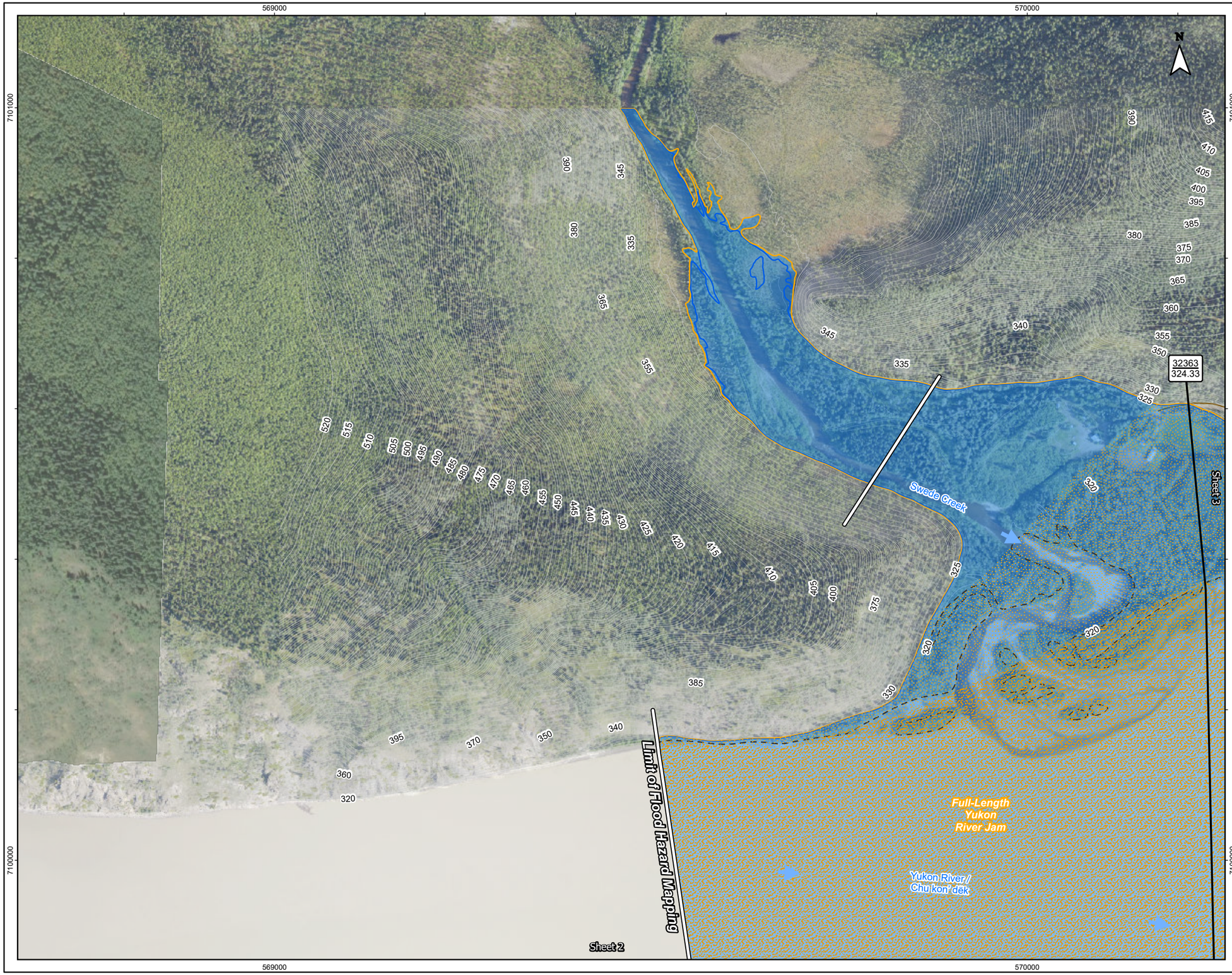


Figure No.

YR-0.5CC-01 **Sheet 01 of 19**

Title: **Dawson City and Klondike Valley Flood Mapping Study**
Composite Flood Hazard Map - Yukon River
0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change

Client/Project:

Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location:
Dawson, Yukon

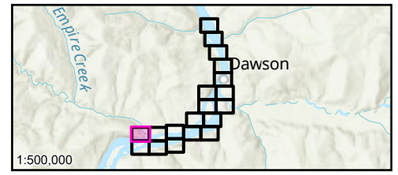
Prepared by MANDERSON on 2026-03-06
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- Ground Elevations of Interest
- Highway Kilometer Post
- 57 / 517.2 Cross-Section Number / WSE (m) Along Cross-Section
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Limit of Floodplain Mapping
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Composite Open Water and Ice Jam Inundation Extent
- Inundation Extent From Subsurface Seepage
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026

0 50 100 150 200 250 m

(At original document size of 11x 17) 1:5,000





Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
3. Flood hazard extents shown on these maps are based on LiDAR collected in July, 2019 and topographical and bathymetric data that was collected in June and September 2024.
4. 50% AEP inundation lines are based on the 50% AEP flow estimate simulation in the hydraulic model which has been calibrated for higher AEP flood events and therefore should be considered approximate.
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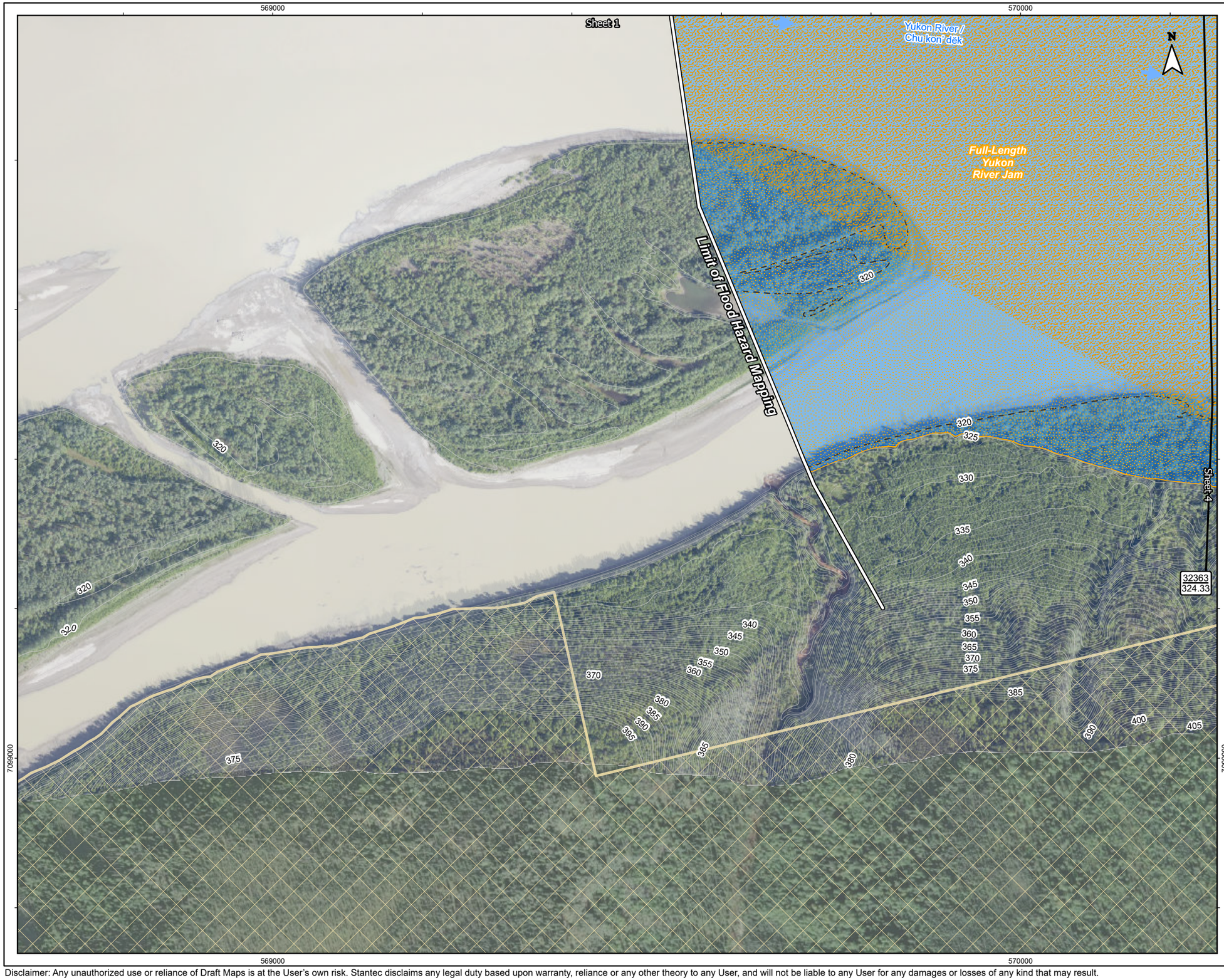


Figure No.

YR-0.5CC-02 **Sheet 02 of 19**

Title: **Dawson City and Klondike Valley Flood Mapping Study**
Composite Flood Hazard Map - Yukon River
0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change

Client/Project:

Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location:
Dawson, Yukon

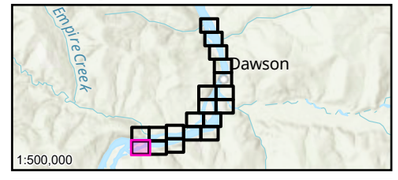
Prepared by MANDERSON on 2026-03-06
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- Ground Elevations of Interest
- Highway Kilometer Post
- Cross-Section Number (57) / WSE (m) Along Cross-Section (517.2)
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Limit of Floodplain Mapping
- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Composite Open Water and Ice Jam Inundation Extent
- Inundation Extent From Subsurface Seepage
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026

0 50 100 150 200 250 m

(At original document size of 11x 17) 1:5,000





Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM.982_CANVEC
3. Flood hazard extents shown on these maps are based on LiDAR collected in July, 2019 and topographical and bathymetric data that was collected in June and September 2024.
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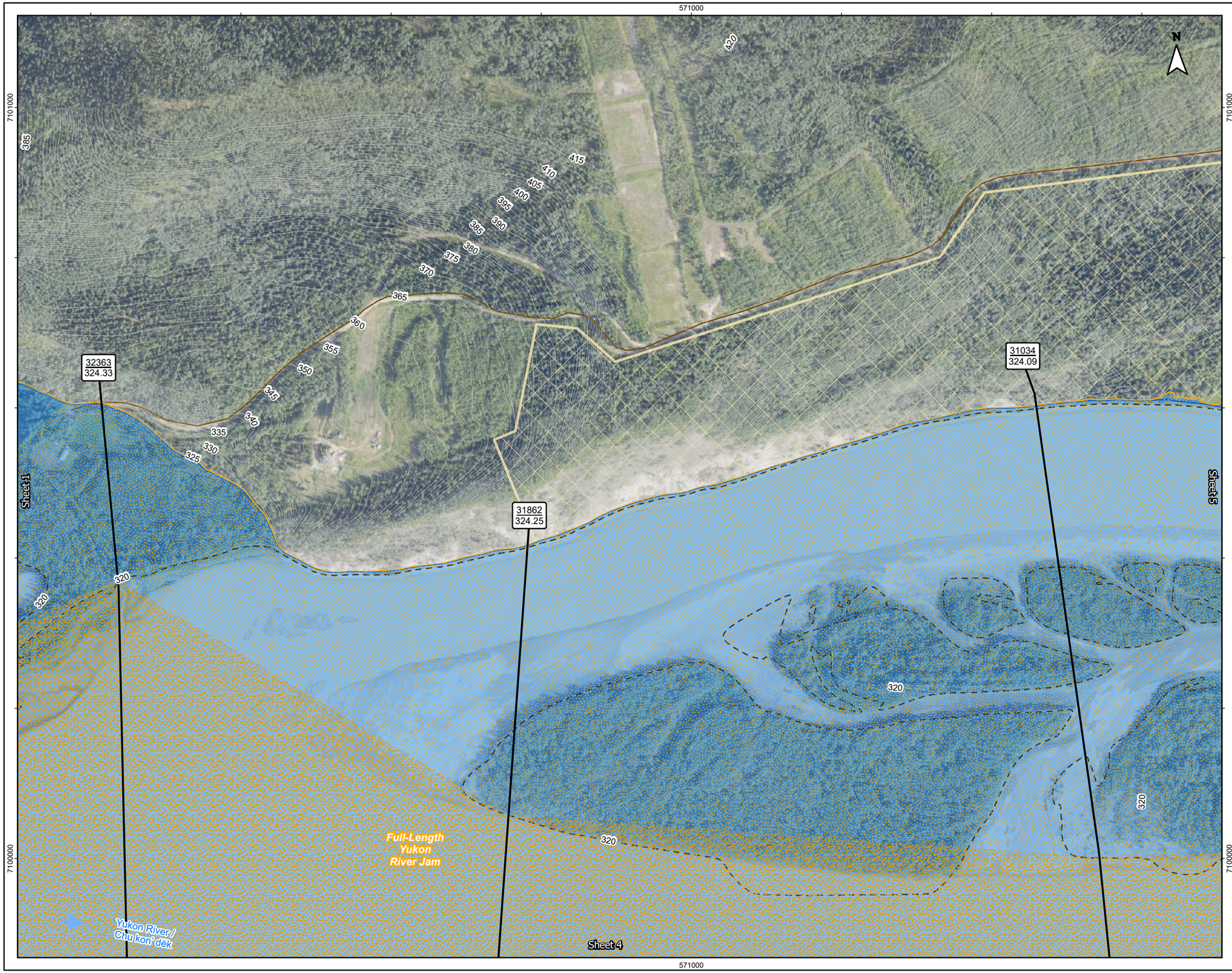


Figure No.

YR-0.5CC-03 **Sheet 03 of 19**

Title: **Dawson City and Klondike Valley Flood Mapping Study**
Composite Flood Hazard Map - Yukon River
0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change

Client/Project:

Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location:
Dawson, Yukon

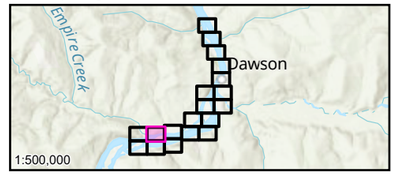
Prepared by MANDERSON on 2026-03-06
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- Ground Elevations of Interest
- Highway Kilometer Post
- Cross-Section Number / WSE (m) Along Cross-Section (57 / 517.2)
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Composite Open Water and Ice Jam Inundation Extent
- Inundation Extent From Subsurface Seepage
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026

0 50 100 150 200 250 m

(At original document size of 11x 17) 1:5,000





Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
3. Flood hazard extents shown on these maps are based on LiDAR collected in July, 2019 and topographical and bathymetric data that was collected in June and September 2024.
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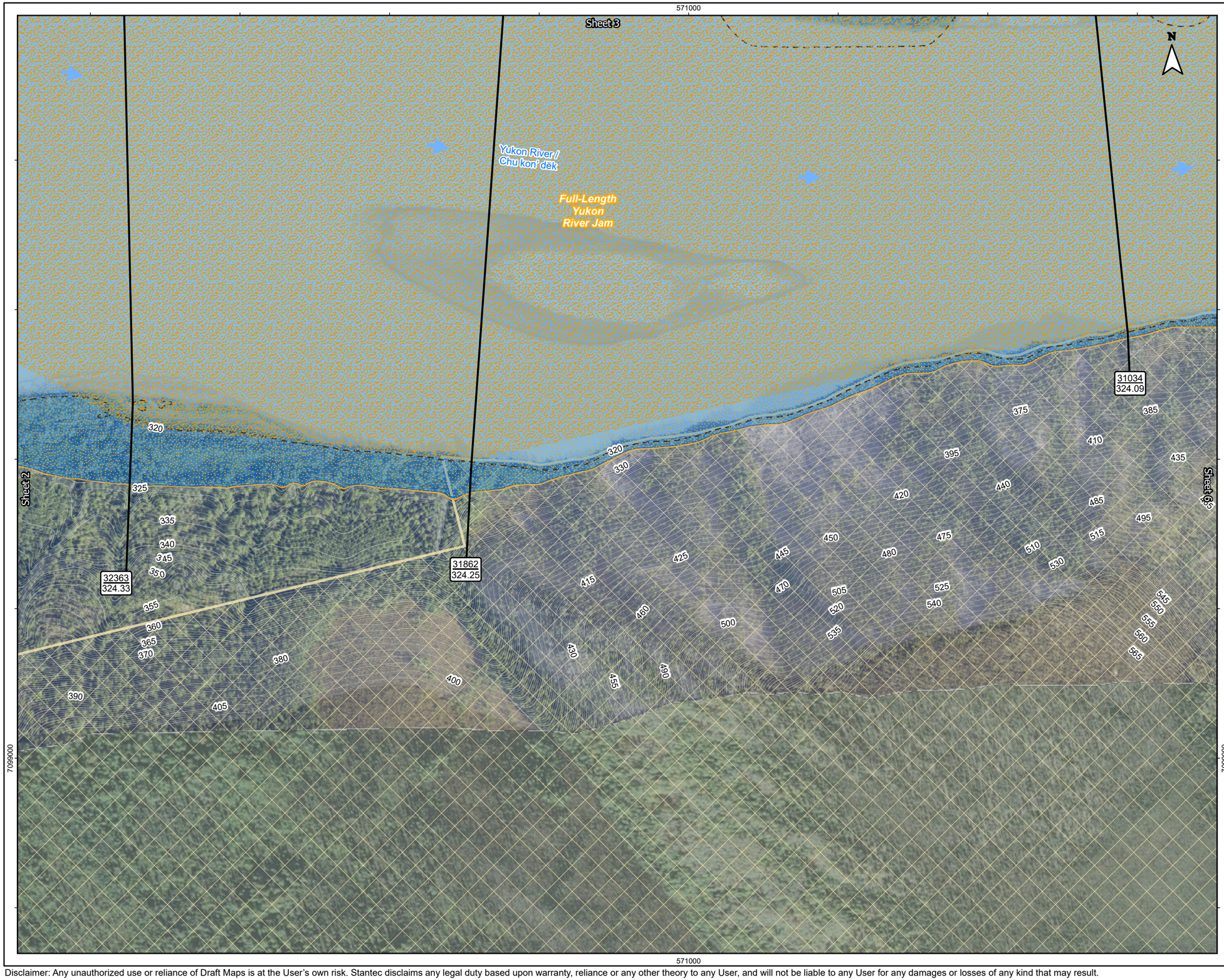


Figure No.

YR-0.5CC-04 **Sheet 04 of 19**

Title: **Dawson City and Klondike Valley Flood Mapping Study**
Composite Flood Hazard Map - Yukon River
0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change

Client/Project:

Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location:
Dawson, Yukon

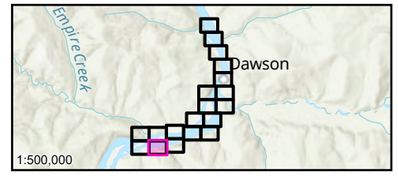
Prepared by MANDERSON on 2026-03-06
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- Ground Elevations of Interest
- Highway Kilometer Post
- 57 / 517.2 — Cross-Section Number / WSE (m) Along Cross-Section
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Composite Open Water and Ice Jam Inundation Extent
- Inundation Extent From Subsurface Seepage
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026

0 50 100 150 200 250 m

(At original document size of 11x 17) 1:5,000





Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
3. Flood hazard extents shown on these maps are based on LiDAR collected in July, 2019 and topographical and bathymetric data that was collected in June and September 2024.
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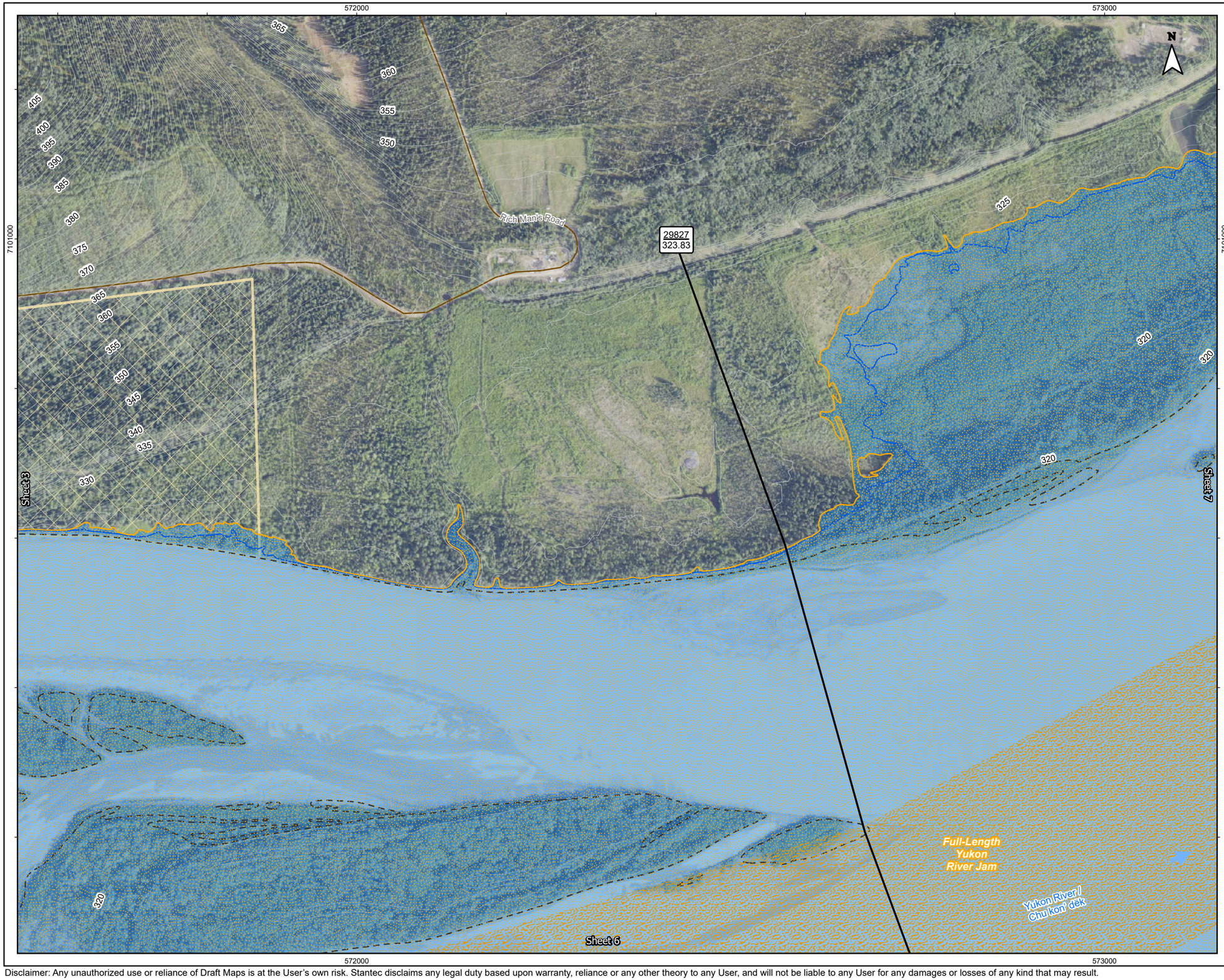


Figure No.

YR-0.5CC-05 **Sheet 05 of 19**

Title: **Dawson City and Klondike Valley Flood Mapping Study**
Composite Flood Hazard Map - Yukon River
0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change

Client/Project:

Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location:
Dawson, Yukon

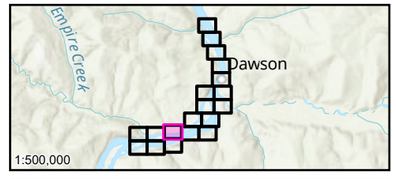
Prepared by MANDERSON on 2026-03-06
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- Ground Elevations of Interest
- Highway Kilometer Post
- 57 / 517.2 — Cross-Section Number / WSE (m) Along Cross-Section
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Composite Open Water and Ice Jam Inundation Extent
- Inundation Extent From Subsurface Seepage
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026

0 50 100 150 200 250 m

(At original document size of 11x 17) 1:5,000





Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982_CANVEC
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572000
573000
7100000
7099000
Sheet 5
Sheet 4
Full-Length Yukon River Jam
Yukon River / Chu kon' dëk
29827
323.83
31034
324.09
N

Figure No.

YR-0.5CC-06 **Sheet 06 of 19**

Title: **Dawson City and Klondike Valley Flood Mapping Study**
Composite Flood Hazard Map - Yukon River
0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change

Client/Project:

Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location:
Dawson, Yukon

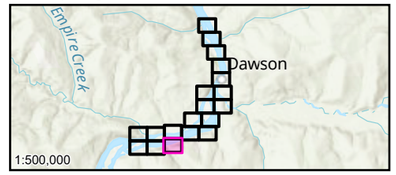
Prepared by MANDERSON on 2026-03-06
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- Ground Elevations of Interest
- Highway Kilometer Post
- 57 / 517.2 — Cross-Section Number / WSE (m) Along Cross-Section
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Composite Open Water and Ice Jam Inundation Extent
- Inundation Extent From Subsurface Seepage
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026

0 50 100 150 200 250 m

(At original document size of 11x 17) 1:5,000





Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
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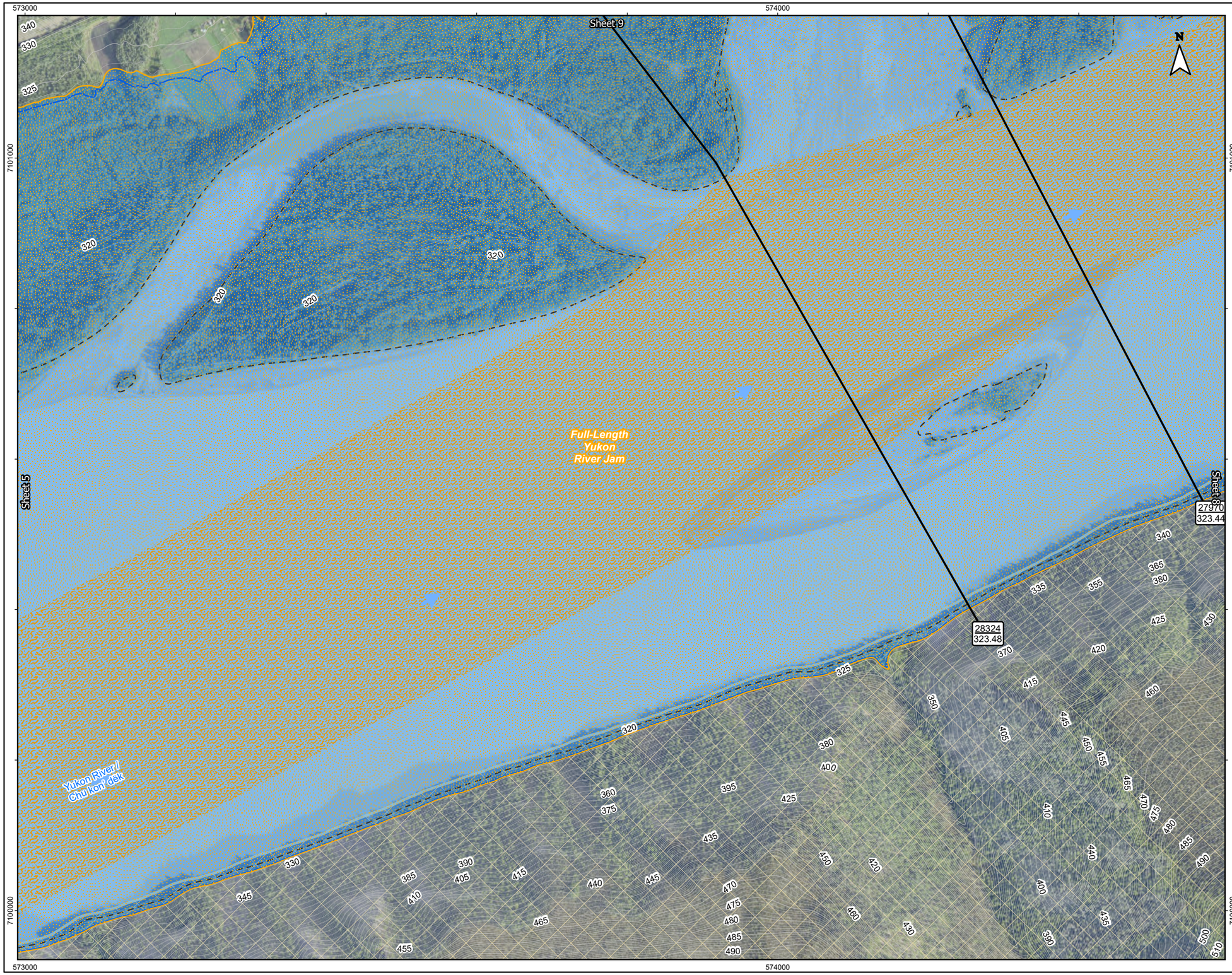


Figure No.

YR-0.5CC-07 **Sheet 07 of 19**

Title: **Dawson City and Klondike Valley Flood Mapping Study**
Composite Flood Hazard Map - Yukon River
0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change

Client/Project:

Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location:
Dawson, Yukon

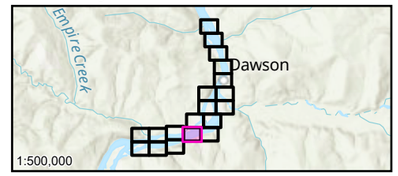
Prepared by MANDERSON on 2026-03-06
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- Ground Elevations of Interest
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- 57 / 517.2 — Cross-Section Number / WSE (m) Along Cross-Section
- Major Contour (5m)
- Minor Contour (1m)
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- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Composite Open Water and Ice Jam Inundation Extent
- Inundation Extent From Subsurface Seepage
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026

0 50 100 150 200 250 m

(At original document size of 11x 17) 1:5,000





Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
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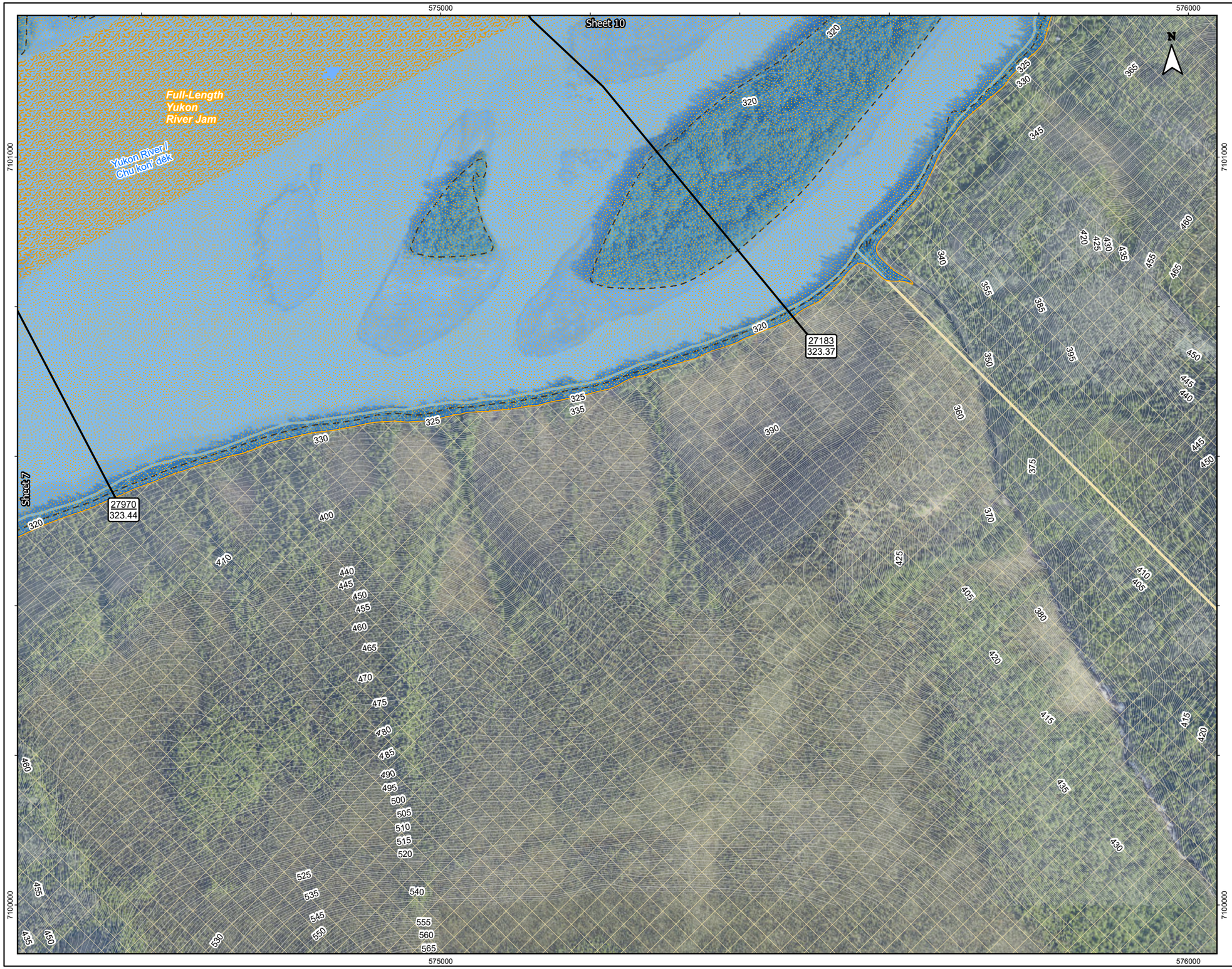


Figure No.

YR-0.5CC-08 **Sheet 08 of 19**

Title: **Dawson City and Klondike Valley Flood Mapping Study**
Composite Flood Hazard Map - Yukon River
0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change

Client/Project:

Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location:
Dawson, Yukon

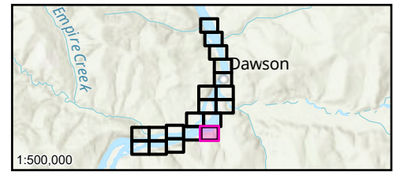
Prepared by MANDERSON on 2026-03-06
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- Ground Elevations of Interest
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- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
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- Inundation Under Modelled Breakup Ice Jam Runs
- Composite Open Water and Ice Jam Inundation Extent
- Inundation Extent From Subsurface Seepage
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026

0 50 100 150 200 250 m

(At original document size of 11x 17) 1:5,000





Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
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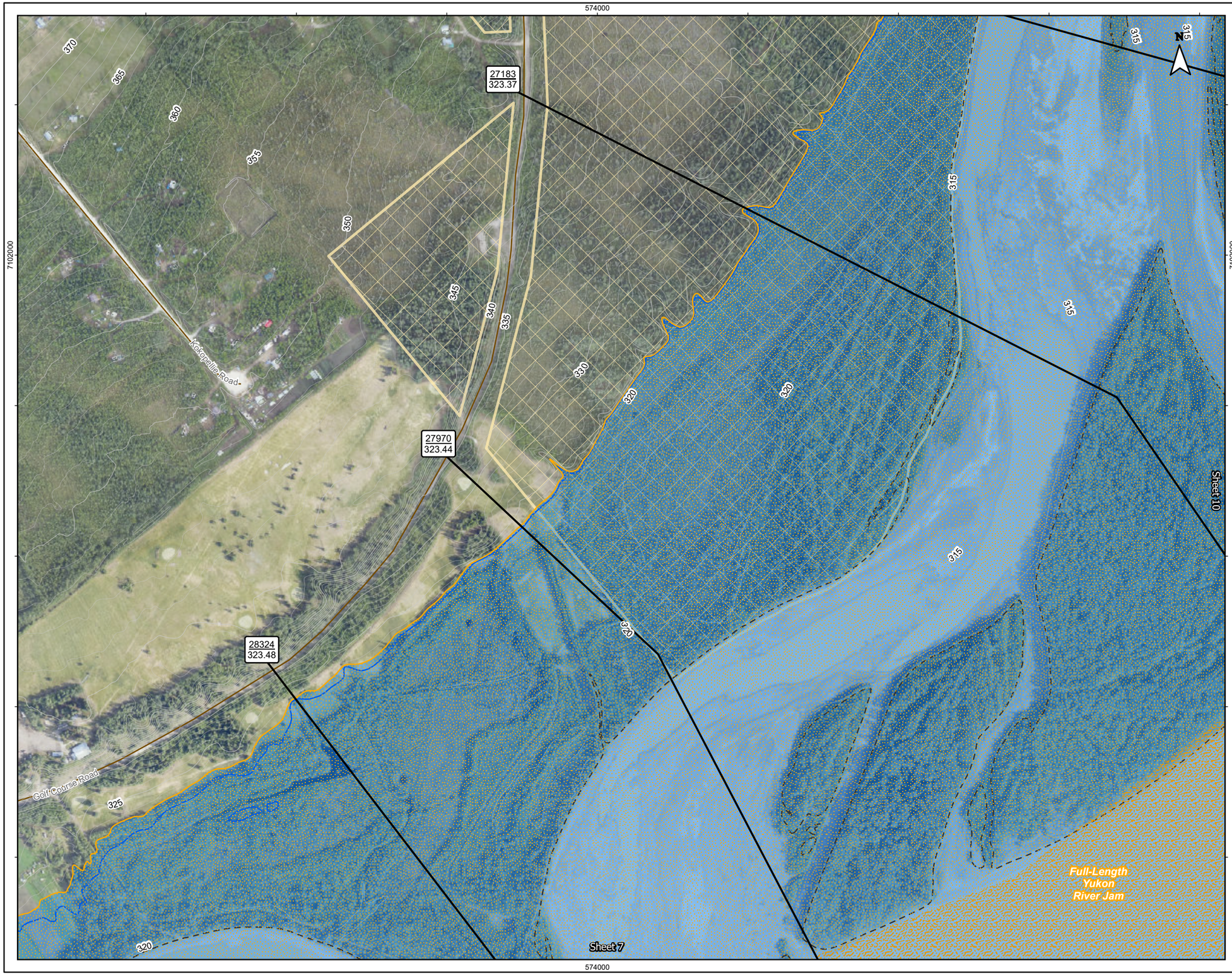


Figure No.

YR-0.5CC-09 **Sheet 09 of 19**

Title: **Dawson City and Klondike Valley Flood Mapping Study**
Composite Flood Hazard Map - Yukon River
0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change

Client/Project:

Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location:
Dawson, Yukon

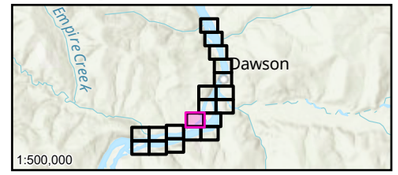
Prepared by MANDERSON on 2026-03-06
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2026-03-06

- Ground Elevations of Interest
- Highway Kilometer Post
- 57 / 517.2 Cross-Section Number / WSE (m) Along Cross-Section
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Composite Open Water and Ice Jam Inundation Extent
- Inundation Extent From Subsurface Seepage
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026

0 50 100 150 200 250 m

(At original document size of 11x 17) 1:5,000





Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
3. Flood hazard extents shown on these maps are based on LiDAR collected in July, 2019 and topographical and bathymetric data that was collected in June and September 2024.
4. 50% AEP inundation lines are based on the 50% AEP flow estimate simulation in the hydraulic model which has been calibrated for higher AEP flood events and therefore should be considered approximate.
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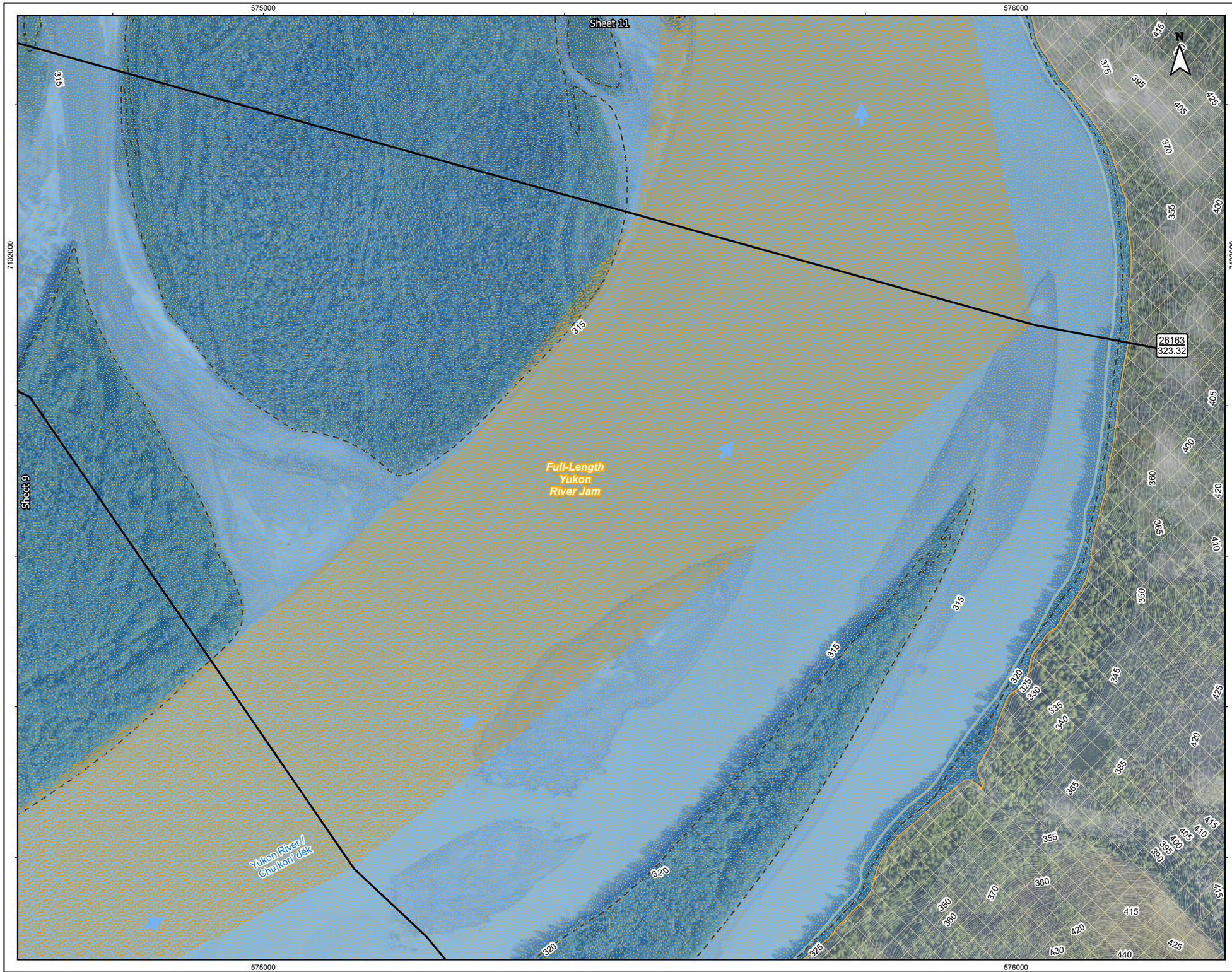


Figure No.

YR-0.5CC-10 **Sheet 10 of 19**

Title: **Dawson City and Klondike Valley Flood Mapping Study**
Composite Flood Hazard Map - Yukon River
0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change

Client/Project:

Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location:

Dawson, Yukon

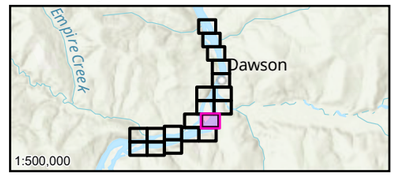
Prepared by MANDERSON on 2026-03-06
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- Ground Elevations of Interest
- Highway Kilometer Post
- 57 / 517.2 — Cross-Section Number / WSE (m) Along Cross-Section
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Composite Open Water and Ice Jam Inundation Extent
- Inundation Extent From Subsurface Seepage
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026

0 50 100 150 200 250 m

(At original document size of 11x 17) 1:5,000





Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
3. Flood hazard extents shown on these maps are based on LiDAR collected in July, 2019 and topographical and bathymetric data that was collected in June and September 2024.
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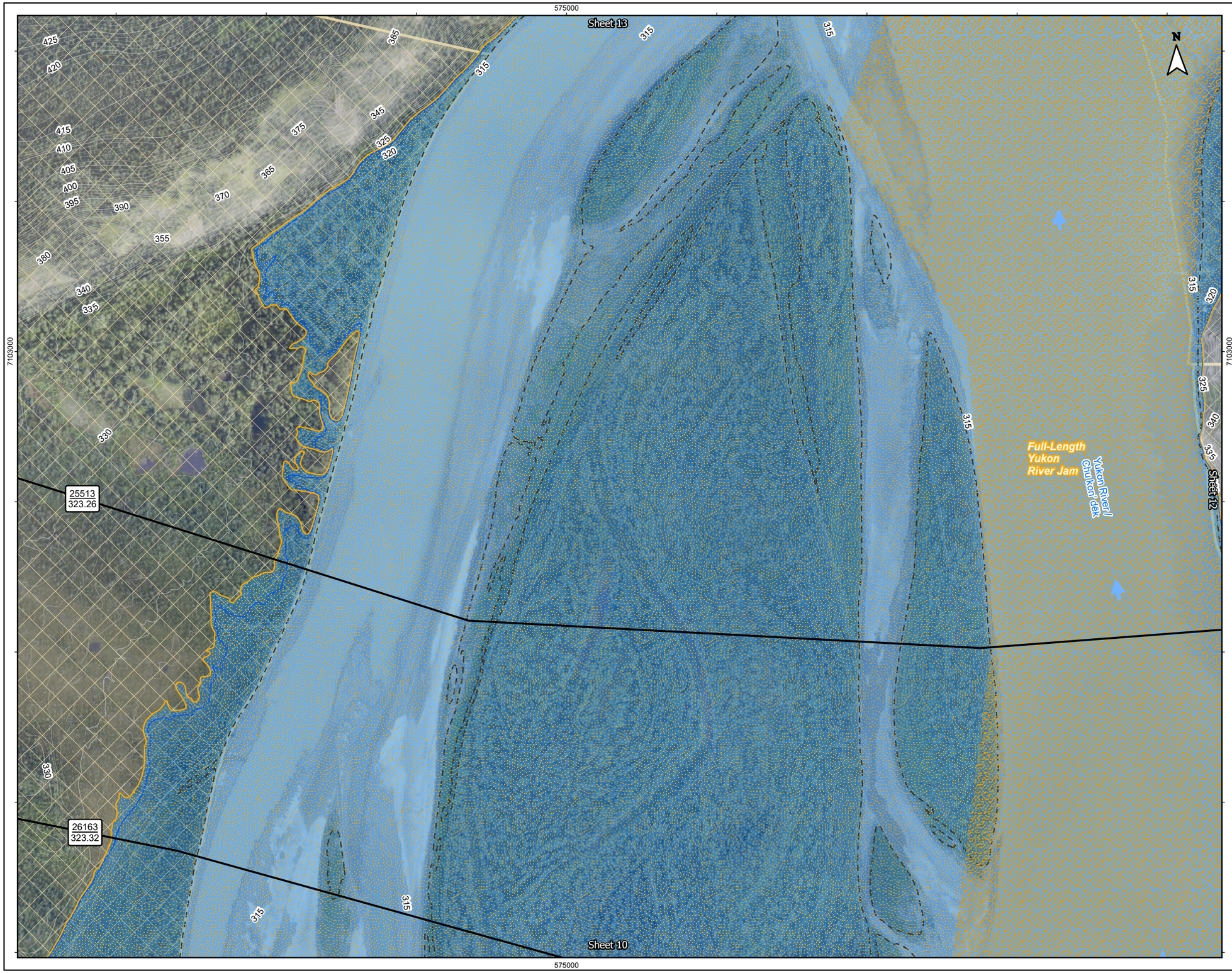


Figure No.

YR-0.5CC-11 **Sheet 11 of 19**

Title: **Dawson City and Klondike Valley Flood Mapping Study**
Composite Flood Hazard Map - Yukon River
0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change

Client/Project:

Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location:
Dawson, Yukon

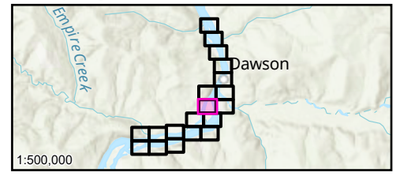
Prepared by MANDERSON on 2026-03-06
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- Ground Elevations of Interest
- Highway Kilometer Post
- Cross-Section Number / WSE (m) Along Cross-Section (57 / 517.2)
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Composite Open Water and Ice Jam Inundation Extent
- Inundation Extent From Subsurface Seepage
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026

0 50 100 150 200 250 m

(At original document size of 11x 17) 1:5,000





Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
3. Flood hazard extents shown on these maps are based on LiDAR collected in July, 2019 and topographical and bathymetric data that was collected in June and September 2024.
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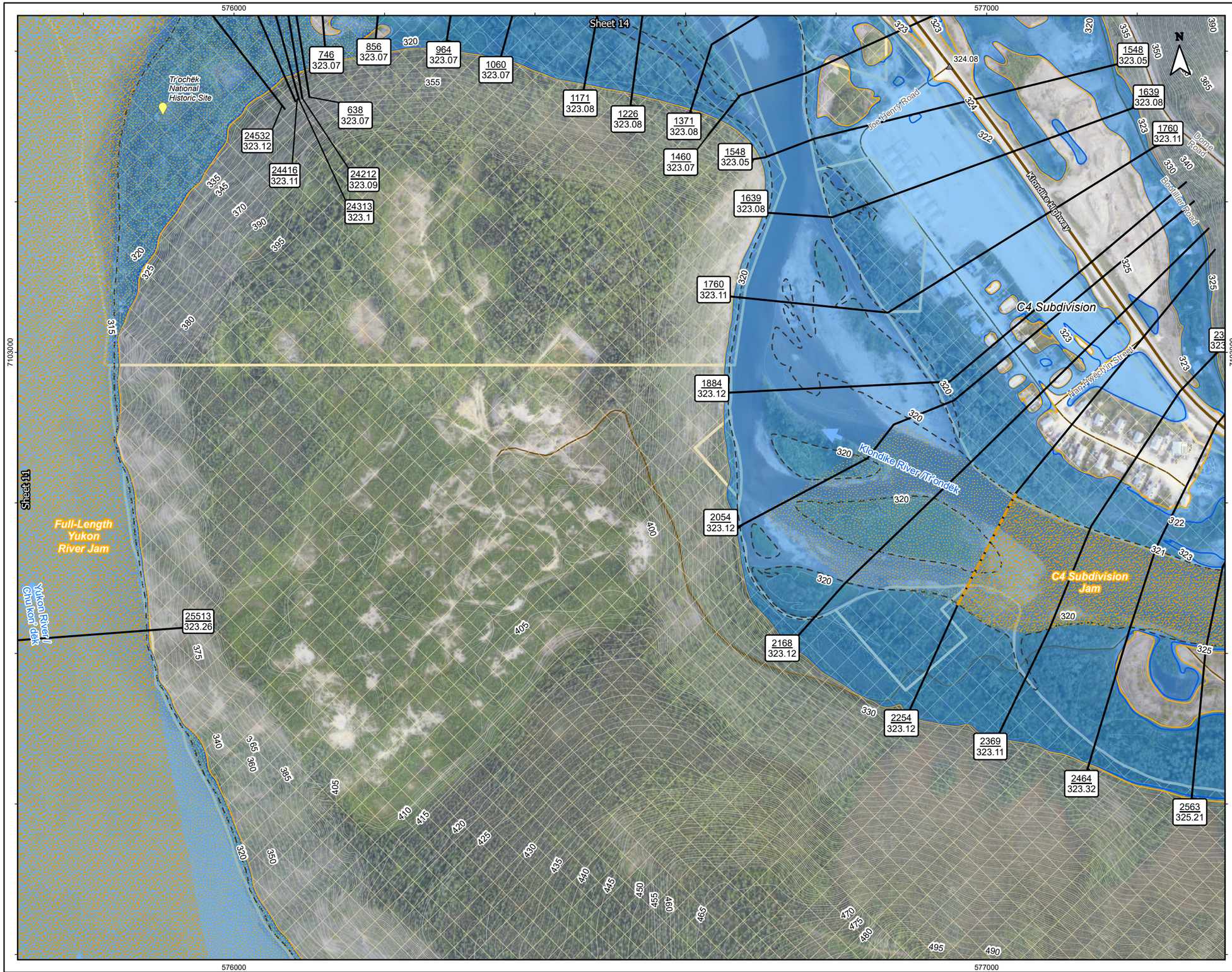


Figure No.

YR-0.5CC-12 **Sheet 12 of 19**

Title: **Dawson City and Klondike Valley Flood Mapping Study**
Composite Flood Hazard Map - Yukon River
0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change

Client/Project:

Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location:
Dawson, Yukon

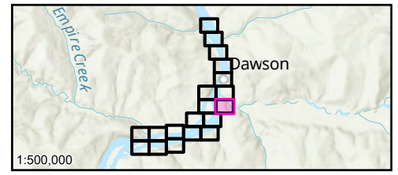
Prepared by MANDERSON on 2026-03-06
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- Ground Elevations of Interest
- Point of Interest
- Highway Kilometer Post
- Cross-Section Number / WSE (m) Along Cross-Section
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Toe of Ice Jam
- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Composite Open Water and Ice Jam Inundation Extent
- Inundation Extent From Subsurface Seepage
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026

0 50 100 150 200 250 m

(At original document size of 11x 17) 1:5,000





Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
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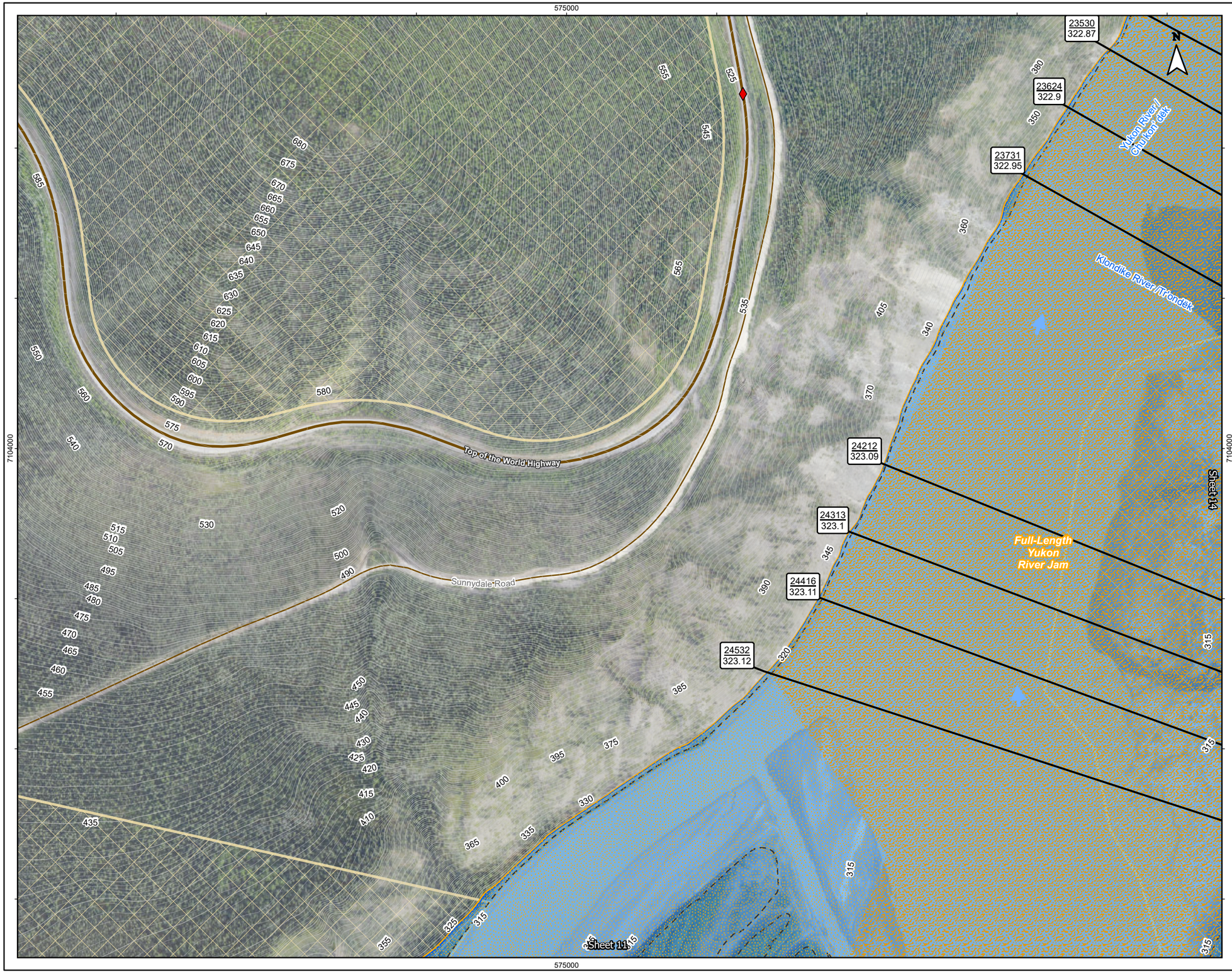


Figure No.

YR-0.5CC-13 **Sheet 13 of 19**

Title: **Dawson City and Klondike Valley Flood Mapping Study**
Composite Flood Hazard Map - Yukon River
0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change

Client/Project:

Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location:
Dawson, Yukon

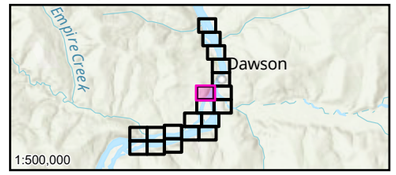
Prepared by MANDERSON on 2026-03-06
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- Ground Elevations of Interest
- HPW Drainage Culverts
- Highway Kilometer Post
- Cross-Section Number / WSE (m) Along Cross-Section
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Composite Open Water and Ice Jam Inundation Extent
- Inundation Extent From Subsurface Seepage
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026

0 50 100 150 200 250 m

(At original document size of 11x 17) 1:5,000





Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
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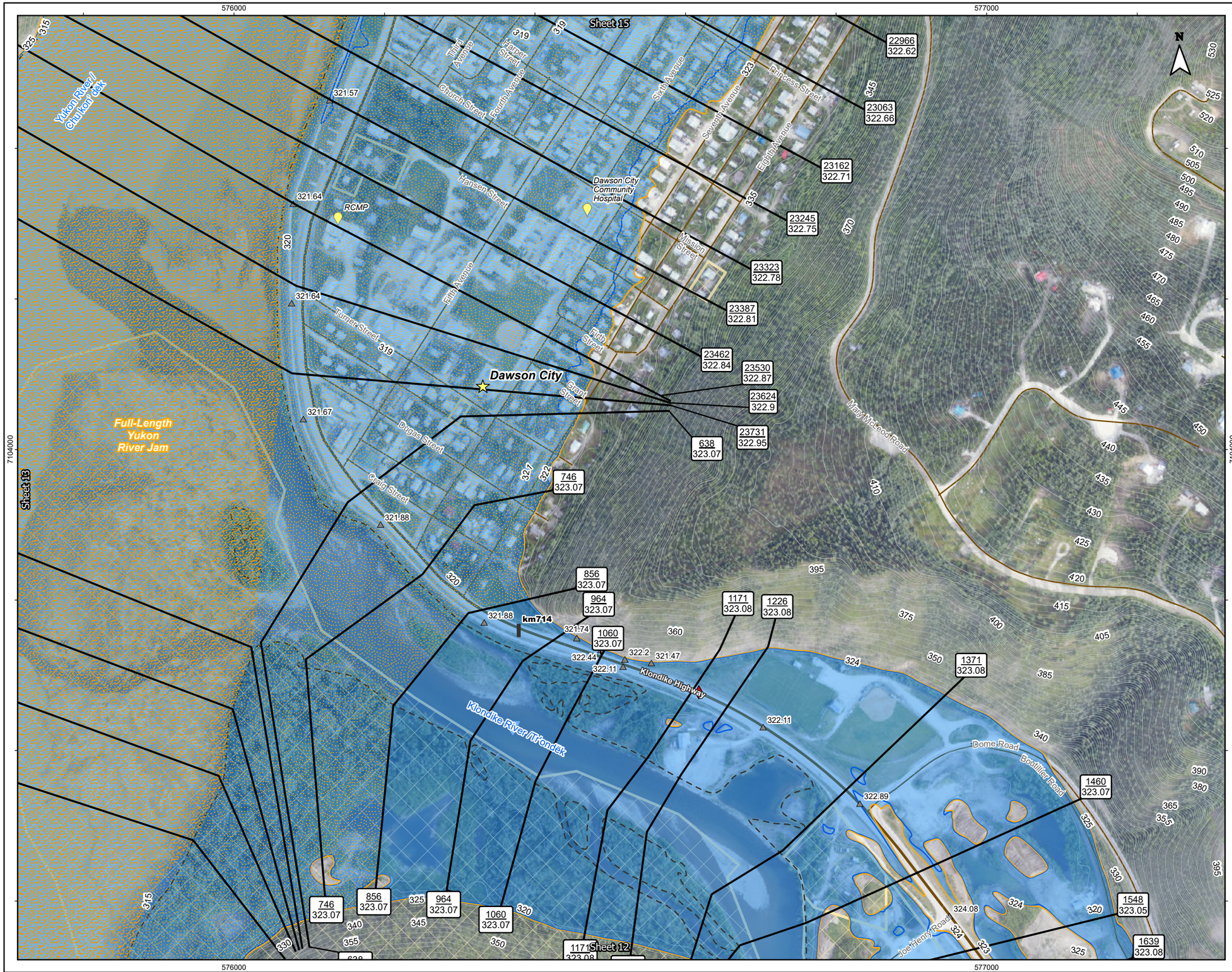


Figure No.

YR-0.5CC-14 **Sheet 14 of 19**

Title: **Dawson City and Klondike Valley Flood Mapping Study**
Composite Flood Hazard Map - Yukon River
0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change

Client/Project:

Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location:
Dawson, Yukon

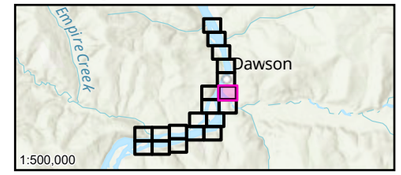
Prepared by MANDERSON on 2026-03-06
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- Ground Elevations of Interest
- HPW Drainage Culverts
- Municipality
- Point of Interest
- Highway Kilometer Post
- Cross-Section Number (57) / WSE (m) Along Cross-Section (517.2)
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Composite Open Water and Ice Jam Inundation Extent
- Inundation Extent From Subsurface Seepage
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026

0 50 100 150 200 250 m

(At original document size of 11x 17) 1:5,000





Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
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Figure No.

YR-0.5CC-15 **Sheet 15 of 19**

Title: **Dawson City and Klondike Valley Flood Mapping Study**
Composite Flood Hazard Map - Yukon River
0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change

Client/Project:

Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location:

Dawson, Yukon

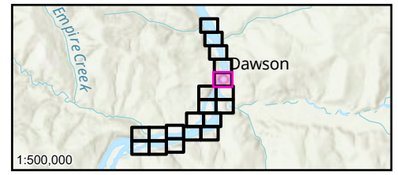
Prepared by MANDERSON on 2026-03-06
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- Ground Elevations of Interest
- Municipality
- Point of Interest
- Highway Kilometer Post
- 57 / 517.2 Cross-Section Number / WSE (m) Along Cross-Section
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Composite Open Water and Ice Jam Inundation Extent
- Inundation Extent From Subsurface Seepage
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026

0 50 100 150 200 250 m

(At original document size of 11x 17) 1:5,000





Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
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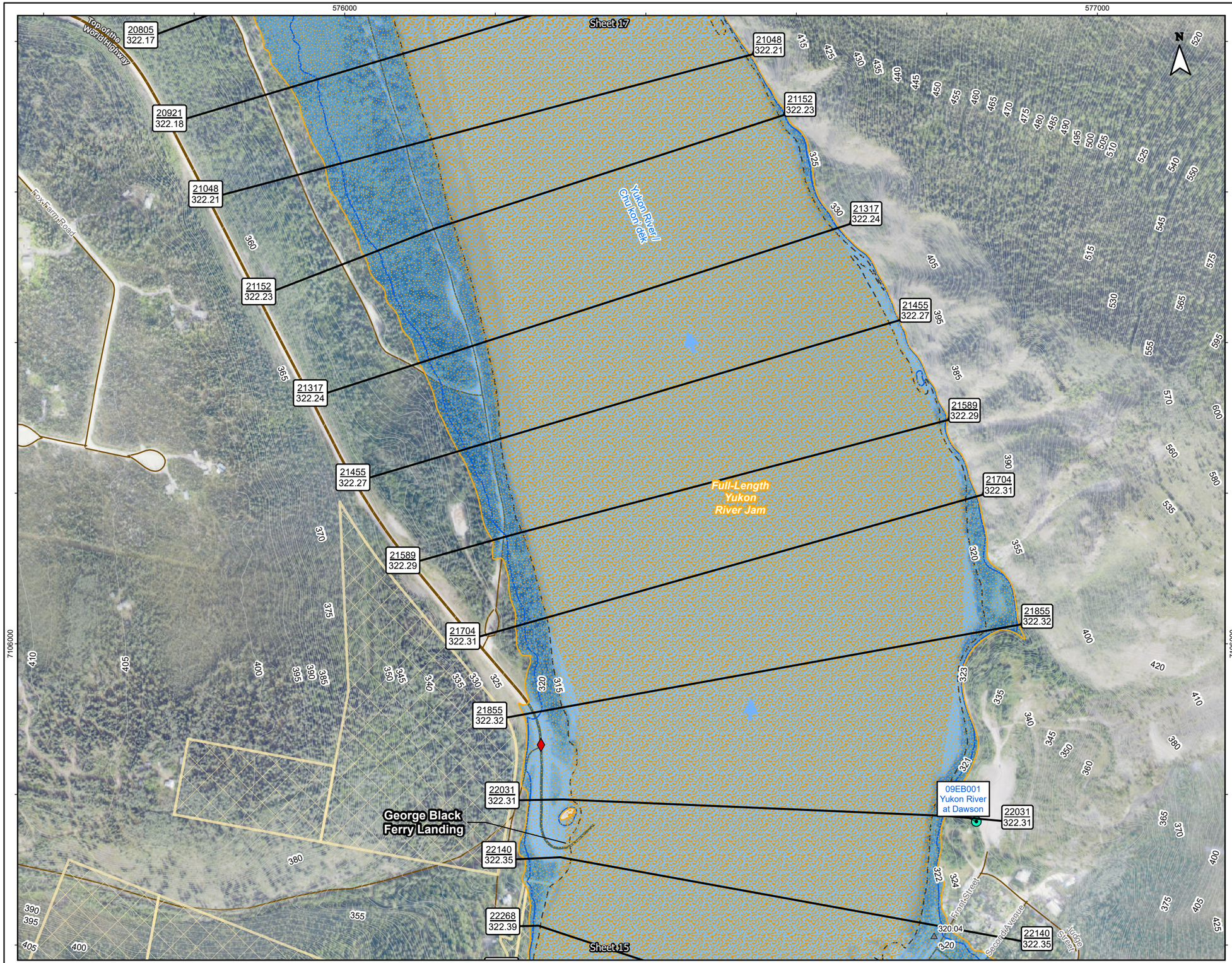


Figure No.

YR-0.5CC-16 **Sheet 16 of 19**

Title: **Dawson City and Klondike Valley Flood Mapping Study**
Composite Flood Hazard Map - Yukon River
0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change

Client/Project:

Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location:
Dawson, Yukon

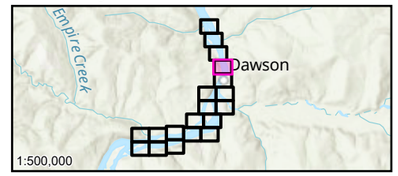
Prepared by MANDERSON on 2026-03-06
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- WSC Stations
- Ground Elevations of Interest
- HPW Drainage Culverts
- Highway Kilometer Post
- Cross-Section Number / WSE (m) Along Cross-Section (57 / 517.2)
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Composite Open Water and Ice Jam Inundation Extent
- Inundation Extent From Subsurface Seepage
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026

0 50 100 150 200 250 m

(At original document size of 11x 17) 1:5,000





Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
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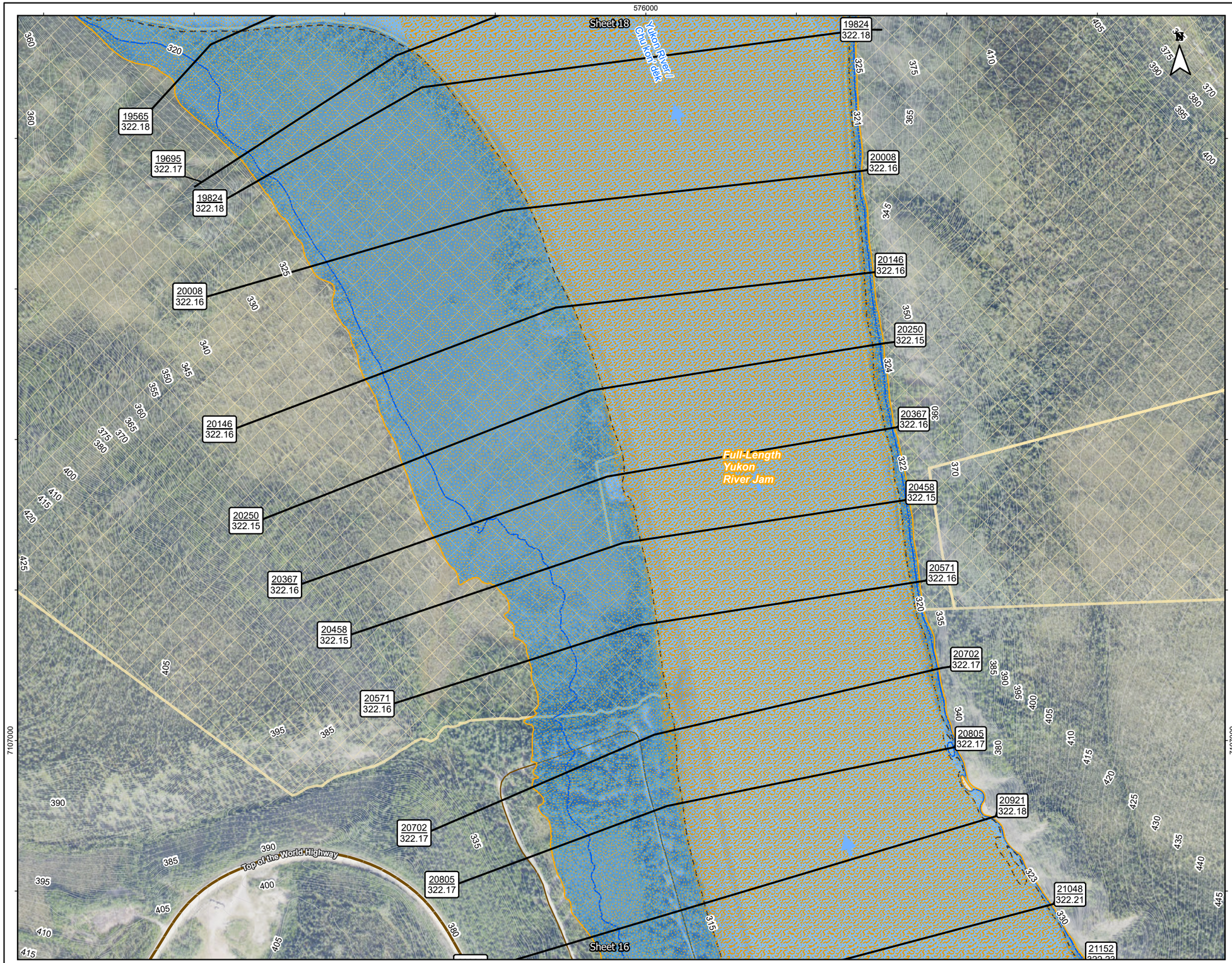


Figure No.

YR-0.5CC-17 **Sheet 17 of 19**

Title: **Dawson City and Klondike Valley Flood Mapping Study**
Composite Flood Hazard Map - Yukon River
0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change

Client/Project:

Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location:
Dawson, Yukon

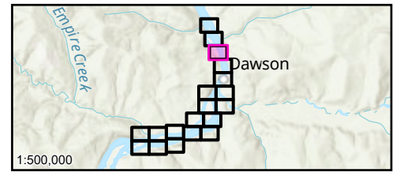
Prepared by MANDERSON on 2026-03-06
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- Ground Elevations of Interest
- Highway Kilometer Post
- 57 / 517.2 Cross-Section Number / WSE (m) Along Cross-Section
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Composite Open Water and Ice Jam Inundation Extent
- Inundation Extent From Subsurface Seepage
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026

0 50 100 150 200 250 m

(At original document size of 11x 17) 1:5,000





Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982. CANVEC
3. Flood hazard extents shown on these maps are based on LiDAR collected in July, 2019 and topographical and bathymetric data that was collected in June and September 2024.
4. 50% AEP inundation lines are based on the 50% AEP flow estimate simulation in the hydraulic model which has been calibrated for higher AEP flood events and therefore should be considered approximate.
5. The content of these Composite Flood Hazard Maps is based on the methods, assumptions, limitations, and analysis documented in the Dawson City and Klondike Valley Flood Mapping Study produced for Yukon Government. Composite Hazard Maps are based on the available data which is current to the time the maps were produced. Such data contains inherent limitations given that the climatic conditions and geomorphic conditions are constantly evolving and cannot be predicted with certainty.

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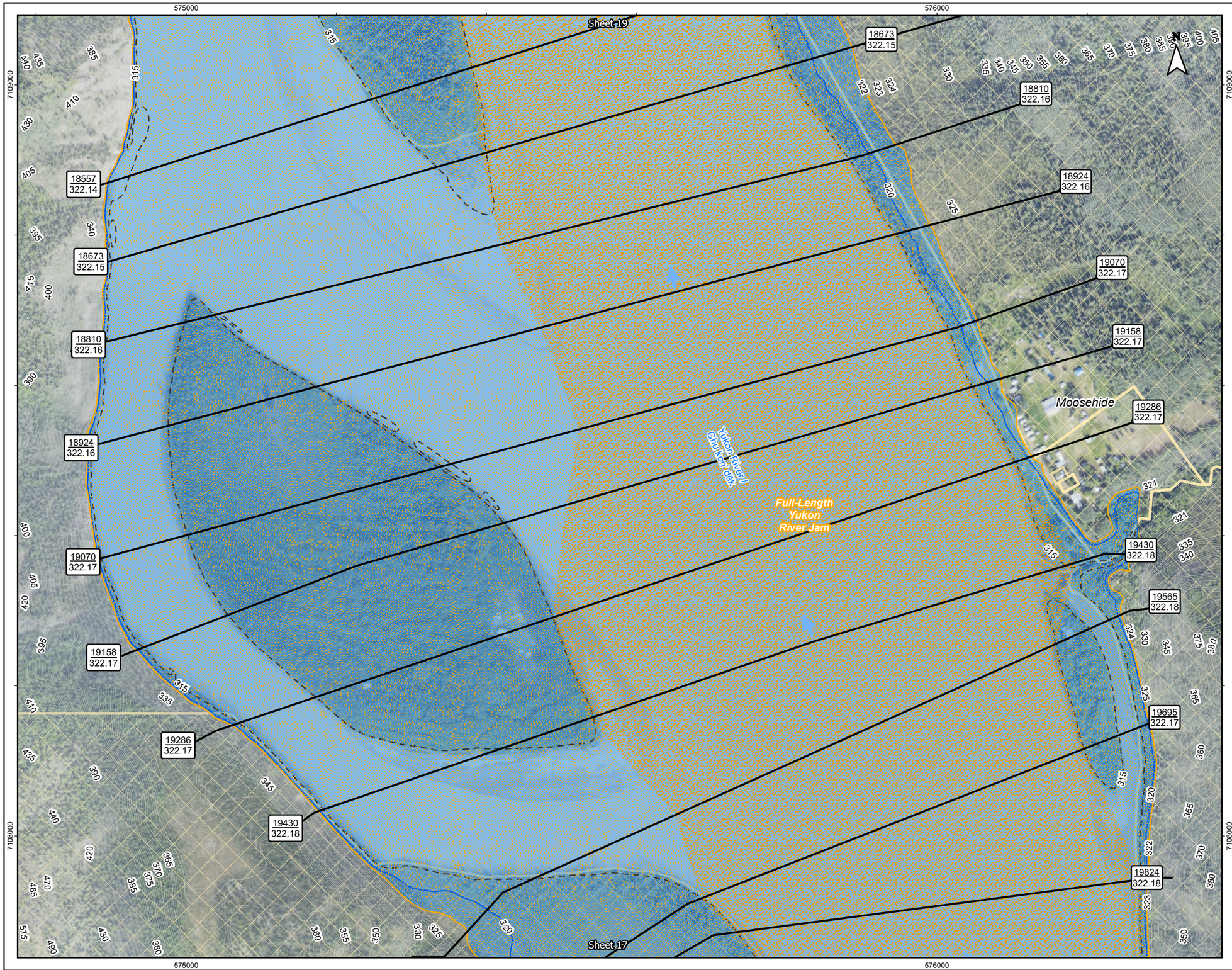


Figure No.

YR-0.5CC-18 **Sheet 18 of 19**

Title: **Dawson City and Klondike Valley Flood Mapping Study**
Composite Flood Hazard Map - Yukon River
0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change

Client/Project:

Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location:
Dawson, Yukon

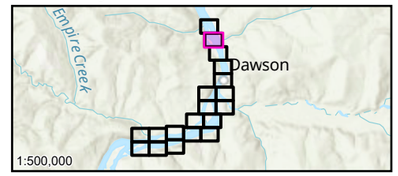
Prepared by MANDERSON on 2026-03-06
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- Ground Elevations of Interest
- Highway Kilometer Post
- 57 / 517.2 — Cross-Section Number / WSE (m) Along Cross-Section
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Composite Open Water and Ice Jam Inundation Extent
- Inundation Extent From Subsurface Seepage
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026

0 50 100 150 200 250 m

(At original document size of 11x 17) 1:5,000





Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
3. Flood hazard extents shown on these maps are based on LiDAR collected in July, 2019 and topographical and bathymetric data that was collected in June and September 2024.
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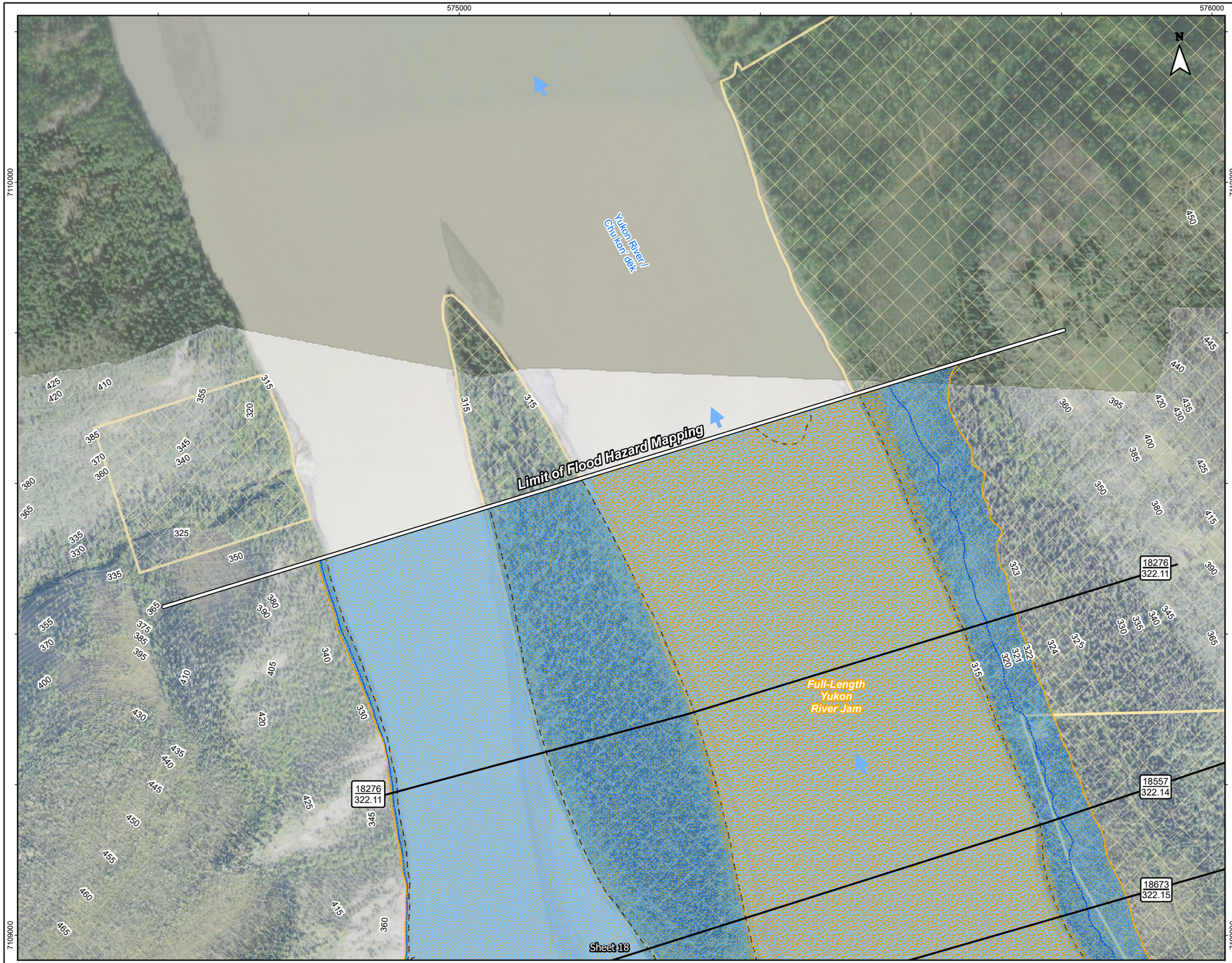


Figure No.

YR-0.5CC-19 **Sheet 19 of 19**

Title: **Dawson City and Klondike Valley Flood Mapping Study**
Composite Flood Hazard Map - Yukon River
0.5% Annual Exceedance Probability (AEP) with Factor of Safety for Climate Change

Client/Project:

Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location:
Dawson, Yukon

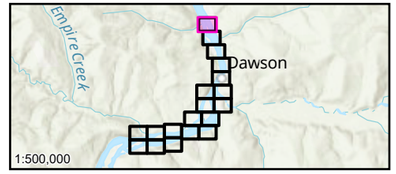
Prepared by MANDERSON on 2026-03-06
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2026-03-06

- River Flow Direction
- Ground Elevations of Interest
- Highway Kilometer Post
- Cross-Section Number / WSE (m) Along Cross-Section (57 / 517.2)
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Limit of Floodplain Mapping
- Tr'ondëk Hwëch'in Settlement Land
- Approximate 50% AEP Open Water Flood Inundation
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Composite Open Water and Ice Jam Inundation Extent
- Inundation Extent From Subsurface Seepage
- Potential Presence of Ice Debris During Jam Scenario
- Ice Jamming Extents

Map Publication Date: 03/06/2026

0 50 100 150 200 250 m

(At original document size of 11x 17) 1:5,000





Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
2. Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
3. Flood hazard extents shown on these maps are based on LiDAR collected in July, 2019 and topographical and bathymetric data that was collected in June and September 2024.
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