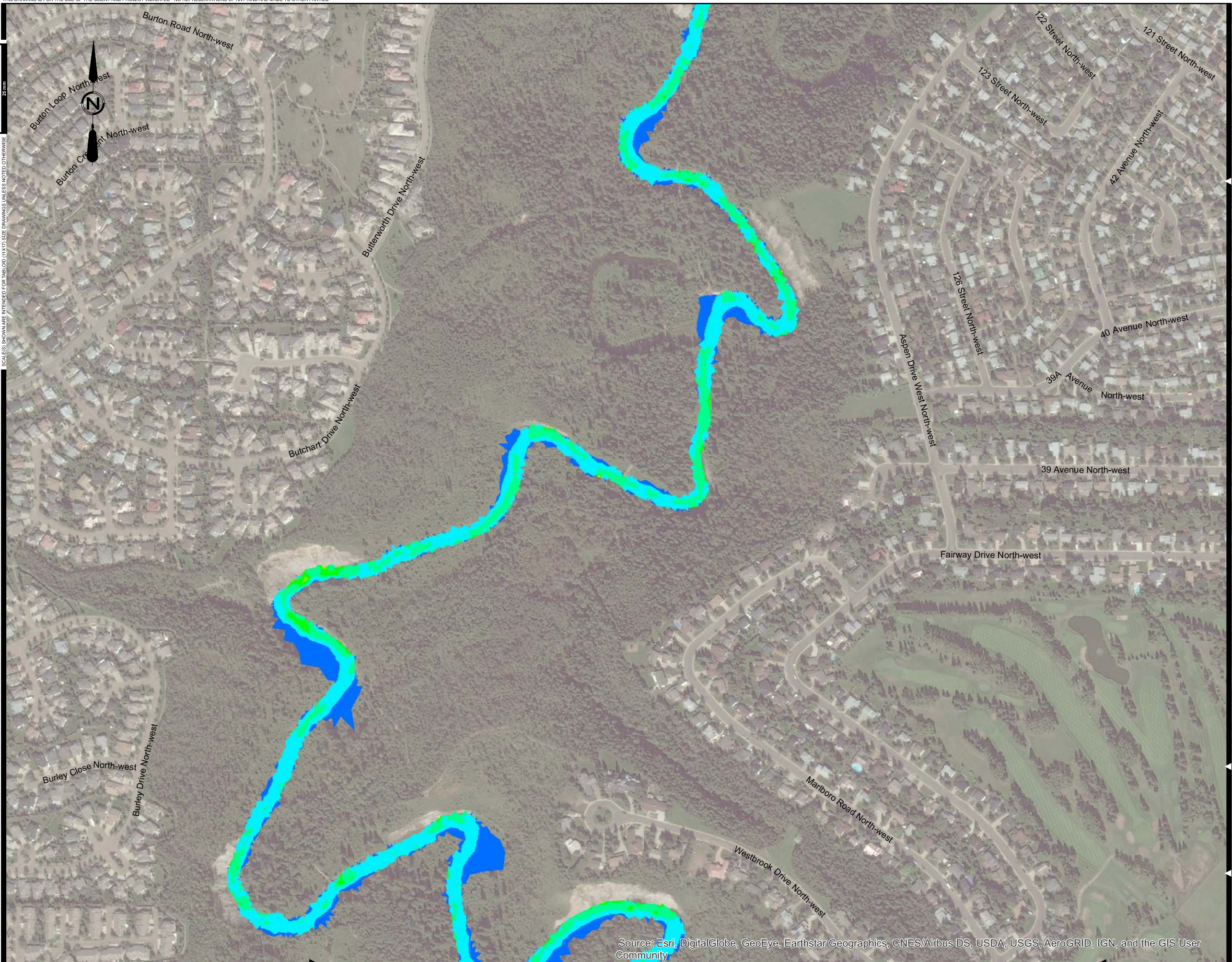
2 YEAR  
VELOCITY

AE PROJECT No.	2016-3785
SCALE	1:5,000
APPROVED	
DATE	2017 JANUARY
REV	
DESCRIPTION	ISSUED FOR REPORT

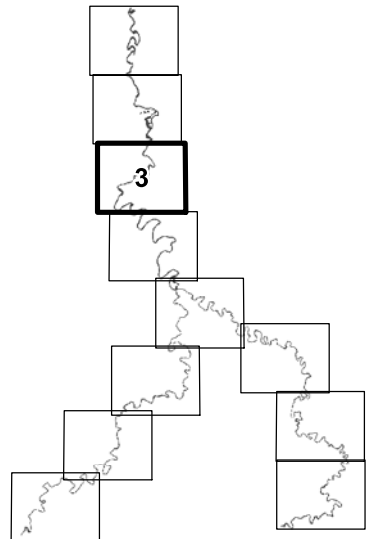
IF NOT 28 mm ADJUST SCALES

SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTICED OTHERWISE

\\redm-fs-01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_2Y\_Velocity.mxd  
DATE: 1/23/2017



- Legend:
- Velocity (m/s)
- >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

FIGURE No. F-4

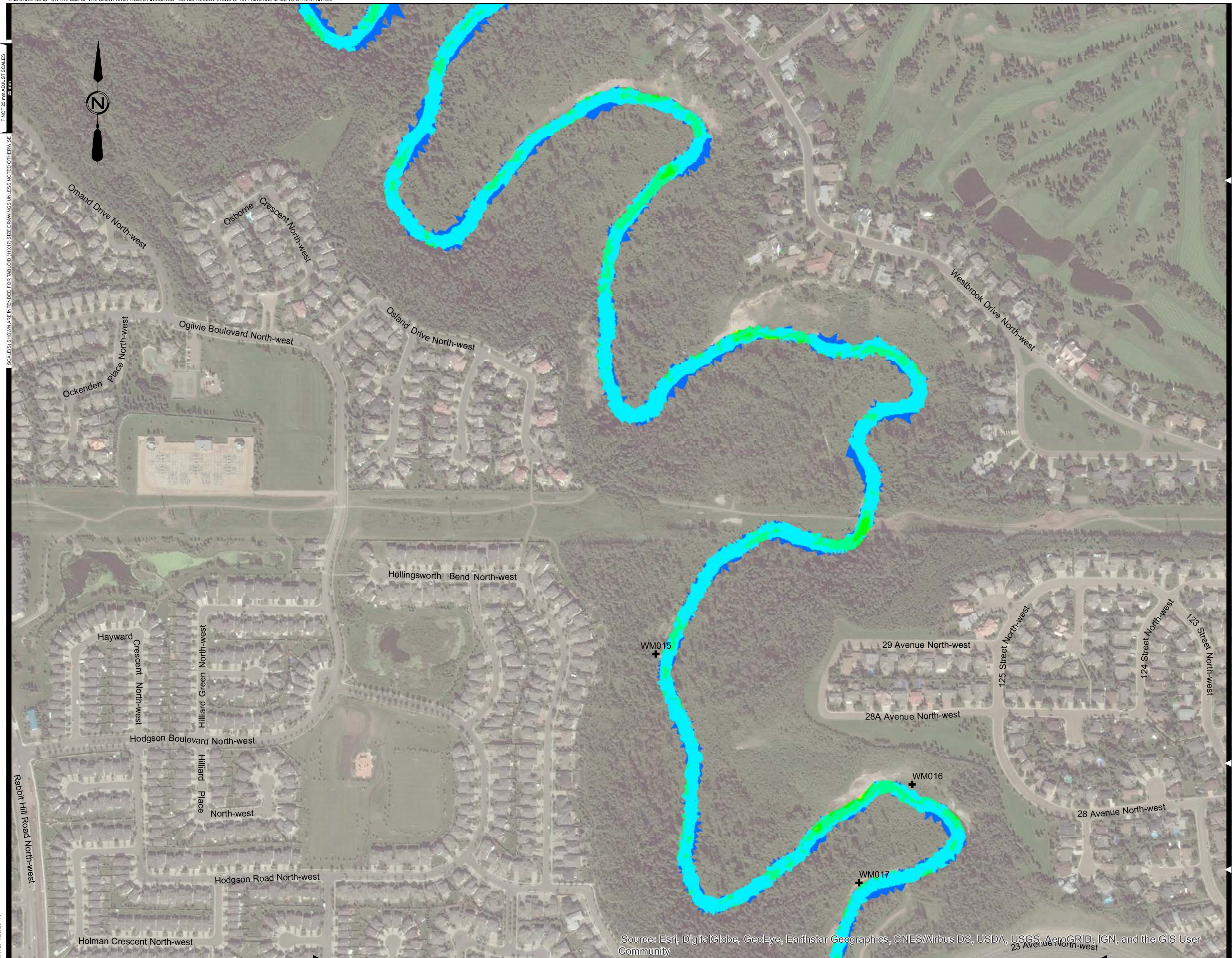
BLACKMUD/WHITEMUD CREEK  
WATERSHED MANAGEMENT STUDY

2 YEAR  
VELOCITY

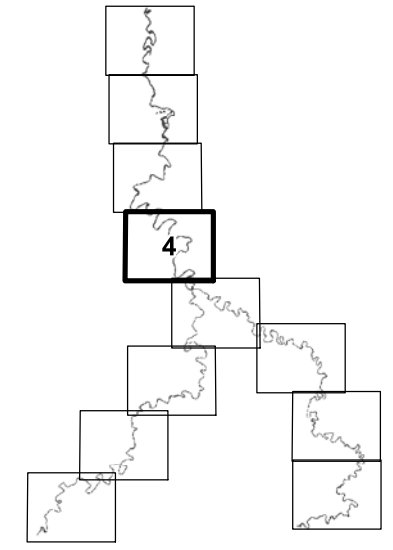
AE PROJECT No.	2016-3785
SCALE	1:5,000
APPROVED	
DATE	2017 JANUARY
REV	
DESCRIPTION	ISSUED FOR REPORT



IF NOT 25 mm ADJUST SCALES  
SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE



- Legend:
- + Erosion Site
  - Velocity (m/s)
    - >3.5 - 4.0
    - >3.0 - 3.5
    - >2.5 - 3.0
    - >2.0 - 2.5
    - >1.5 - 2.0
    - >1.0 - 1.5
    - >0.5 - 1.0
    - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

**FIGURE No. F-5**

BLACKMUD/WHITEMUD CREEK  
WATERSHED MANAGEMENT STUDY

---

2 YEAR  
VELOCITY

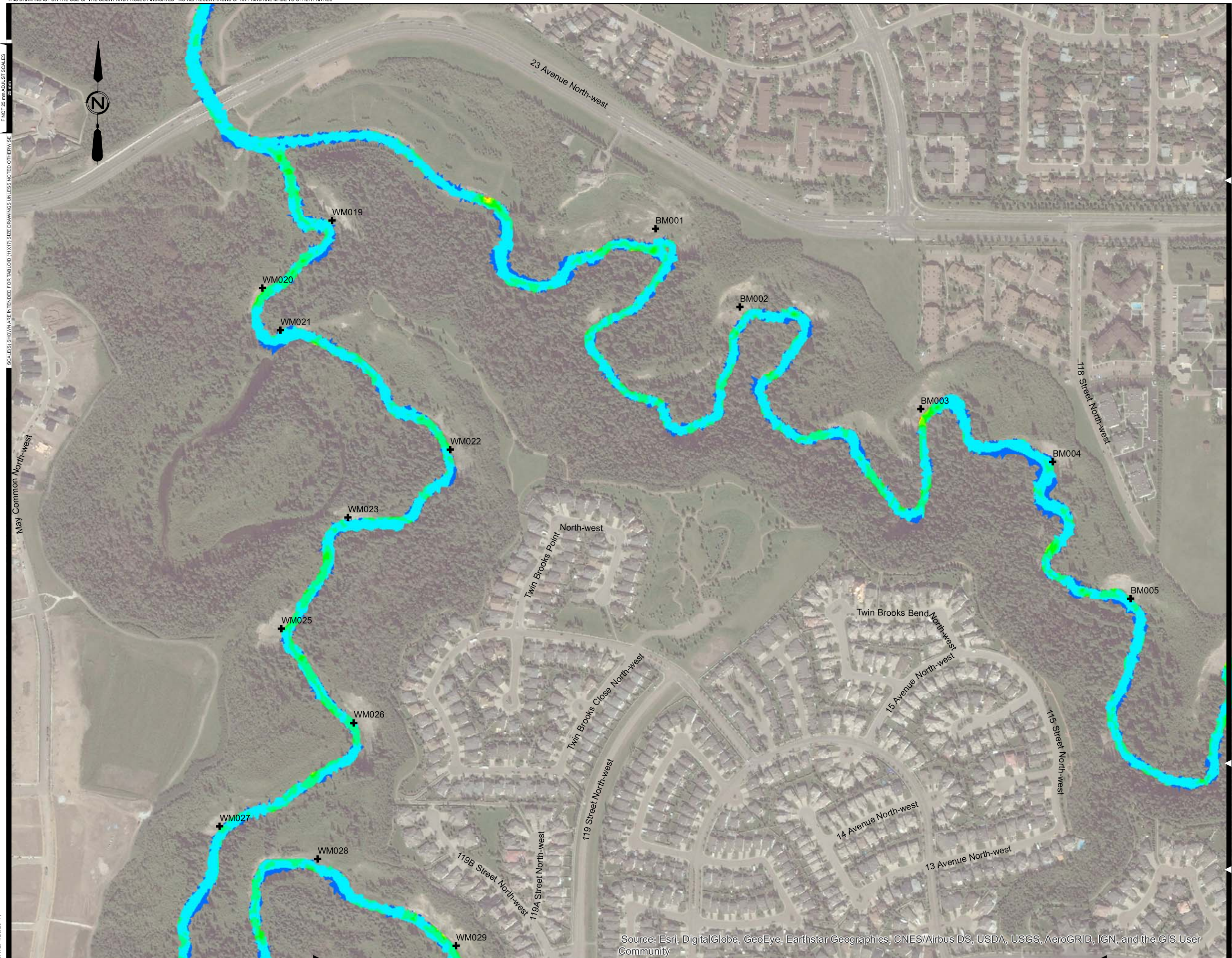
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<b>AE PROJECT No.</b>	2016-3785
<b>SCALE</b>	1:5,000
<b>APPROVED DATE</b>	2017 JANUARY
<b>REV DESCRIPTION</b>	ISSUED FOR REPORT

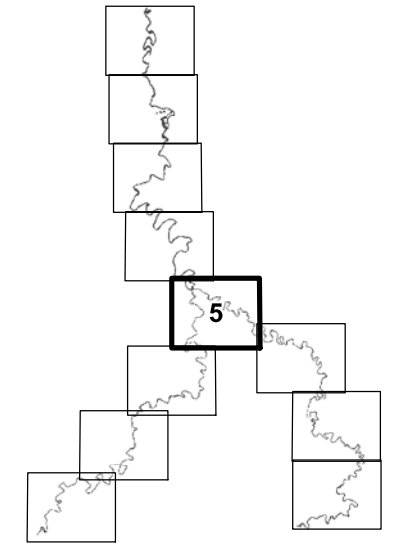
\\redm-fs-01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_2Y\_Velocity.mxd  
DATE: 1/23/2017



IF NOT 25 mm AS NOTED OTHERWISE  
SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE



- Legend:**
- + Erosion Site
- Velocity (m/s)**
- >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

**FIGURE No. F-6**  
BLACKMUD/WHITEMUD CREEK  
WATERSHED MANAGEMENT STUDY

2 YEAR  
VELOCITY

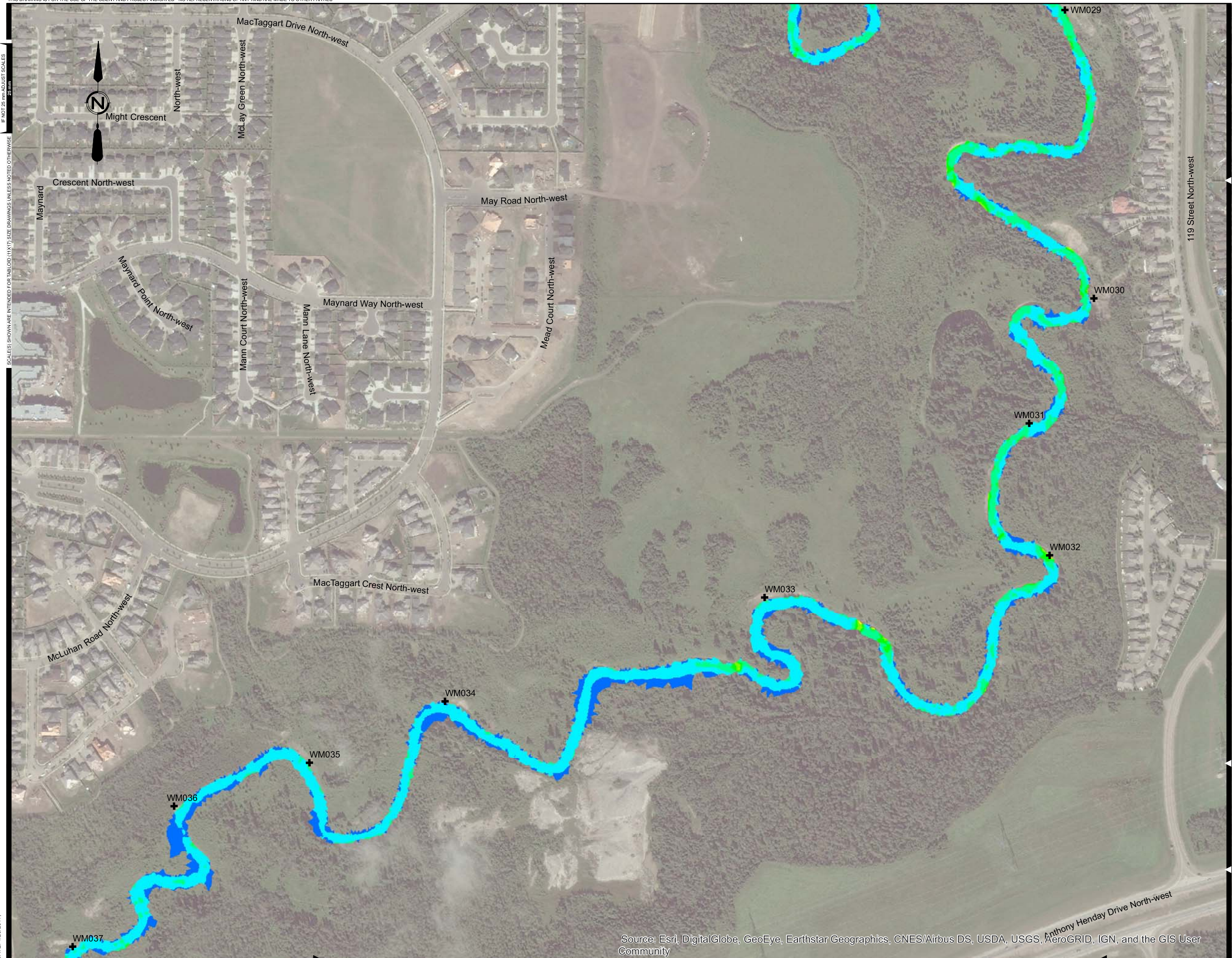
<b>AE PROJECT No.</b>	2016-3785
<b>SCALE</b>	1:5,000
<b>APPROVED DATE</b>	2017 JANUARY
<b>REV DESCRIPTION</b>	ISSUED FOR REPORT

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

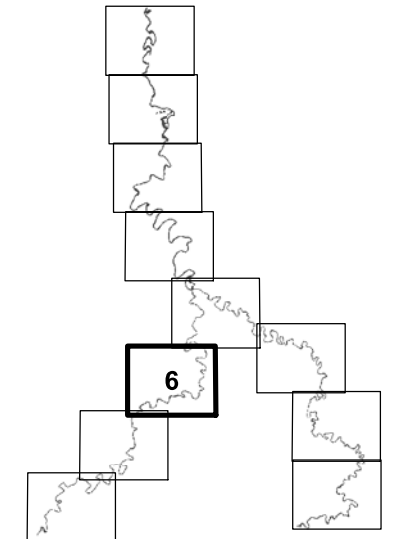
\\redm-fs-01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_2\_V\_Velocity.mxd  
DATE: 1/23/2017



IF NOT 28 mm ADJUST SCALES  
 SCALES(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTICED OTHERWISE



- Legend:**
- + Erosion Site
  - Velocity (m/s)**
  - >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

**FIGURE No. F-7**

BLACKMUD/WHITEMUD CREEK  
WATERSHED MANAGEMENT STUDY

2 YEAR  
VELOCITY

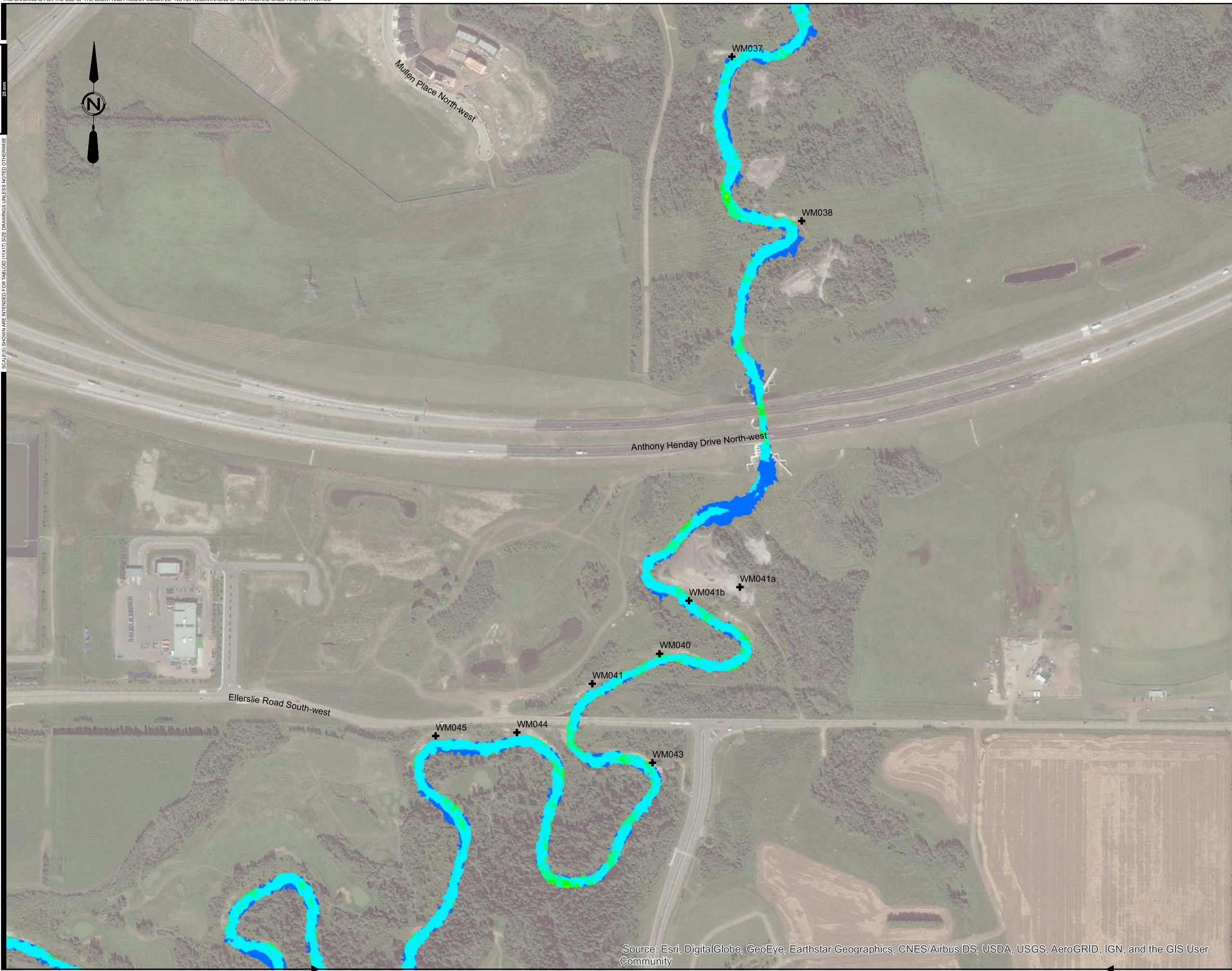
<b>AE PROJECT No.</b>	2016-3785
<b>SCALE</b>	1:5,000
<b>APPROVED DATE</b>	2017 JANUARY
<b>REV DESCRIPTION</b>	ISSUED FOR REPORT

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 DATE: 1/23/2017

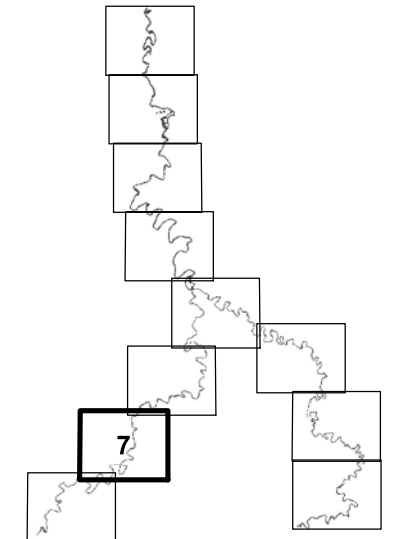
IF NOT 28 mm ADJUST SCALES

SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE

\\redm-fe01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_2\_Velocity.mxd  
DATE: 1/23/2017



- Legend:
- + Erosion Site
  - Velocity (m/s)
  - >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

FIGURE No. F-8

BLACKMUD/WHITEMUD CREEK  
WATERSHED MANAGEMENT STUDY

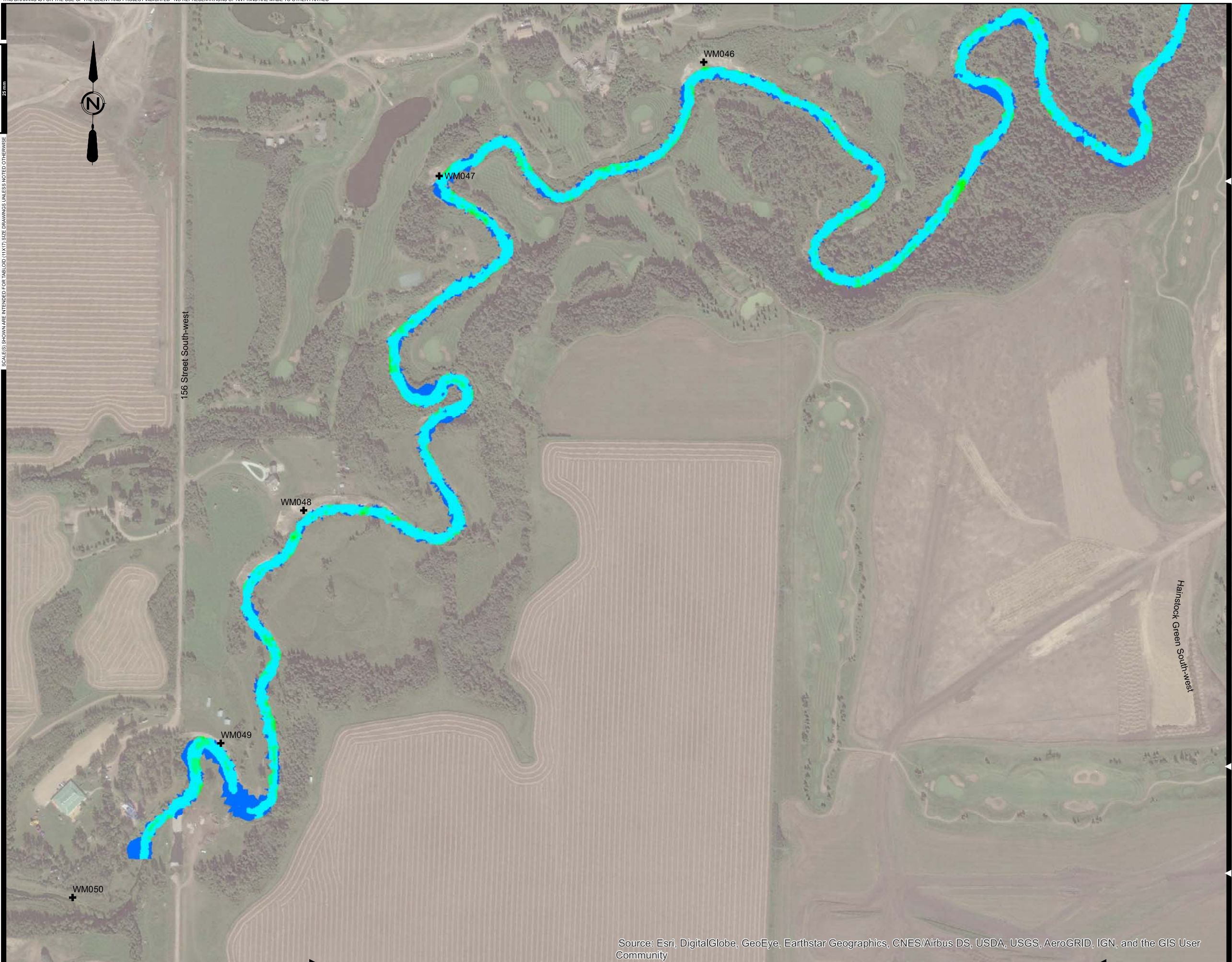
2 YEAR  
VELOCITY

AE PROJECT No.	2016-3785
SCALE	1:5,000
APPROVED	
DATE	2017 JANUARY
REV	
DESCRIPTION	ISSUED FOR REPORT

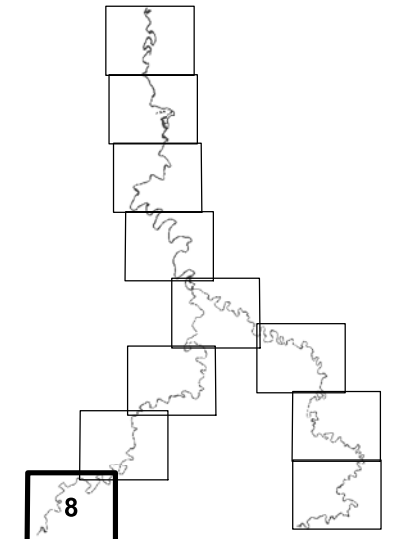
IF NOT 28 mm ADJUST SCALES

SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE

\\redm-fs-01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_2Y\_Velocity.mxd  
DATE: 1/23/2017



- Legend:
- + Erosion Site
  - Velocity (m/s)
  - >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



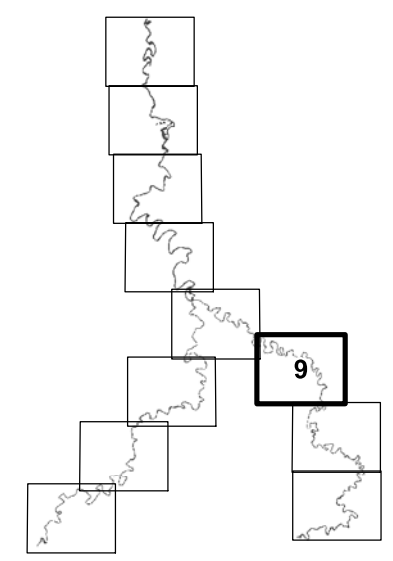
Note: Maps are preliminary and subject to change.

**FIGURE No. F-9**  
 BLACKMUD/WHITEMUD CREEK  
 WATERSHED MANAGEMENT STUDY  
 2 YEAR  
 VELOCITY

AE PROJECT No.	2016-3785
SCALE	1:5,000
APPROVED	
DATE	2017 JANUARY
REV	
DESCRIPTION	ISSUED FOR REPORT



- Legend:
- + Erosion Site
  - Velocity (m/s)
  - >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

**FIGURE No. F-10**

BLACKMUD/WHITEMUD CREEK  
WATERSHED MANAGEMENT STUDY

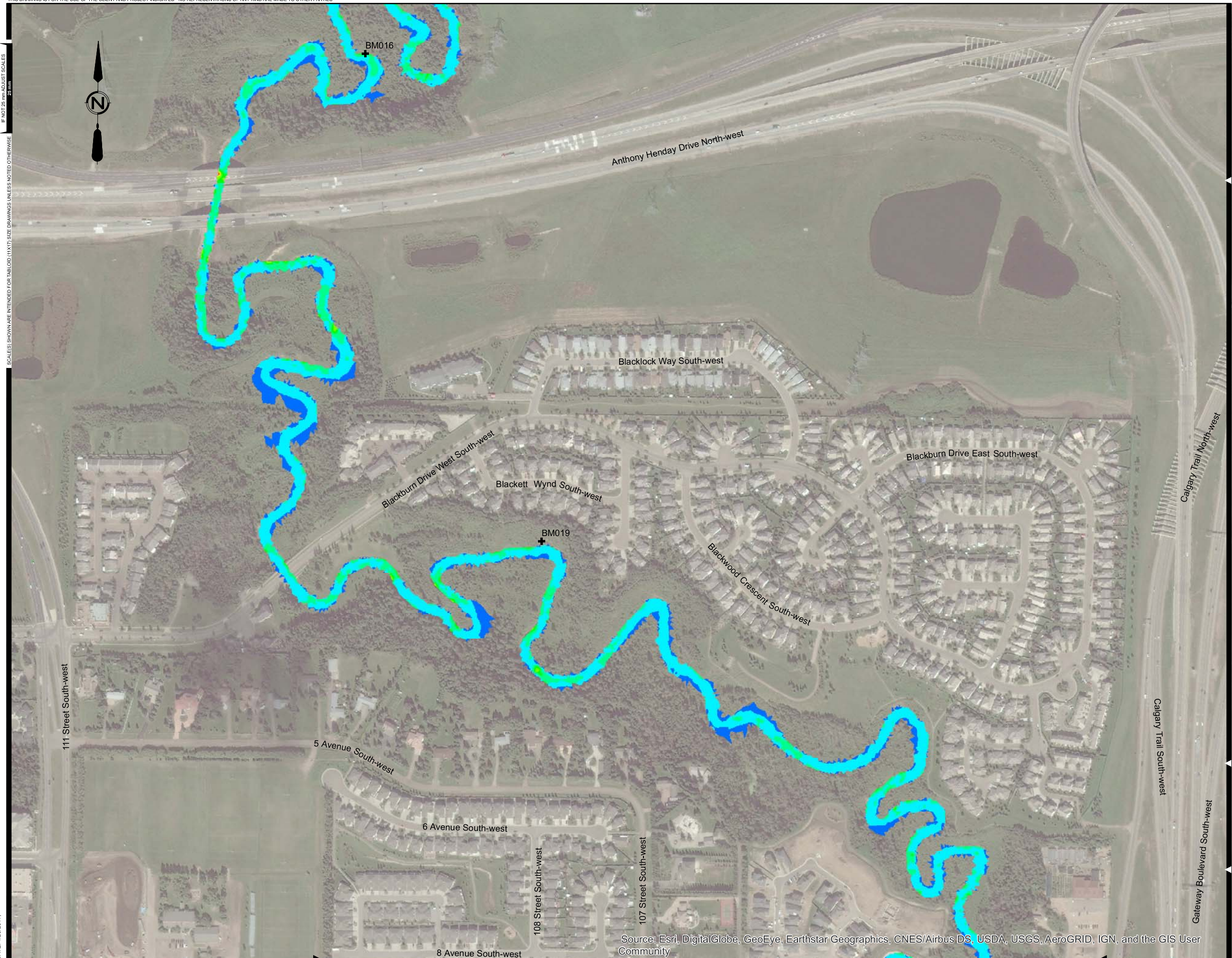
2 YEAR  
VELOCITY

AE PROJECT No.	2016-3785
SCALE	1:5,000
APPROVED	
DATE	2017 JANUARY
REV	
DESCRIPTION	ISSUED FOR REPORT

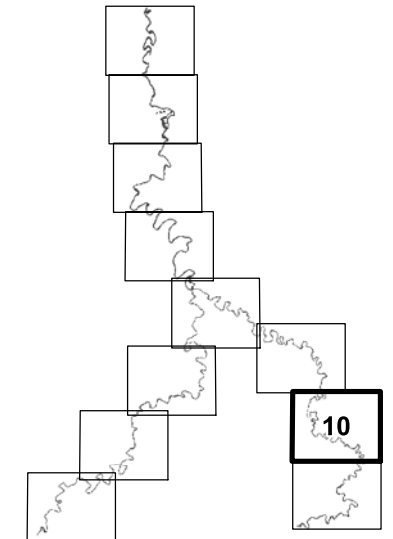
I:\edrh\ed01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_2Y\_Velocity.mxd  
DATE: 1/23/2017

IF NOT 25 mm ADJUST SCALES  
SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTICED OTHERWISE

IF NOT 25 mm ADJUST SCALES  
 SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE



- Legend:**
- + Erosion Site
  - Velocity (m/s)**
  - >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

**FIGURE No. F-11**  
 BLACKMUD/WHITEMUD CREEK  
 WATERSHED MANAGEMENT STUDY  
 2 YEAR  
 VELOCITY

<b>AE PROJECT No.</b>	2016-3785
<b>SCALE</b>	1:5,000
<b>APPROVED DATE</b>	2017 JANUARY
<b>REV DESCRIPTION</b>	ISSUED FOR REPORT

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

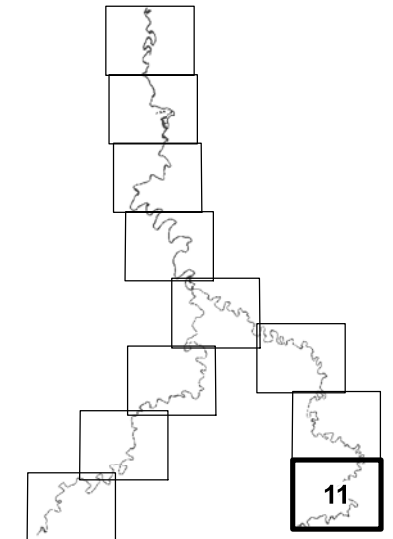
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 DATE: 1/23/2017

IF NOT 25 mm ADJUST SCALES

SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE



- Legend:
- + Erosion Site
  - Velocity (m/s)
  - >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

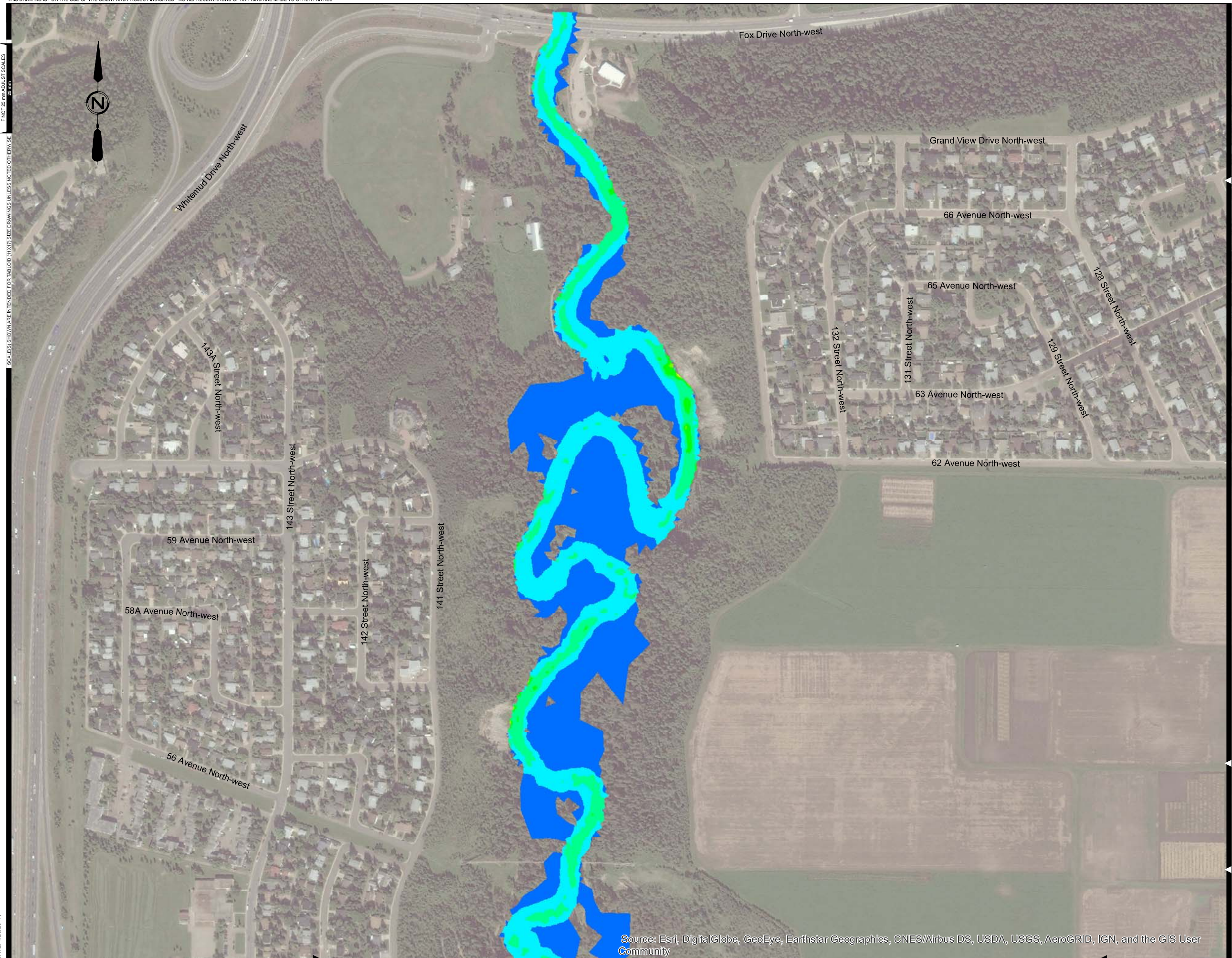
FIGURE No. F-12  
BLACKMUD/WHITEMUD CREEK  
WATERSHED MANAGEMENT STUDY

2 YEAR  
VELOCITY

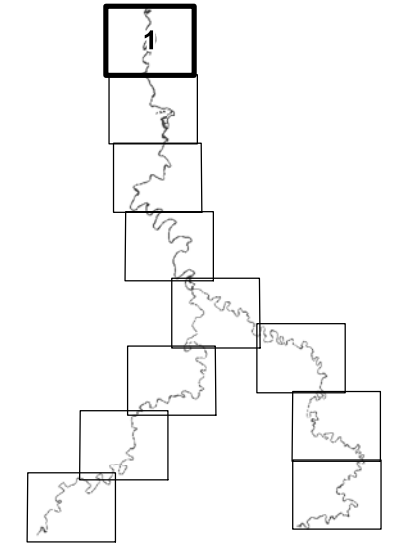
AE PROJECT No.	2016-3785
SCALE	1:5,000
APPROVED	
DATE	2017 JANUARY
REV	
DESCRIPTION	ISSUED FOR REPORT

\\redm-fs-01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_2\_V\_Velocity.mxd  
DATE: 1/23/2017

IF NOT 25 mm ADJUST SCALES  
 SCALES SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE



- Legend:
- Velocity (m/s)
- >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

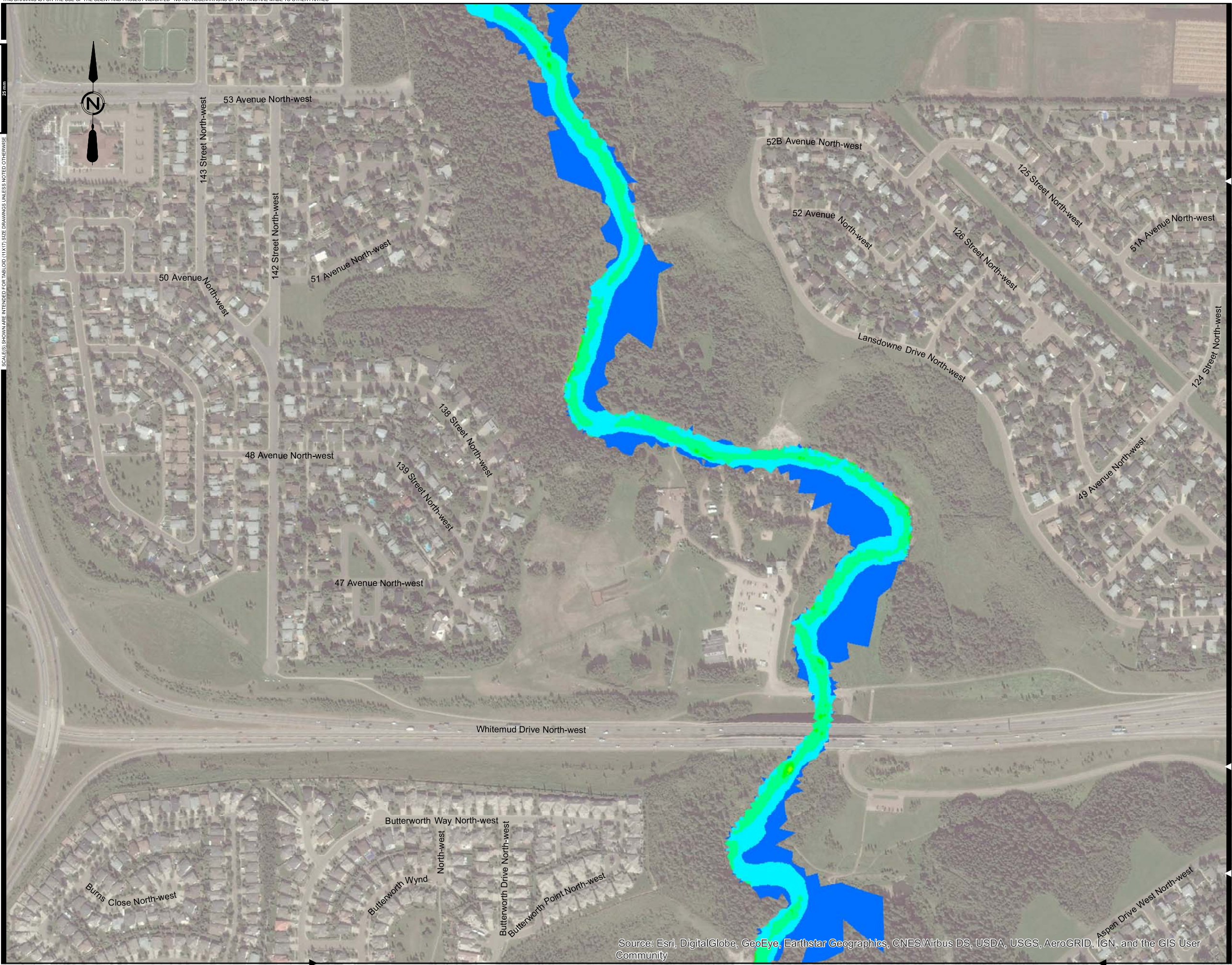
**FIGURE No. F-13**  
 BLACKMUD/WHITEMUD CREEK  
 WATERSHED MANAGEMENT STUDY  
 5 YEAR  
 VELOCITY

<b>AE PROJECT No.</b>	2016-3785
<b>SCALE</b>	1:5,000
<b>APPROVED</b>	
<b>DATE</b>	2017 JANUARY
<b>REV</b>	
<b>DESCRIPTION</b>	ISSUED FOR REPORT

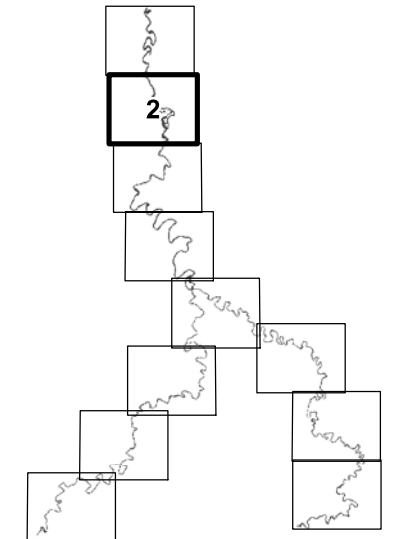
IF NOT 28 mm ADJUST SCALES

SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE

\\redm-fs-01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_5\_Velocity.mxd  
DATE: 1/23/2017



- Legend:
- Velocity (m/s)
- >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

**FIGURE No. F-14**

BLACKMUD/WHITEMUD CREEK  
WATERSHED MANAGEMENT STUDY

---

5 YEAR  
VELOCITY

---

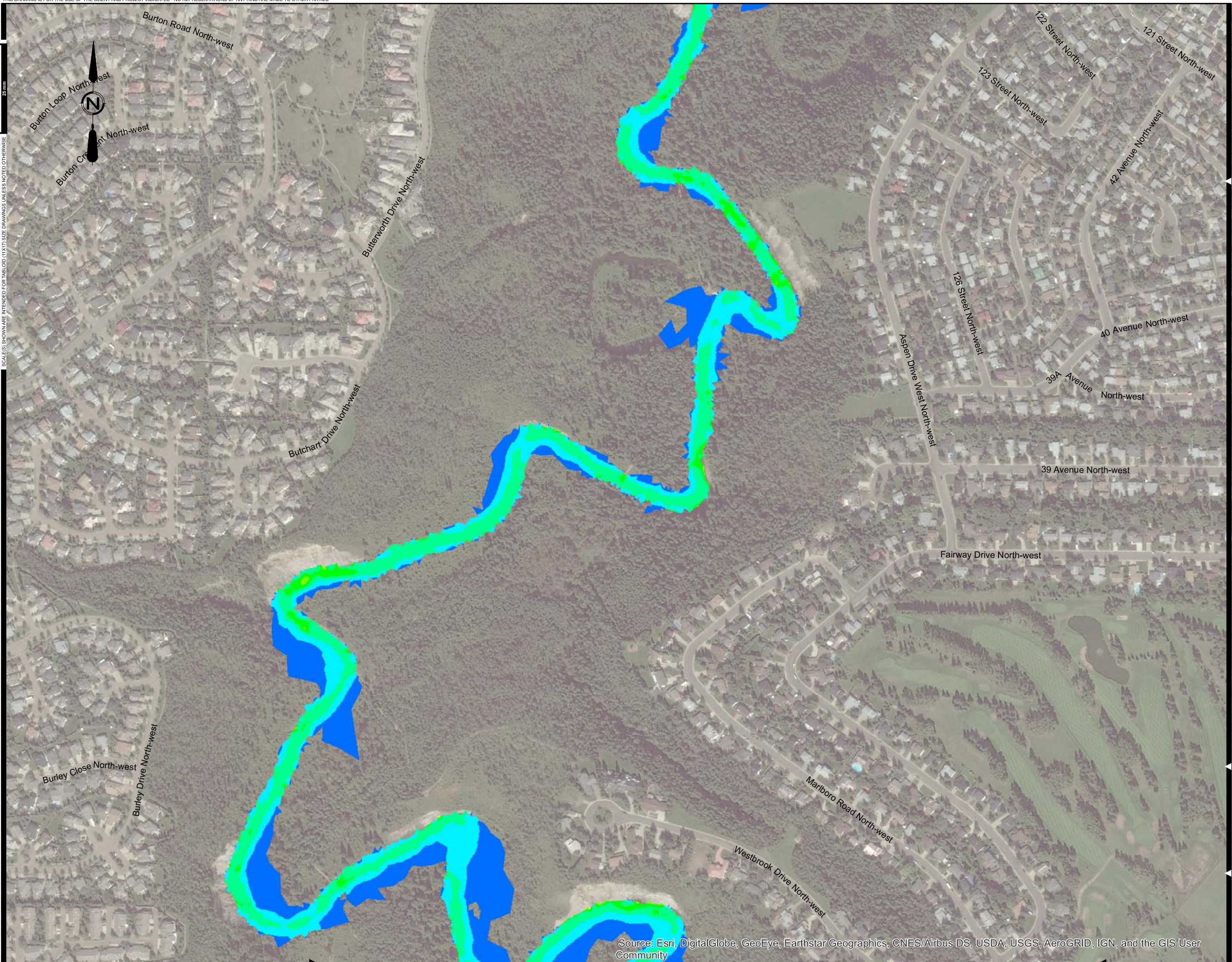
<b>AE PROJECT No.</b>	2016-3785
<b>SCALE</b>	1:5,000
<b>APPROVED</b>	
<b>DATE</b>	2017 JANUARY
<b>REV</b>	
<b>DESCRIPTION</b>	ISSUED FOR REPORT



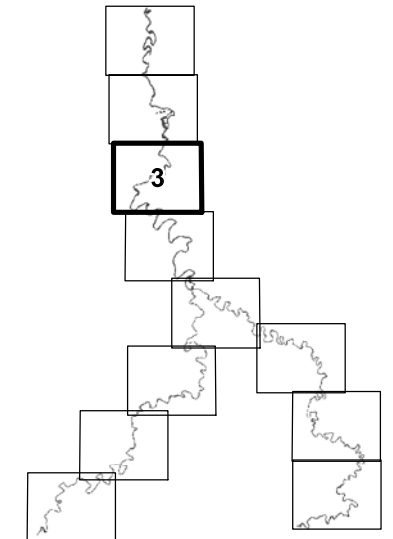
IF NOT 28 mm ADJUST SCALES

SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTICED OTHERWISE

\\redm-fs-01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_5\_Velocity.mxd  
DATE: 1/23/2017



- Legend:
- Velocity (m/s)
- >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

**FIGURE No. F-15**

BLACKMUD/WHITEMUD CREEK  
WATERSHED MANAGEMENT STUDY

---

5 YEAR  
VELOCITY

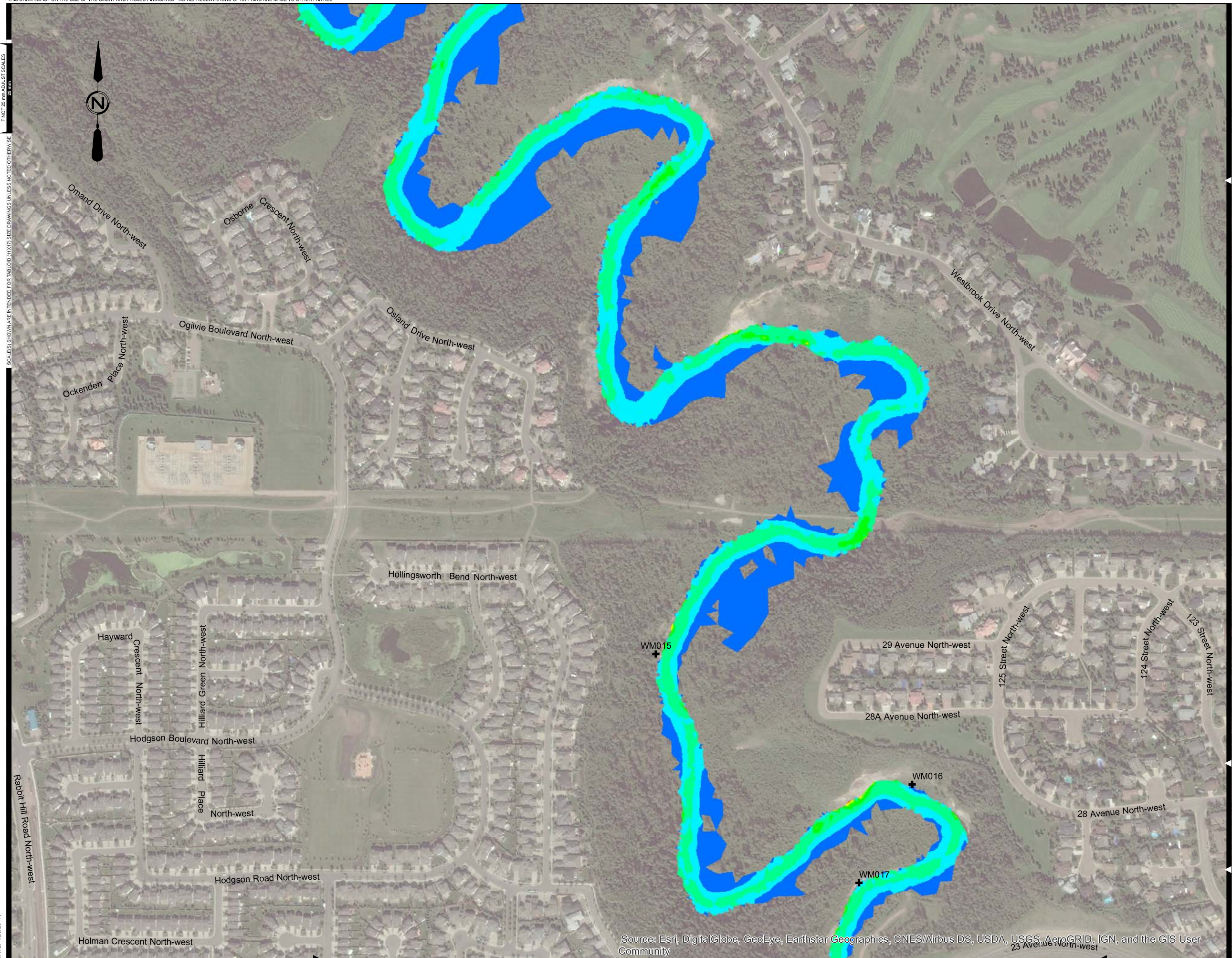
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<b>AE PROJECT No.</b>	2016-3785
<b>SCALE</b>	1:5,000
<b>APPROVED</b>	
<b>DATE</b>	2017 JANUARY
<b>REV</b>	
<b>DESCRIPTION</b>	ISSUED FOR REPORT

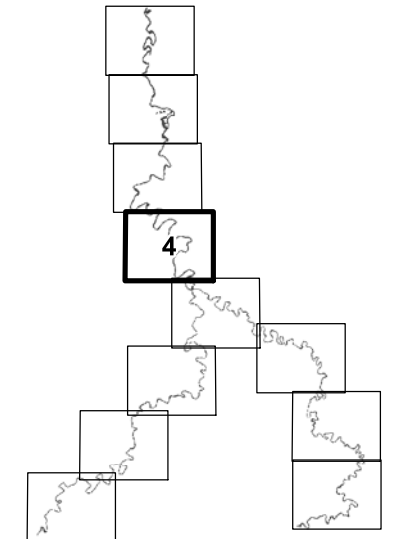
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



IF NOT 25 mm ADJUST SCALES  
 SCALES SHOWN ARE INTENDED FOR TABLoid (11x17) SIZE DRAWINGS UNLESS NOTED OTHERWISE  
 \\\redm-fs-01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_5\_Velocity.mxd  
 DATE: 1/23/2017



- Legend:**
- + Erosion Site
  - Velocity (m/s)
  - >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

**FIGURE No. F-16**

BLACKMUD/WHITEMUD CREEK  
WATERSHED MANAGEMENT STUDY

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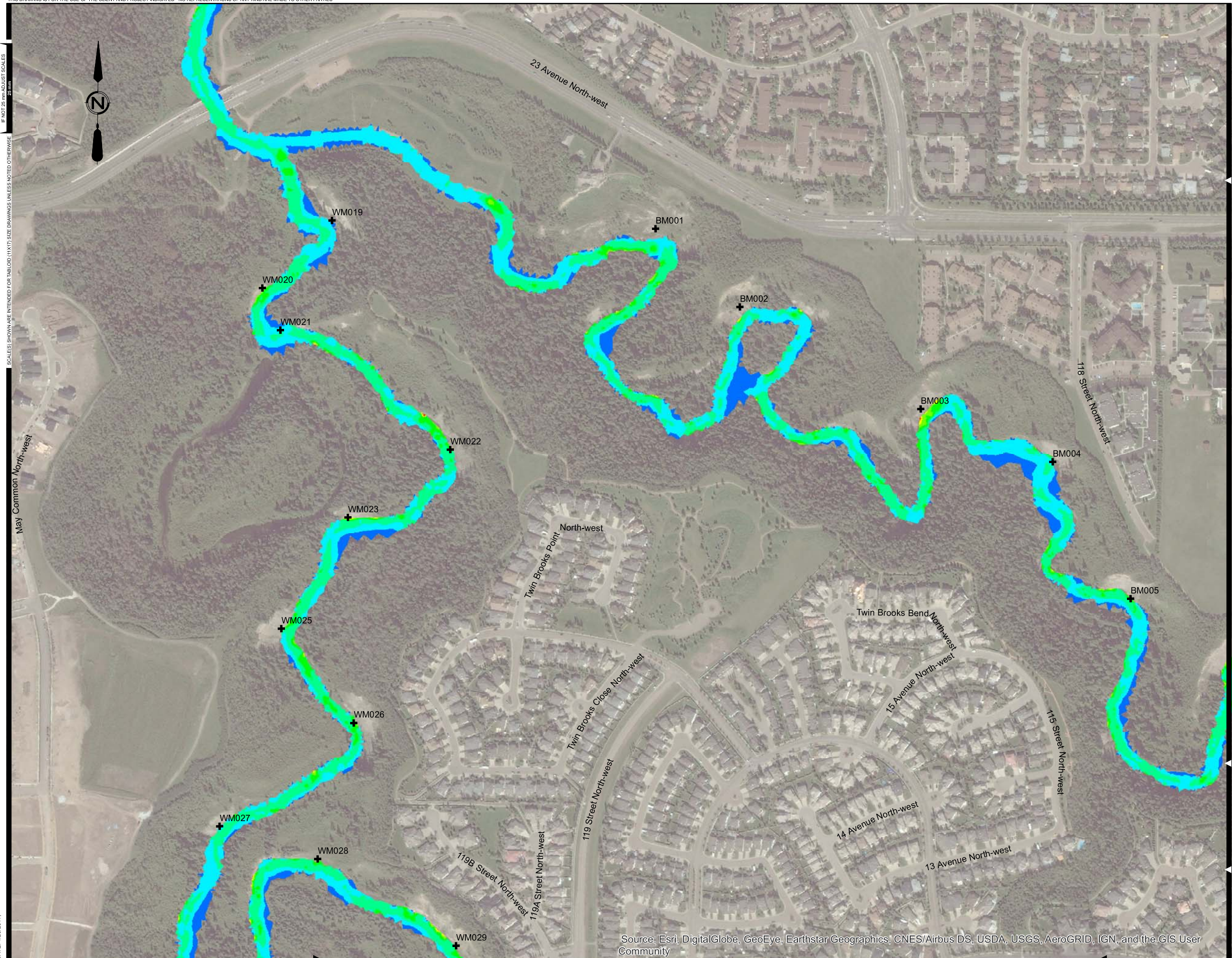
5 YEAR  
VELOCITY

---

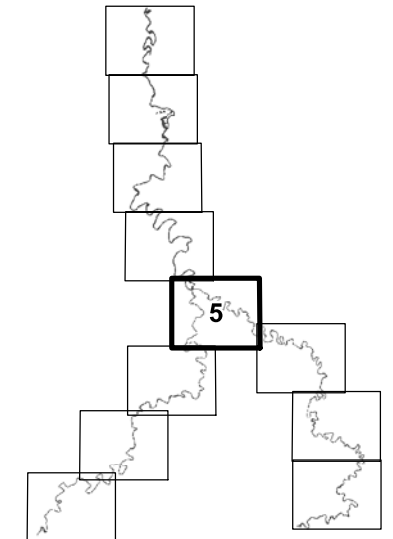
<b>AE PROJECT No.</b>	2016-3785
<b>SCALE</b>	1:5,000
<b>APPROVED DATE</b>	2017 JANUARY
<b>REV DESCRIPTION</b>	ISSUED FOR REPORT



IF NOT 25 mm AS NOTED OTHERWISE  
 SCALES(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE  
 \\\redm-fe01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_5\_Velocity.mxd  
 DATE: 1/23/2017



- Legend:**
- + Erosion Site
  - Velocity (m/s)
  - >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

**FIGURE No. F-17**

BLACKMUD/WHITEMUD CREEK  
WATERSHED MANAGEMENT STUDY

---

5 YEAR  
VELOCITY

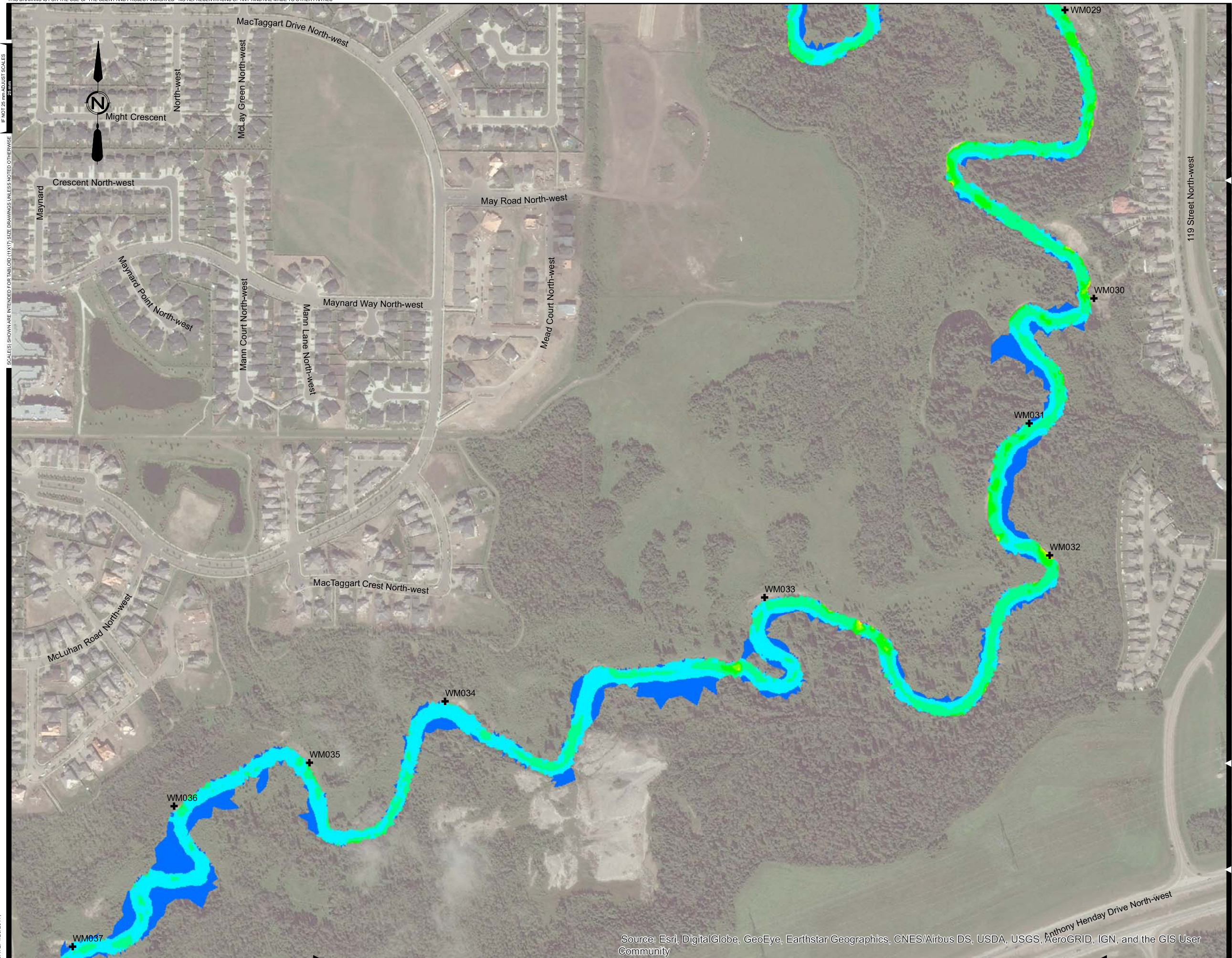
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<b>AE PROJECT No.</b>	2016-3785
<b>SCALE</b>	1:5,000
<b>APPROVED DATE</b>	2017 JANUARY
<b>REV DESCRIPTION</b>	ISSUED FOR REPORT

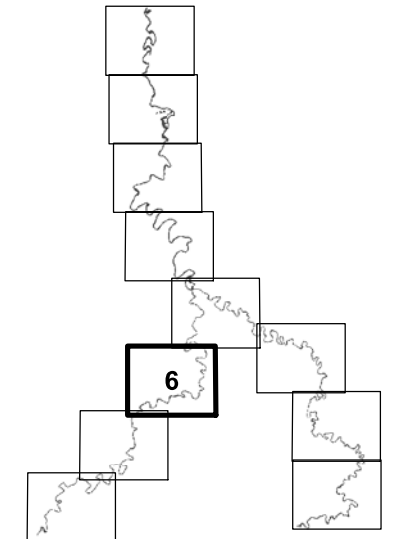
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



IF NOT 28 mm ADJUST SCALES  
SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTICED OTHERWISE



- Legend:**
- + Erosion Site
  - Velocity (m/s)**
  - >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

**FIGURE No. F-18**  
BLACKMUD/WHITEMUD CREEK  
WATERSHED MANAGEMENT STUDY

5 YEAR  
VELOCITY

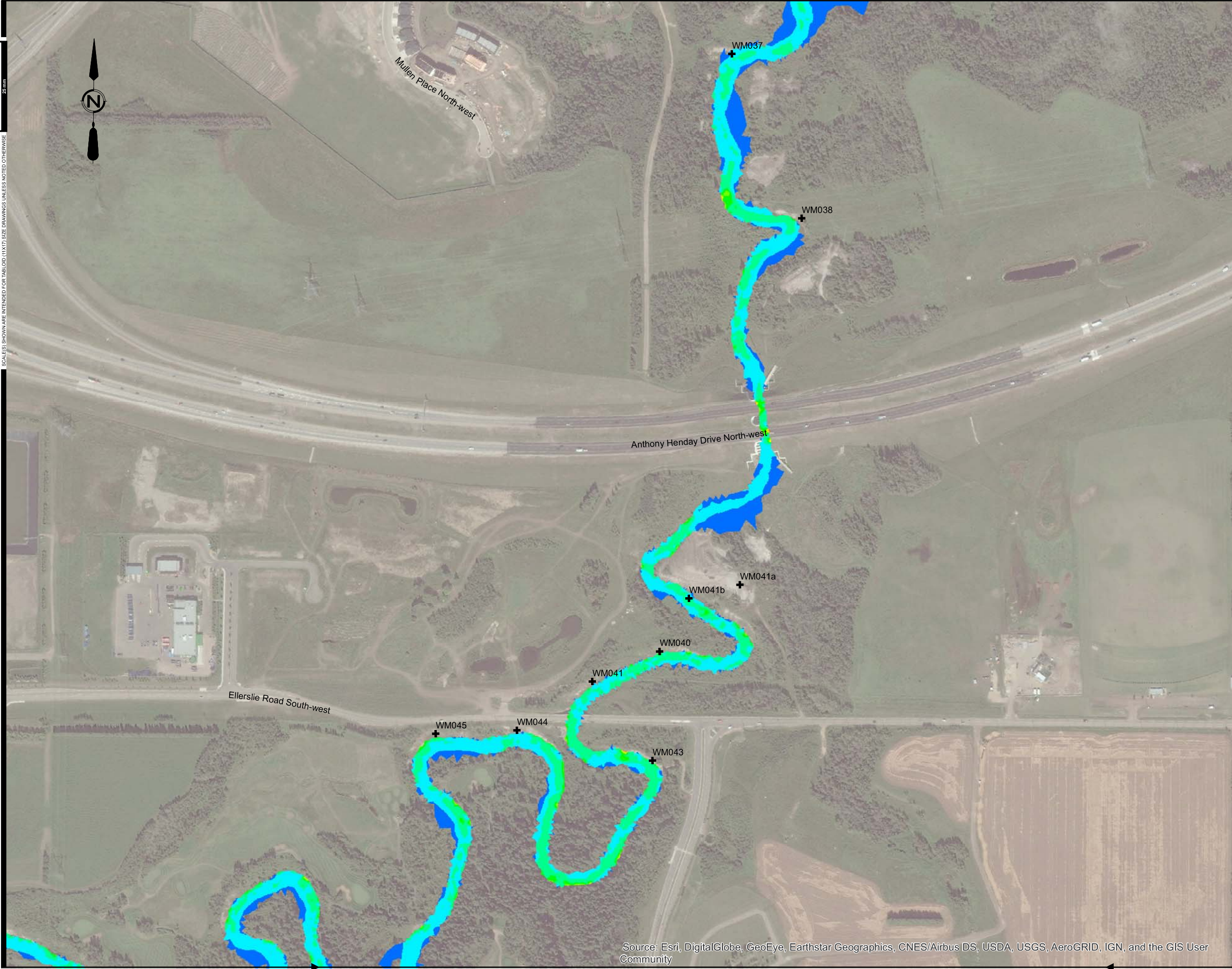
<b>AE PROJECT No.</b>	2016-3785
<b>SCALE</b>	1:5,000
<b>APPROVED DATE</b>	2017 JANUARY
<b>REV DESCRIPTION</b>	ISSUED FOR REPORT

\\redm-fs-01\projects\20163785\002\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_5\_Velocity.mxd  
DATE: 1/23/2017

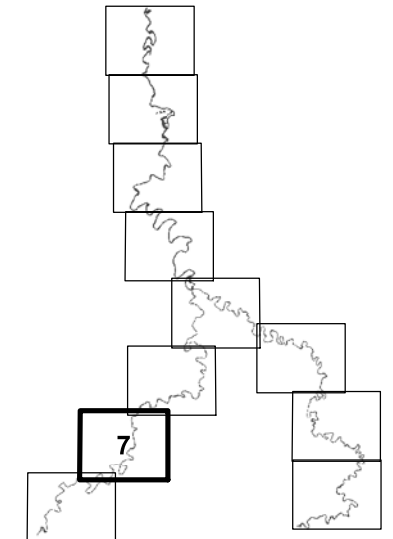
IF NOT 28 mm ADJUST SCALES

SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE

\\redm-fe01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_5\_Velocity.mxd  
DATE: 1/23/2017



- Legend:
- + Erosion Site
  - Velocity (m/s)
  - >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

**FIGURE No. F-19**

BLACKMUD/WHITEMUD CREEK  
WATERSHED MANAGEMENT STUDY

5 YEAR  
VELOCITY

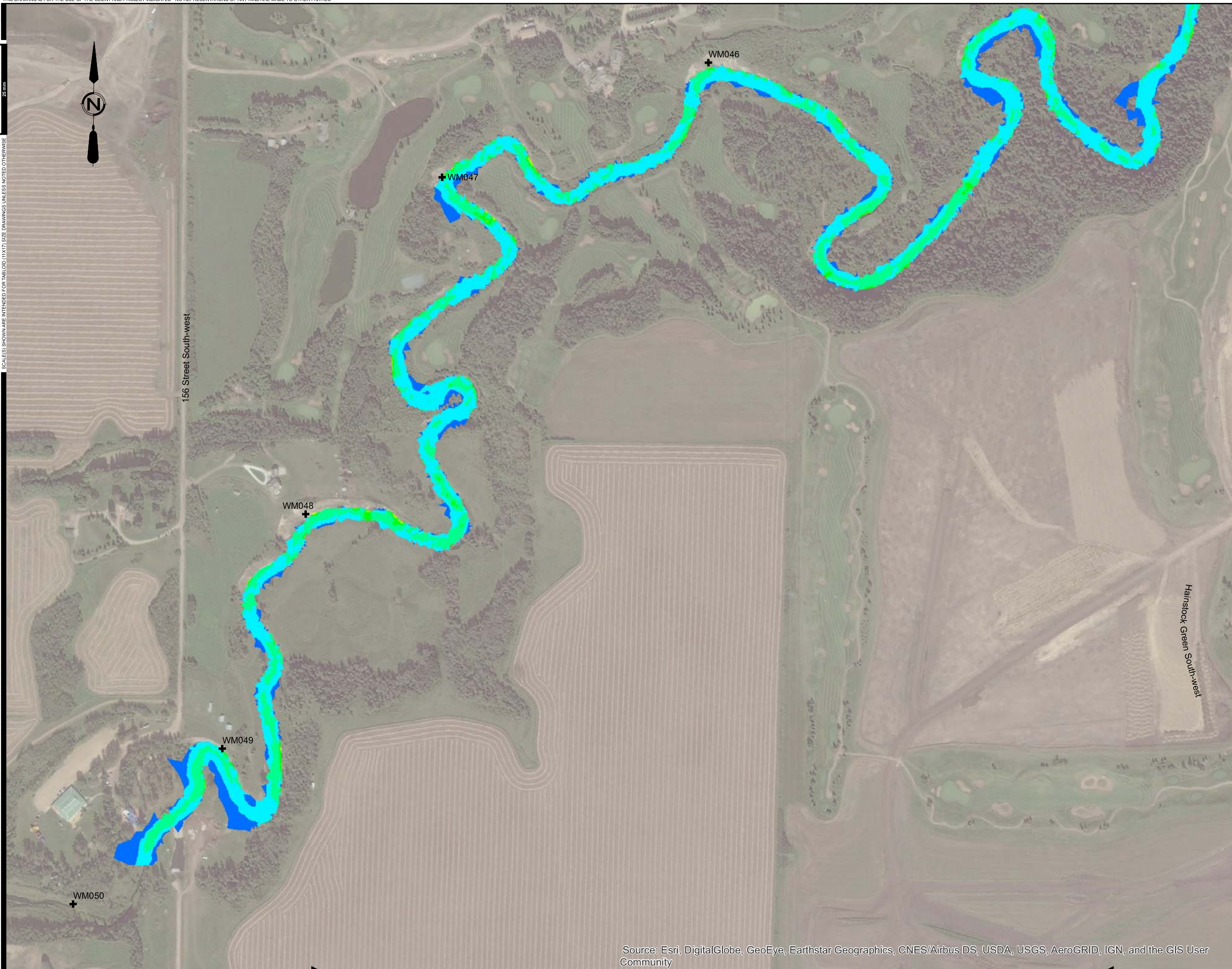
<b>AE PROJECT No.</b>	2016-3785
<b>SCALE</b>	1:5,000
<b>APPROVED</b>	
<b>DATE</b>	2017 JANUARY
<b>REV</b>	
<b>DESCRIPTION</b>	ISSUED FOR REPORT

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

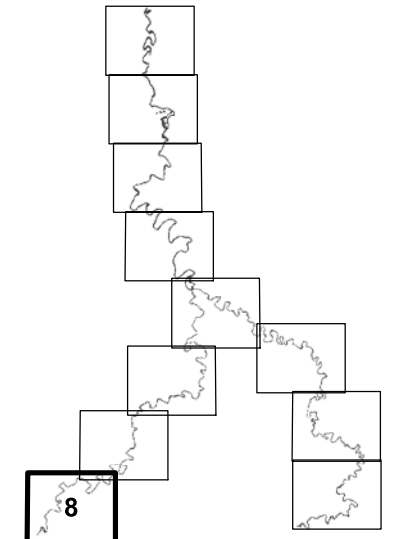
IF NOT 28 mm ADJUST SCALES

SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE

\\redm-fe01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_5\_Velocity.mxd  
DATE: 1/23/2017



- Legend:
- + Erosion Site
  - Velocity (m/s)
  - >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

**FIGURE No. F-20**

BLACKMUD/WHITEMUD CREEK  
WATERSHED MANAGEMENT STUDY

5 YEAR  
VELOCITY

AE PROJECT No.	2016-3785
SCALE	1:5,000
APPROVED	
DATE	2017 JANUARY
REV	
DESCRIPTION	ISSUED FOR REPORT

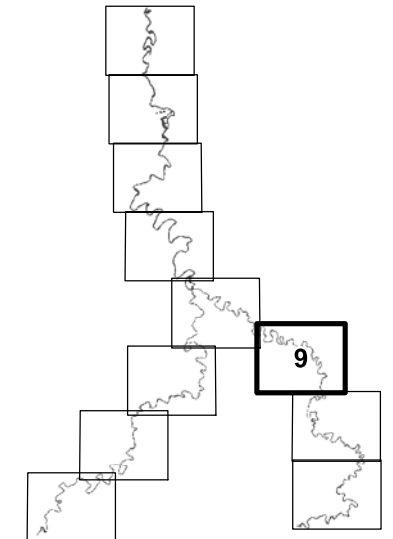
IF NOT 25 mm ADJUST SCALES

SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTICED OTHERWISE

\\redm-fs-01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_5\_Velocity.mxd  
DATE: 1/23/2017



- Legend:
- + Erosion Site
- Velocity (m/s)
- >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

**FIGURE No. F-21**

BLACKMUD/WHITEMUD CREEK  
WATERSHED MANAGEMENT STUDY

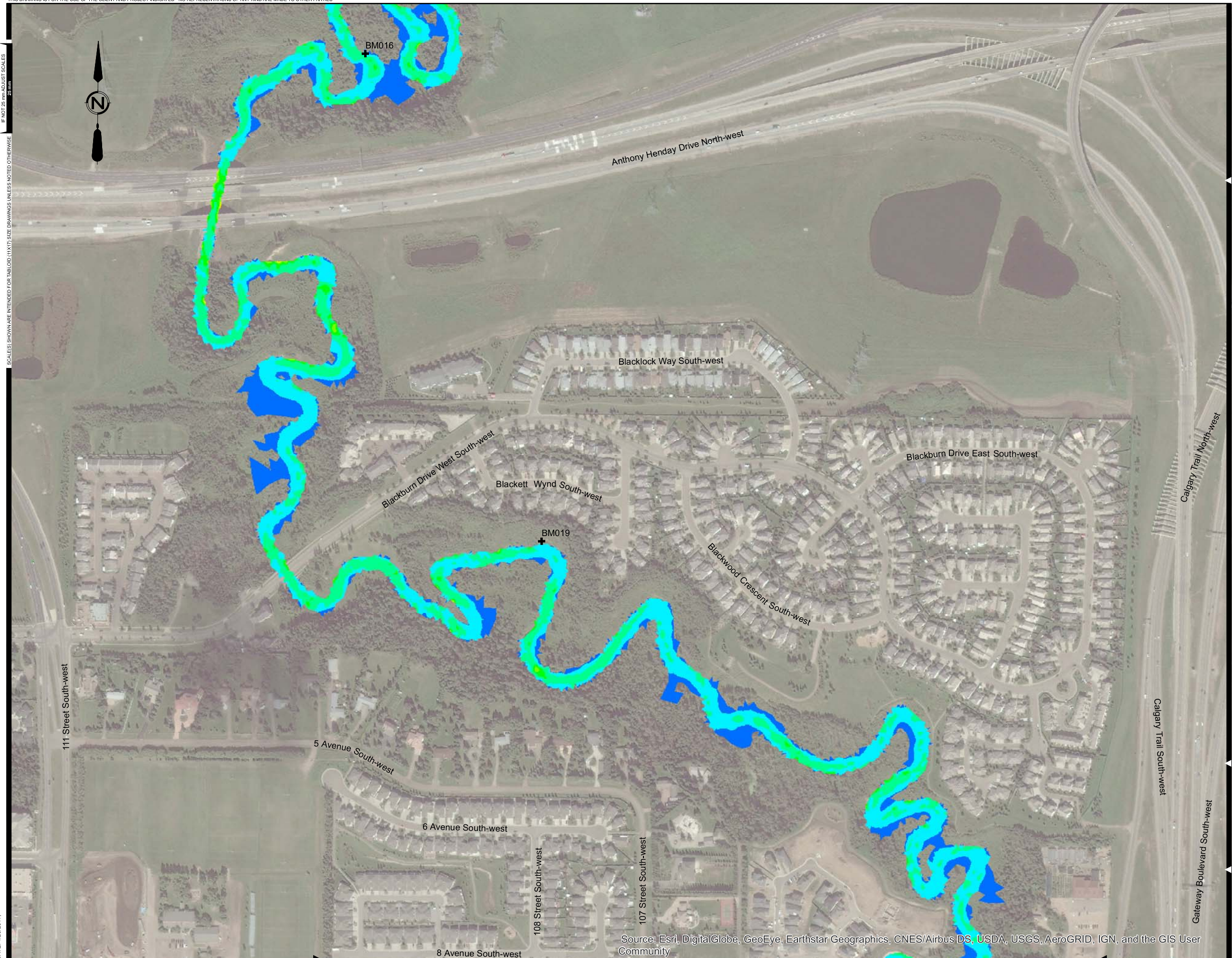
---

5 YEAR  
VELOCITY

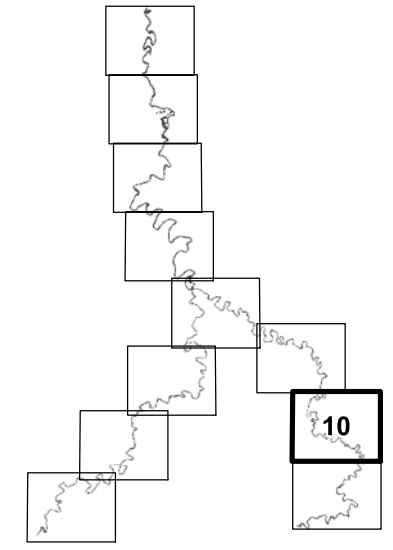
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<b>AE PROJECT No.</b>	2016-3785
<b>SCALE</b>	1:5,000
<b>APPROVED</b>	
<b>DATE</b>	2017 JANUARY
<b>REV</b>	
<b>DESCRIPTION</b>	ISSUED FOR REPORT

IF NOT 25 mm ADJUST SCALES  
 SCALES(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE



- Legend:
- + Erosion Site
  - Velocity (m/s)
  - >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

**FIGURE No. F-22**  
 BLACKMUD/WHITEMUD CREEK  
 WATERSHED MANAGEMENT STUDY  
 5 YEAR  
 VELOCITY

AE PROJECT No.	2016-3785
SCALE	1:5,000
APPROVED	
DATE	2017 JANUARY
REV	
DESCRIPTION	ISSUED FOR REPORT

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

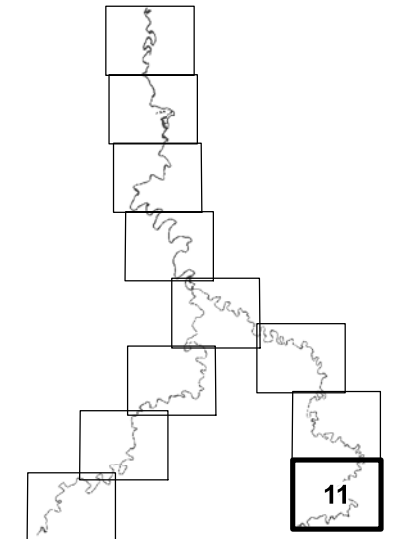
\\redm-fs-01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_5Y\_Velocity.mxd  
 DATE: 1/23/2017



IF NOT 25 mm ADJUST SCALES  
SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE



- Legend:
- + Erosion Site
- Velocity (m/s)
- >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

**FIGURE No. F-23**  
 BLACKMUD/WHITEMUD CREEK  
 WATERSHED MANAGEMENT STUDY  
 5 YEAR  
 VELOCITY

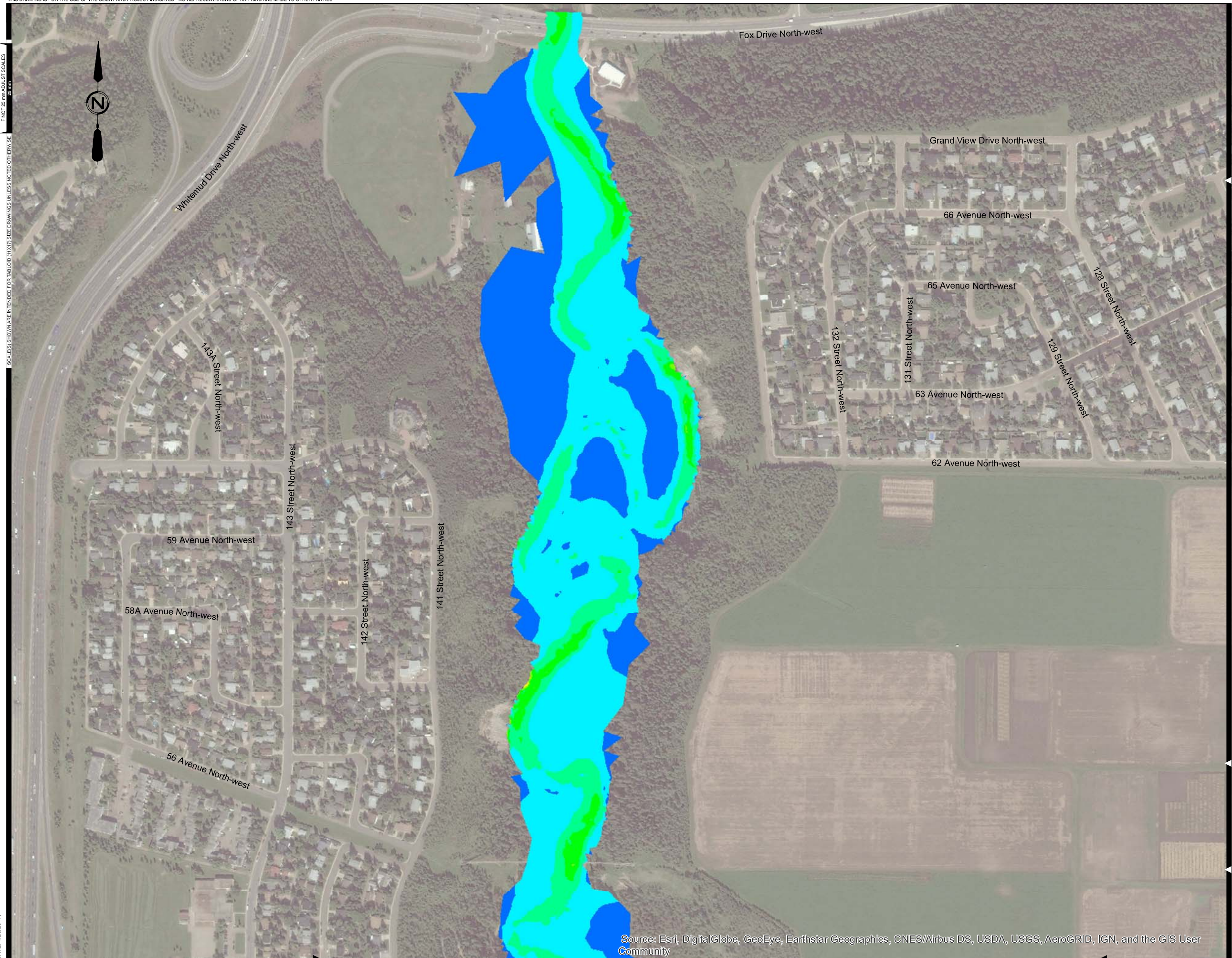
AE PROJECT No.	2016-3785
SCALE	1:5,000
APPROVED	
DATE	2017 JANUARY
REV	
DESCRIPTION	ISSUED FOR REPORT

\\redm-fs-01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_5\_Velocity.mxd  
DATE: 1/23/2017

IF NOT 25 mm ADJUST SCALES

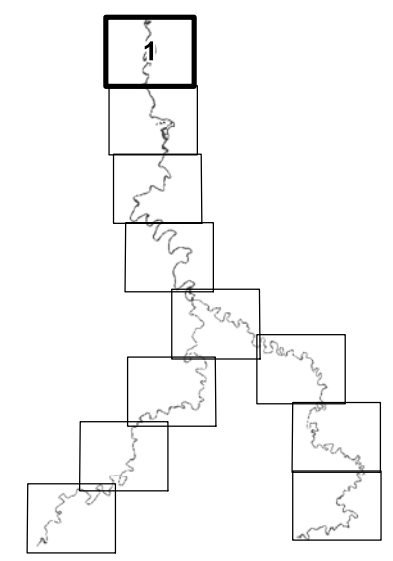
SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE

\\redm-fe01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map\02\_WaterResources\Appendix\_100\_V\_Velocity.mxd  
DATE: 1/23/2017



Legend:

- Velocity (m/s)
- >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

FIGURE No. F-24

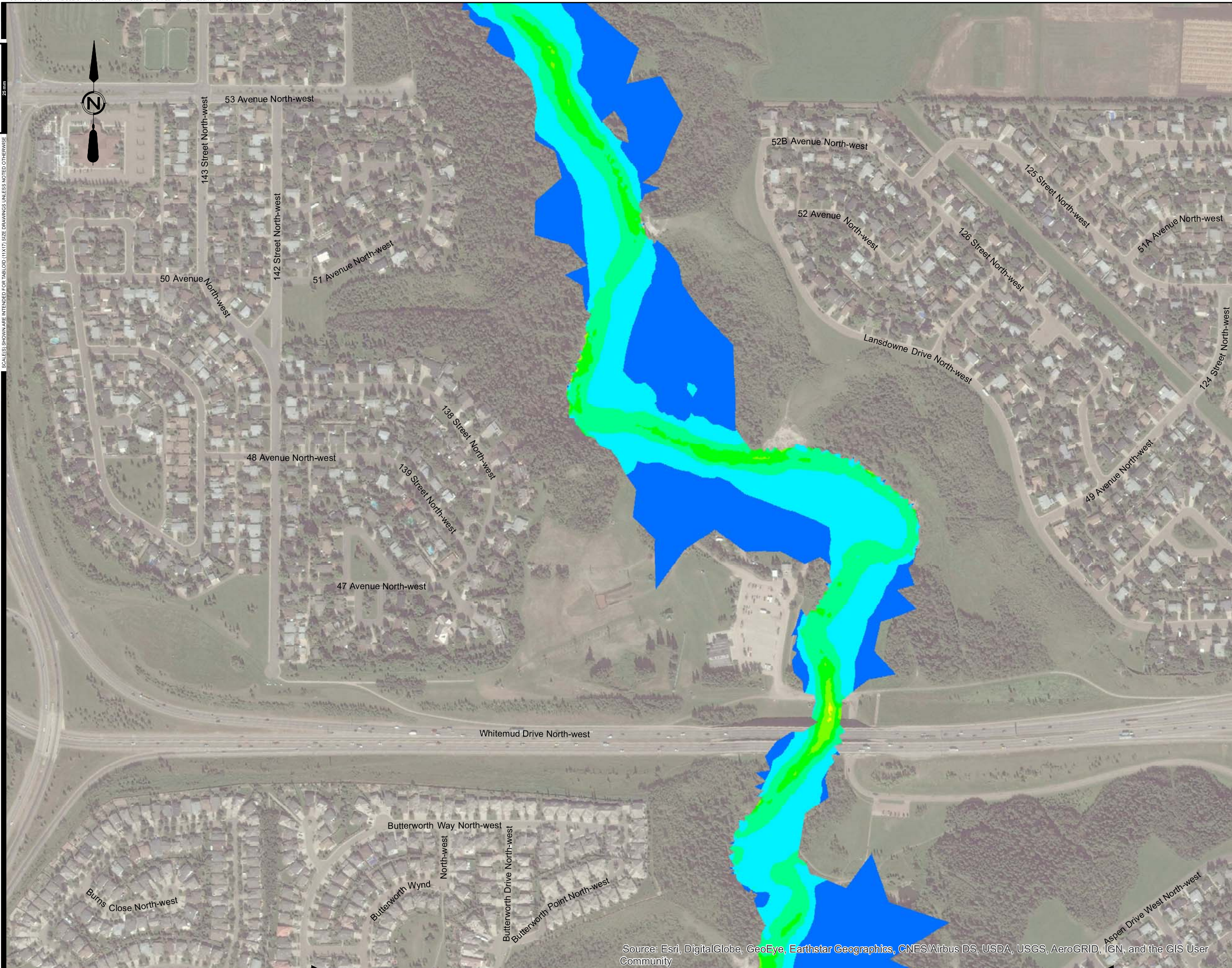
BLACKMUD/WHITEMUD CREEK  
WATERSHED MANAGEMENT STUDY

100 YEAR  
VELOCITY

AE PROJECT No.	2016-3785
SCALE	1:5,000
APPROVED	
DATE	2017 JANUARY
REV	
DESCRIPTION	ISSUED FOR REPORT

IF NOT 25 mm ADJUST SCALES

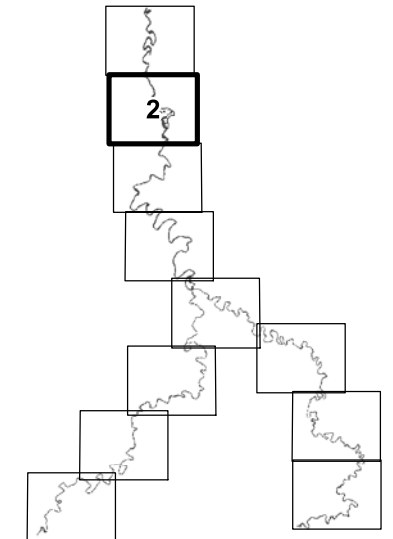
SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE



Legend:

Velocity (m/s)

- >3.5 - 4.0
- >3.0 - 3.5
- >2.5 - 3.0
- >2.0 - 2.5
- >1.5 - 2.0
- >1.0 - 1.5
- >0.5 - 1.0
- >0.0 - 0.5



Note: Maps are preliminary and subject to change.

FIGURE No. F-25  
BLACKMUD/WHITEMUD CREEK  
WATERSHED MANAGEMENT STUDY

100 YEAR  
VELOCITY

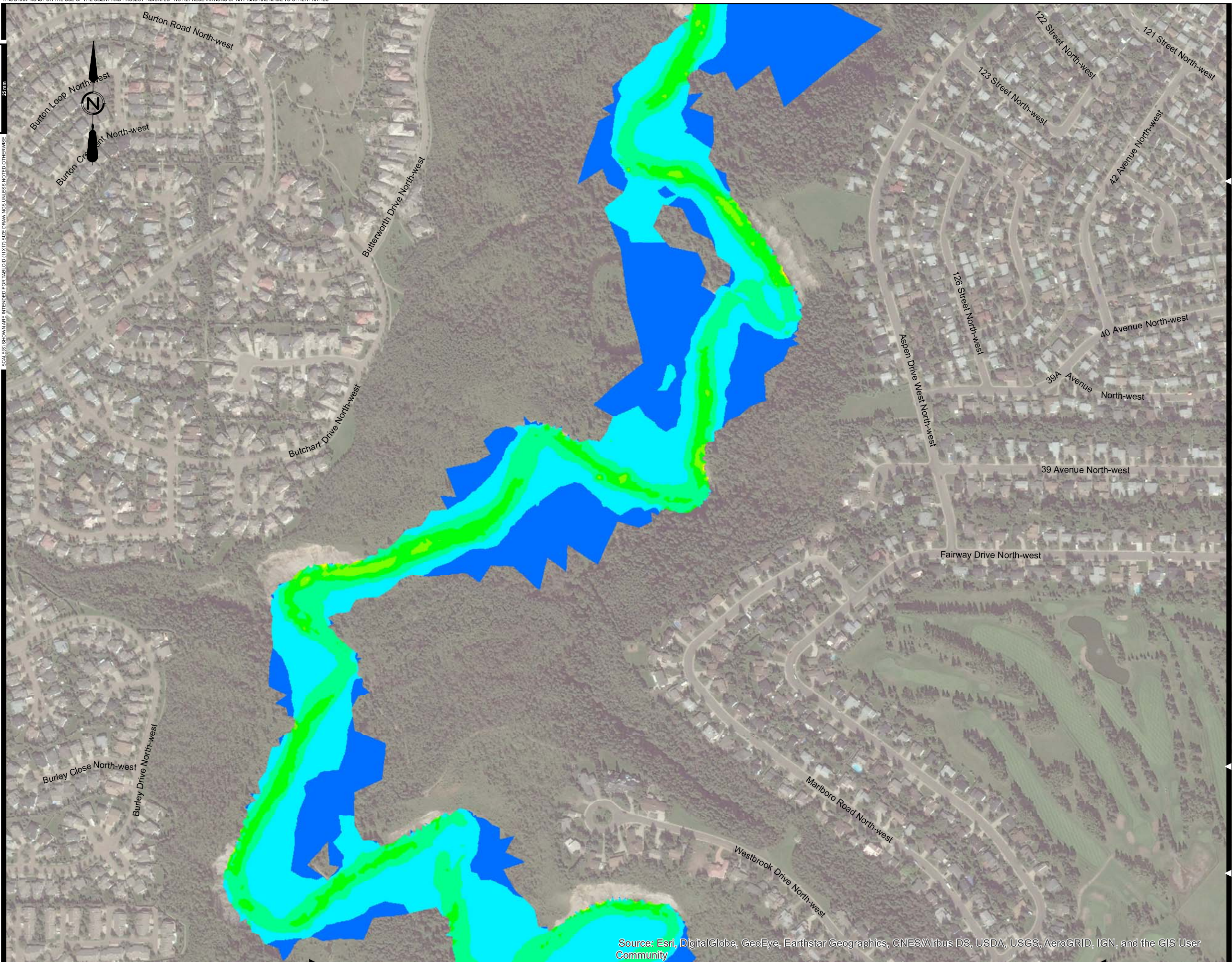
AE PROJECT No.	2016-3785
SCALE	1:5,000
APPROVED	
DATE	2017 JANUARY
REV	
DESCRIPTION	ISSUED FOR REPORT

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

\\redm-fs-01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_100\_V\_Velocity.mxd  
DATE: 1/23/2017

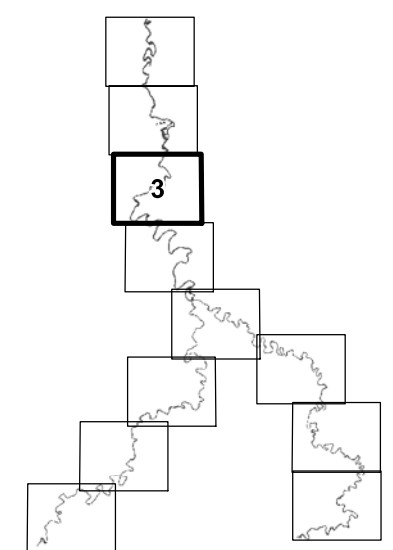
IF NOT 28 mm ASJUST SCALES

SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTICED OTHERWISE



Legend:

- Velocity (m/s)
- >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

FIGURE No. F-26  
BLACKMUD/WHITEMUD CREEK  
WATERSHED MANAGEMENT STUDY

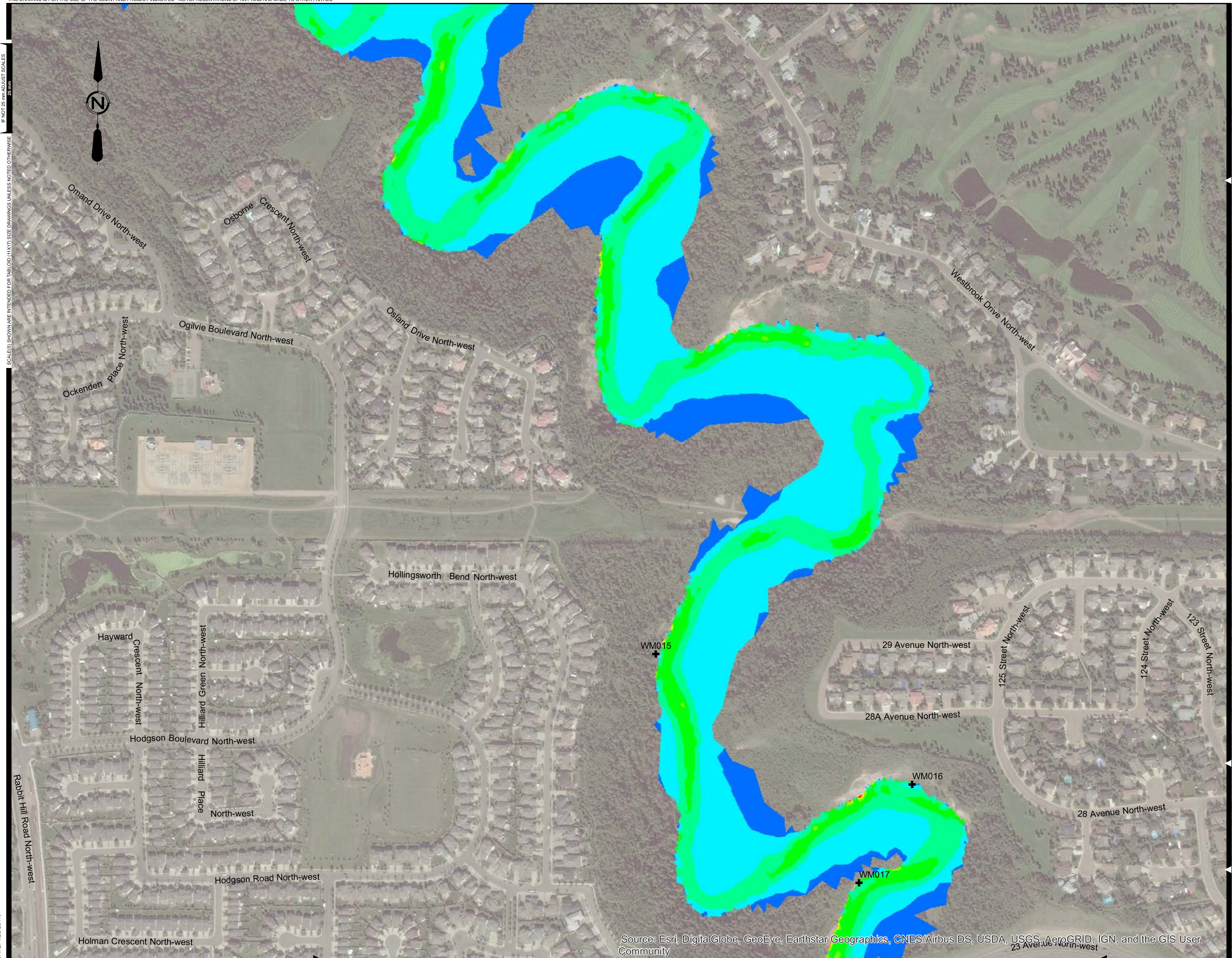
100 YEAR  
VELOCITY

AE PROJECT No.	2016-3785
SCALE	1:5,000
APPROVED	
DATE	2017 JANUARY
REV	
DESCRIPTION	ISSUED FOR REPORT

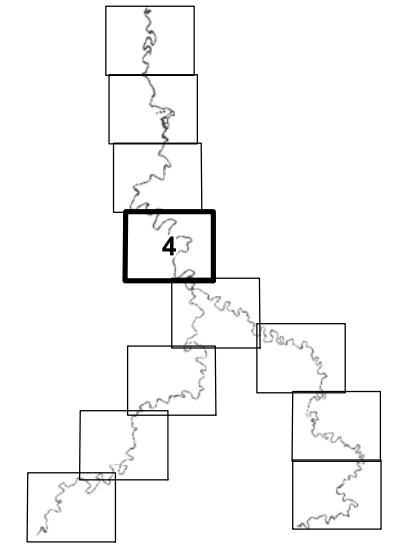
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

\\sdrh-fs-01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map\02\_WaterResources\Appendix\_100\_V\_Velocity.mxd  
DATE: 1/23/2017

IF NOT 25 mm ADJUST SCALES  
 SCALES SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE  
 \\redm-fs-01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_100\_V\_Velocity.mxd  
 DATE: 1/23/2017



- Legend:**
- + Erosion Site
  - Velocity (m/s)
  - >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

**FIGURE No. F-27**

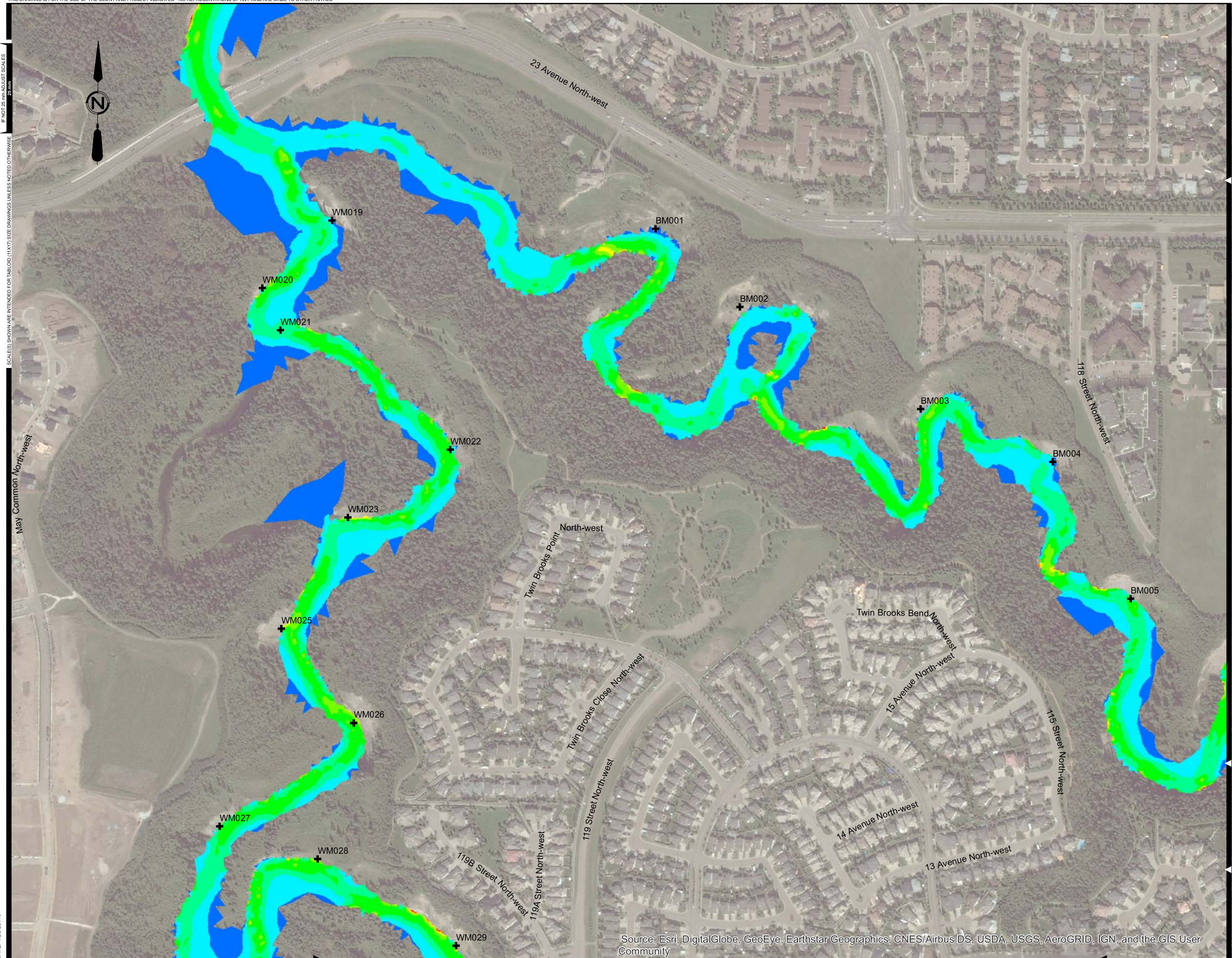
BLACKMUD/WHITEMUD CREEK  
WATERSHED MANAGEMENT STUDY

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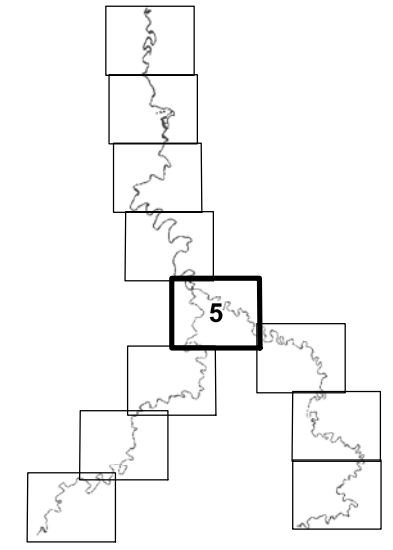
100 YEAR  
VELOCITY

<b>AE PROJECT No.</b>	2016-3785
<b>SCALE</b>	1:5,000
<b>APPROVED DATE</b>	2017 JANUARY
<b>REV DESCRIPTION</b>	ISSUED FOR REPORT

IF NOT 25 mm AS NOTED OTHERWISE  
 SCALES(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE  
 \\\redm-fe01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_100\_V\_Velocity.mxd  
 DATE: 1/23/2017



- Legend:**
- + Erosion Site
  - Velocity (m/s)
  - >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

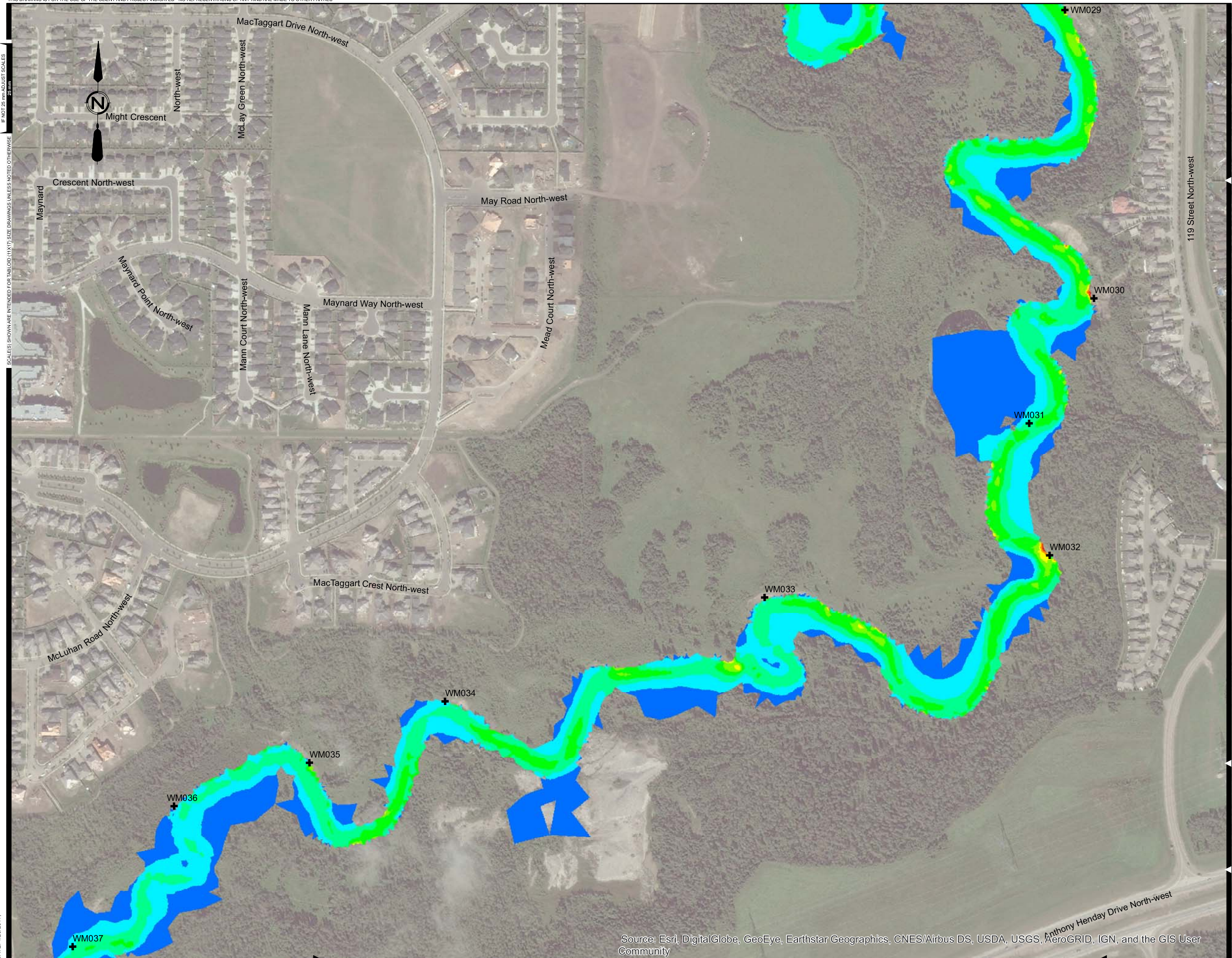
**FIGURE No. F-28**  
 BLACKMUD/WHITEMUD CREEK  
 WATERSHED MANAGEMENT STUDY

100 YEAR  
 VELOCITY

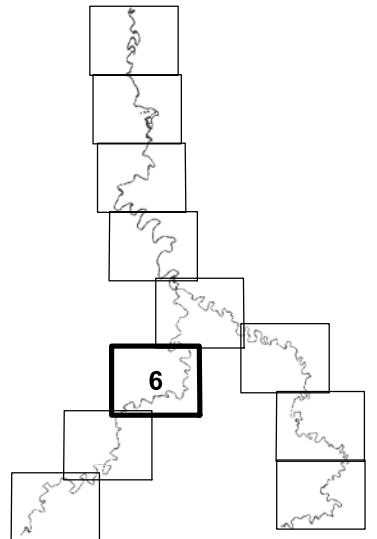
AE PROJECT No.	2016-3785
SCALE	1:5,000
APPROVED	
DATE	2017 JANUARY
REV	
DESCRIPTION	ISSUED FOR REPORT

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

IF NOT 25 mm ADJUST SCALES  
 SCALES(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTICED OTHERWISE  
 \\\redm-feo\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_100\_V\_Velocity.mxd  
 DATE: 1/23/2017



- Legend:**
- + Erosion Site
  - Velocity (m/s)**
  - >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

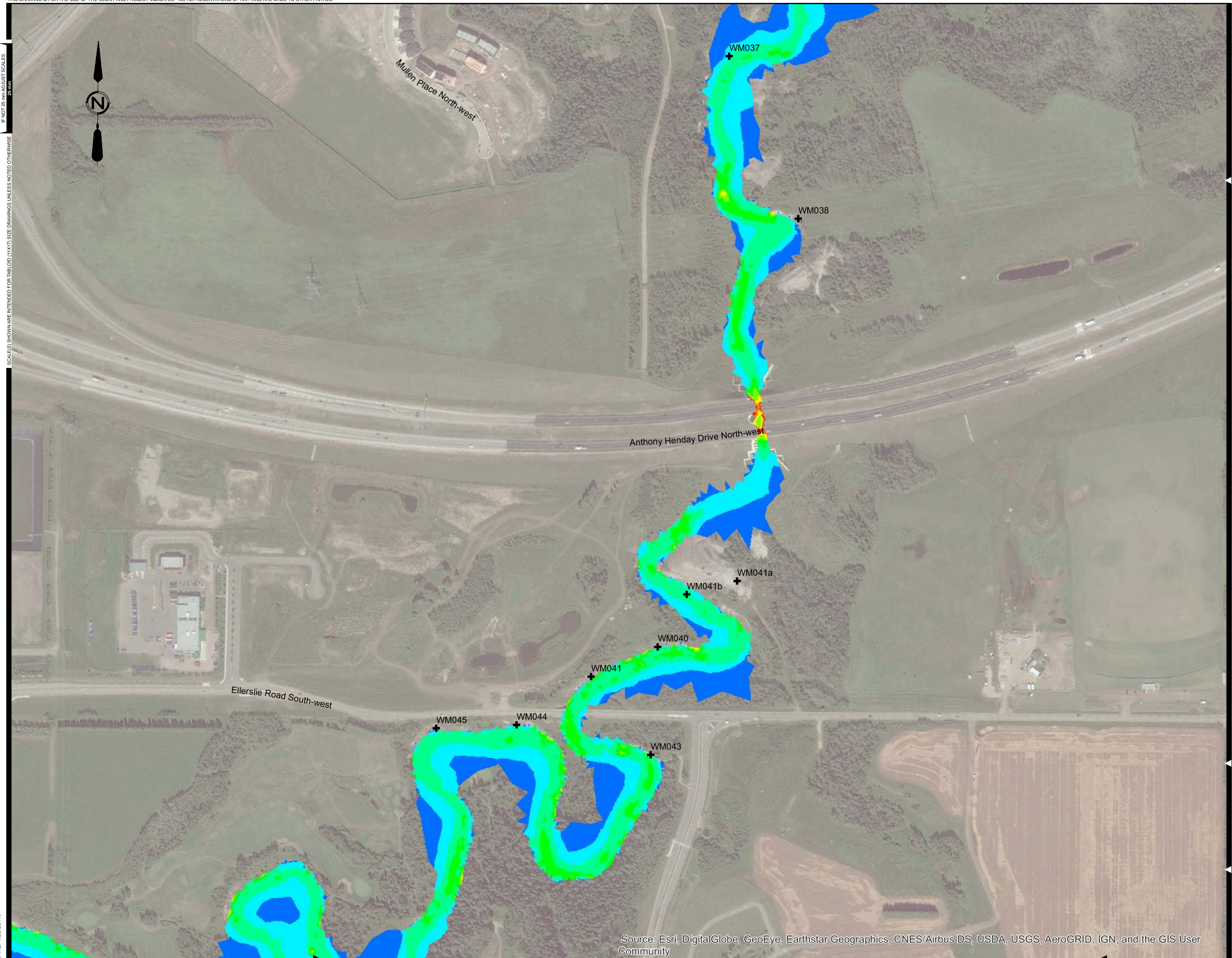
**FIGURE No. F-29**  
 BLACKMUD/WHITEMUD CREEK  
 WATERSHED MANAGEMENT STUDY

100 YEAR  
 VELOCITY

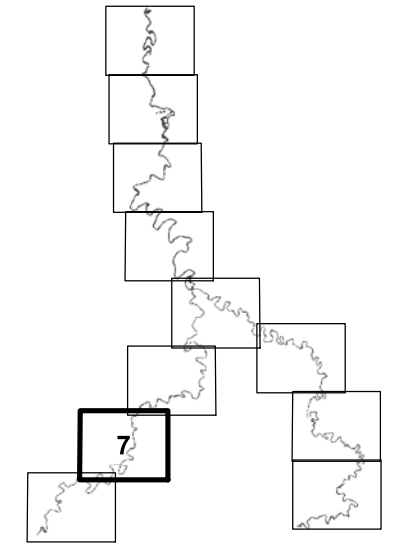
<b>AE PROJECT No.</b>	2016-3785
<b>SCALE</b>	1:5,000
<b>APPROVED DATE</b>	2017 JANUARY
<b>REV DESCRIPTION</b>	ISSUED FOR REPORT

IF NOT 28 mm ADJUST SCALES

SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE



- Legend:
- + Erosion Site
  - Velocity (m/s)
  - >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

**FIGURE No. F-30**  
 BLACKMUD/WHITEMUD CREEK  
 WATERSHED MANAGEMENT STUDY  
 100 YEAR  
 VELOCITY

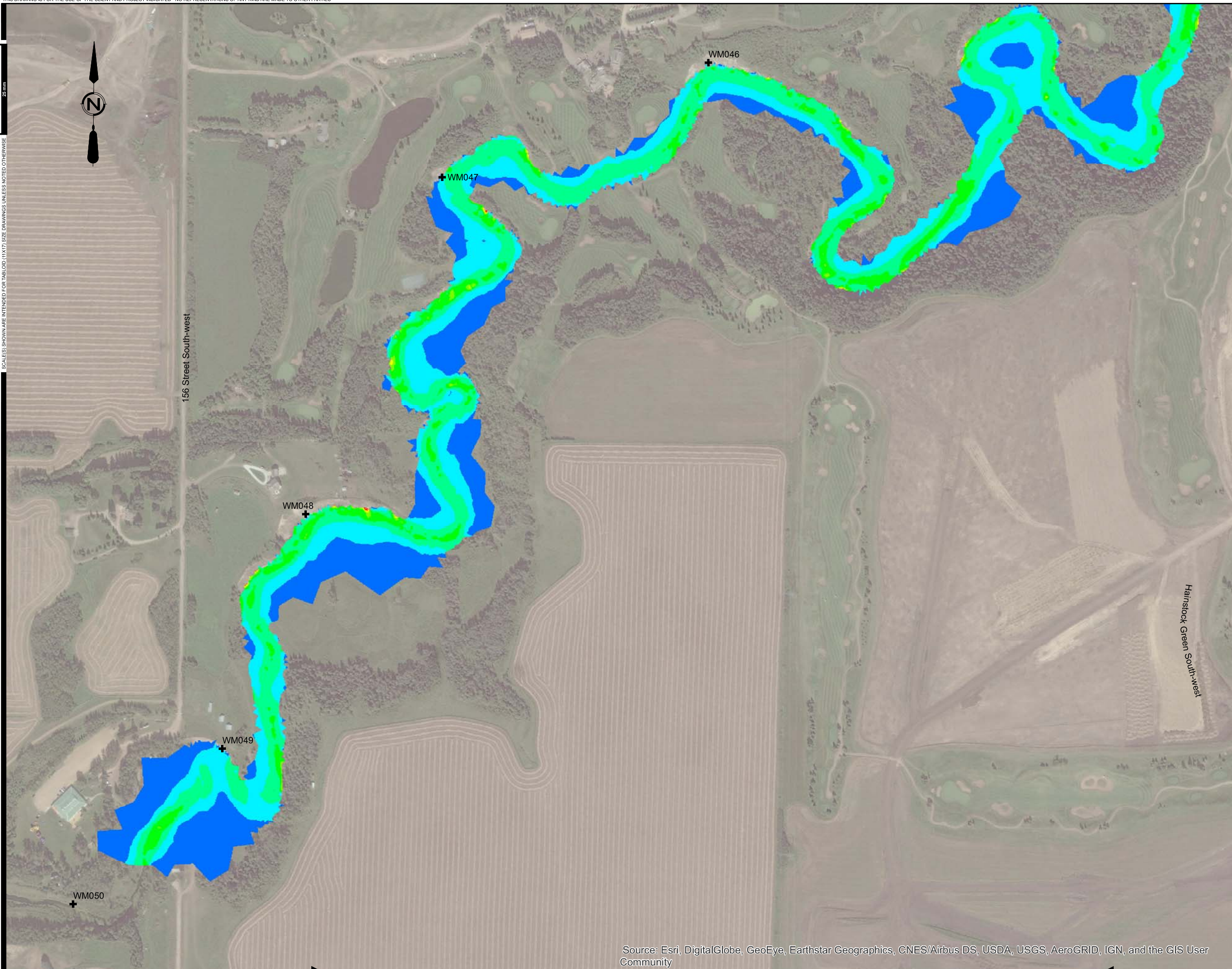
AE PROJECT No.	2016-3785
SCALE	1:5,000
APPROVED	
DATE	2017 JANUARY
REV	
DESCRIPTION	ISSUED FOR REPORT



IF NOT 28 mm ADJUST SCALES

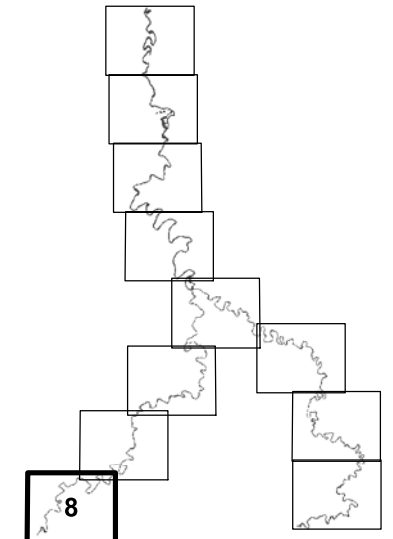
SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE

\\redm-fs-01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_100\_V\_Velocity.mxd  
DATE: 1/23/2017



Legend:

- + Erosion Site
- Velocity (m/s)
- >3.5 - 4.0
- >3.0 - 3.5
- >2.5 - 3.0
- >2.0 - 2.5
- >1.5 - 2.0
- >1.0 - 1.5
- >0.5 - 1.0
- >0.0 - 0.5



Note: Maps are preliminary and subject to change.

FIGURE No. F-31

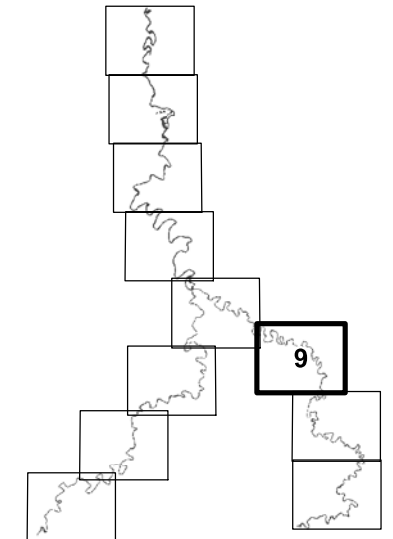
BLACKMUD/WHITEMUD CREEK  
WATERSHED MANAGEMENT STUDY

100 YEAR  
VELOCITY

AE PROJECT No.	2016-3785
SCALE	1:5,000
APPROVED	
DATE	2017 JANUARY
REV	
DESCRIPTION	ISSUED FOR REPORT



- Legend:
- + Erosion Site
  - Velocity (m/s)
    - >3.5 - 4.0
    - >3.0 - 3.5
    - >2.5 - 3.0
    - >2.0 - 2.5
    - >1.5 - 2.0
    - >1.0 - 1.5
    - >0.5 - 1.0
    - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

**FIGURE No. F-32**

BLACKMUD/WHITEMUD CREEK  
WATERSHED MANAGEMENT STUDY

100 YEAR  
VELOCITY

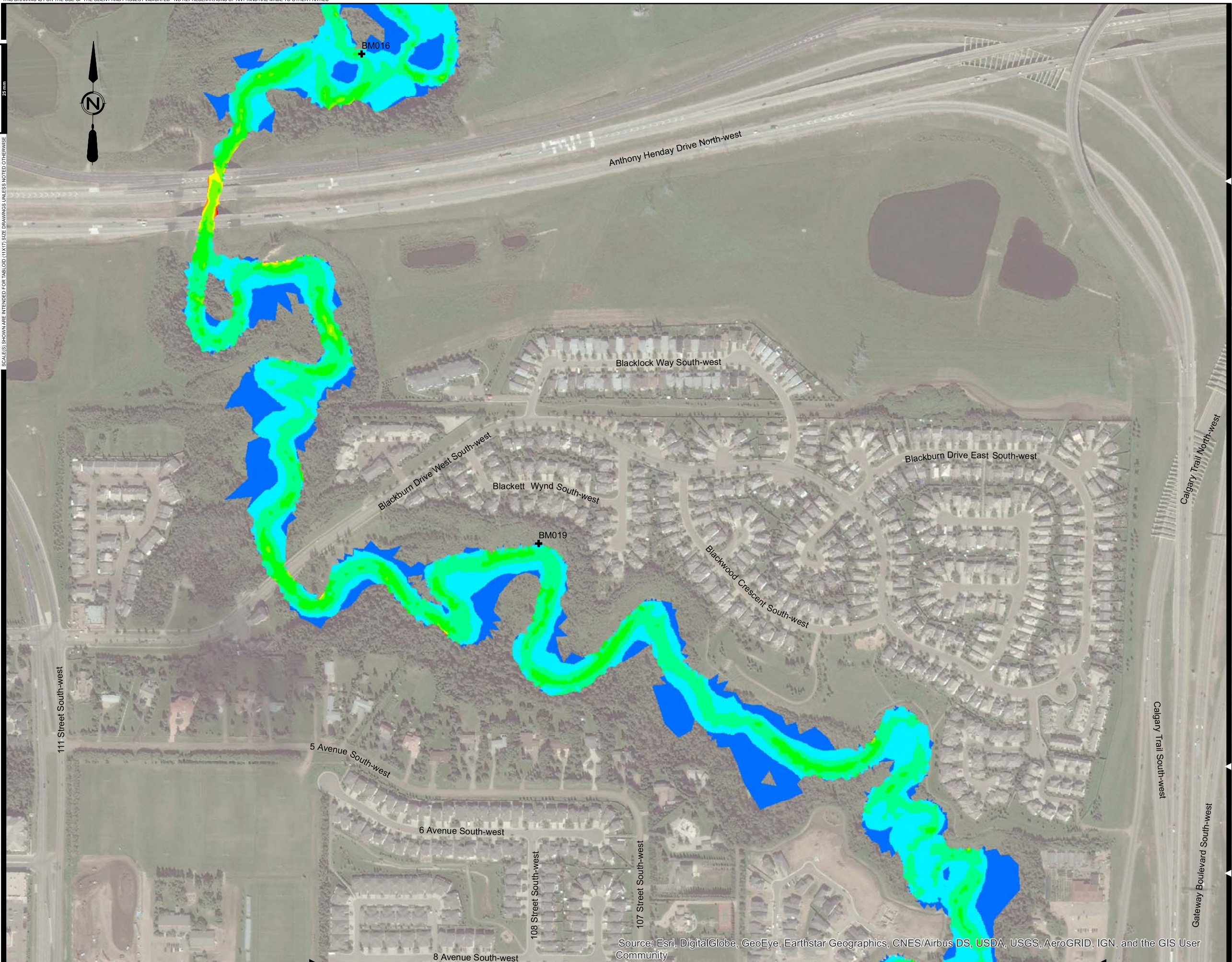
AE PROJECT No.	2016-3785
SCALE	1:5,000
APPROVED	
DATE	2017 JANUARY
REV	
DESCRIPTION	ISSUED FOR REPORT

I:\edrm\ed01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_100\_V\_Velocity.mxd  
 DATE: 1/23/2017

IF NOT 28 mm ADJUST SCALES  
 SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTICED OTHERWISE

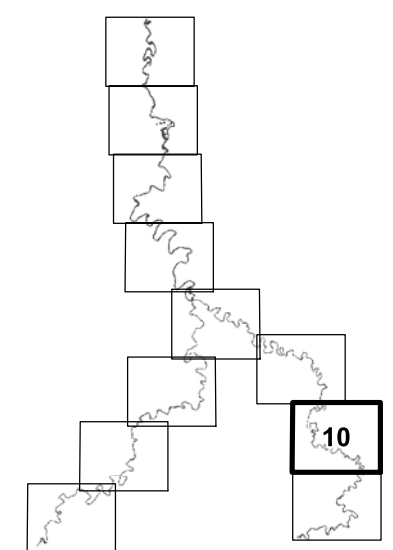
IF NOT 25 mm ADJUST SCALES

SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTICED OTHERWISE



Legend:

- + Erosion Site
- Velocity (m/s)
- >3.5 - 4.0
- >3.0 - 3.5
- >2.5 - 3.0
- >2.0 - 2.5
- >1.5 - 2.0
- >1.0 - 1.5
- >0.5 - 1.0
- >0.0 - 0.5



Note: Maps are preliminary and subject to change.

FIGURE No. F-33

BLACKMUD/WHITEMUD CREEK WATERSHED MANAGEMENT STUDY

100 YEAR VELOCITY

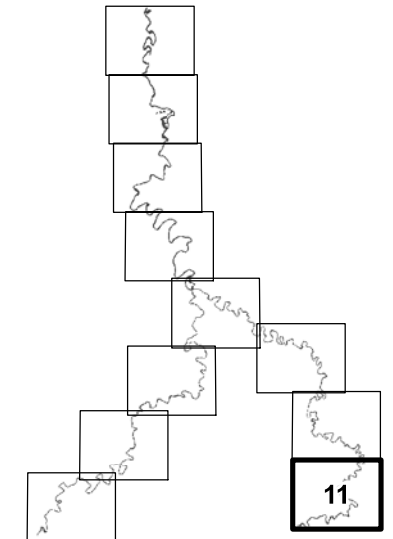
AE PROJECT No.	2016-3785
SCALE	1:5,000
APPROVED	
DATE	2017 JANUARY
REV	
DESCRIPTION	ISSUED FOR REPORT

IF NOT 25 mm AS SHOWN SCALES

SCALE(S) SHOWN ARE INTENDED FOR TABLOID (11X17) SIZE DRAWINGS UNLESS NOTICED OTHERWISE



- Legend:
- + Erosion Site
  - Velocity (m/s)
  - >3.5 - 4.0
  - >3.0 - 3.5
  - >2.5 - 3.0
  - >2.0 - 2.5
  - >1.5 - 2.0
  - >1.0 - 1.5
  - >0.5 - 1.0
  - >0.0 - 0.5



Note: Maps are preliminary and subject to change.

FIGURE No. F-34  
BLACKMUD/WHITEMUD CREEK  
WATERSHED MANAGEMENT STUDY

100 YEAR  
VELOCITY

AE PROJECT No.	2016-3785
SCALE	1:5,000
APPROVED	
DATE	2017 JANUARY
REV	
DESCRIPTION	ISSUED FOR REPORT

\\redm-fs-01\projects\20163785\02\_Blackmud\_Whitemud\Working\_Dwg\010\_GIS\src\Map02\_WaterResources\Appendix\_100\_V\_Velocity.mxd  
DATE: 1/23/2017