

Figure No. **YR-5-01** Sheet 01 of 19

Title: **Dawson City and Klondike Valley Flood Mapping Study
Composite Flood Hazard Map - Yukon River
5% Annual Exceedance Probability (AEP)**

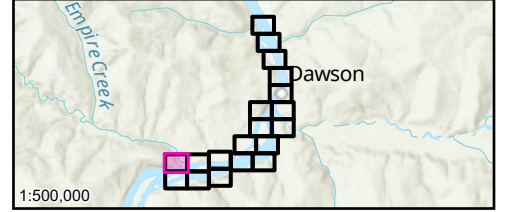
Client/Project:
Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon
Prepared by MANDERSON on 2025-07-29
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2025-07-29

- River Flow Direction
- Ground Elevations of Interest
- 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 Flood Hazard Mapping
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Approximate 50% AEP Open Water Flood Inundation
- Composite Open Water and Ice Jam Inundation Extent
- Ice Coverage in Breakup Jam Scenarios

Map Publication Date: 7/29/2025
0 50 100 150 200 250 m
(At original document size of 11x 17) 1:5,000



- Notes
- Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
 - Data Sources: GeoYukon, Canada Lands Survey (CLS) CCM 982, CANVEC
 - 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.
 - 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.
 - The content of these Draft Maps is based on the methods, assumptions, limitations, and analysis documented in the Dawson City and Klondike Valley Flood Mapping Study (Stantec 2025) produced for Yukon Government. Composite Hazard Maps are based on the assumptions and analysis presented in Stantec 2025 which were 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-5-02** Sheet 02 of 19

Title: **Dawson City and Klondike Valley Flood Mapping Study
Composite Flood Hazard Map - Yukon River
5% Annual Exceedance Probability (AEP)**

Client/Project:
Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon

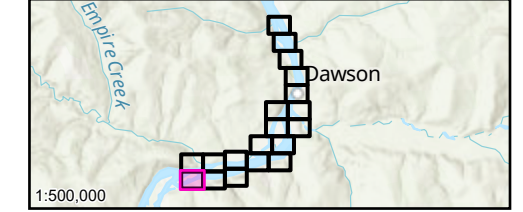
Prepared by MANDERSON on 2025-07-29
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2025-07-29

- River Flow Direction
- Tr'ondëk Hwëch'in Settlement Land
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Ground Elevations of Interest
- Approximate 50% AEP Open Water Flood Inundation
- Cross-Section Number WSE (m) Along Cross-Section
- Composite Open Water and Ice Jam Inundation Extent
- Ice Coverage in Breakup Jam Scenarios
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Limit of Flood Hazard Mapping

Map Publication Date: 7/29/2025

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-5-03** Sheet 03 of 19

Title: **Dawson City and Klondike Valley Flood Mapping Study
Composite Flood Hazard Map - Yukon River
5% Annual Exceedance Probability (AEP)**

Client/Project:
Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon

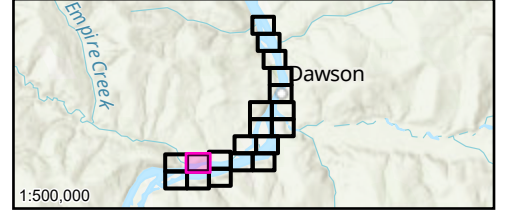
Prepared by MANDERSON on 2025-07-29
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2025-07-29

- River Flow Direction
- Tr'ondëk Hwëch'in Settlement Land
- Ground Elevations of Interest
- Inundation Under Modelled Open Water Runs
- Cross-Section Number WSE (m) Along Cross-Section
- Inundation Under Modelled Breakup Ice Jam Runs
- Local Road
- Approximate 50% AEP Open Water Flood Inundation
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Composite Open Water and Ice Jam Inundation Extent
- Ice Coverage in Breakup Jam Scenarios

Map Publication Date: 7/29/2025

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(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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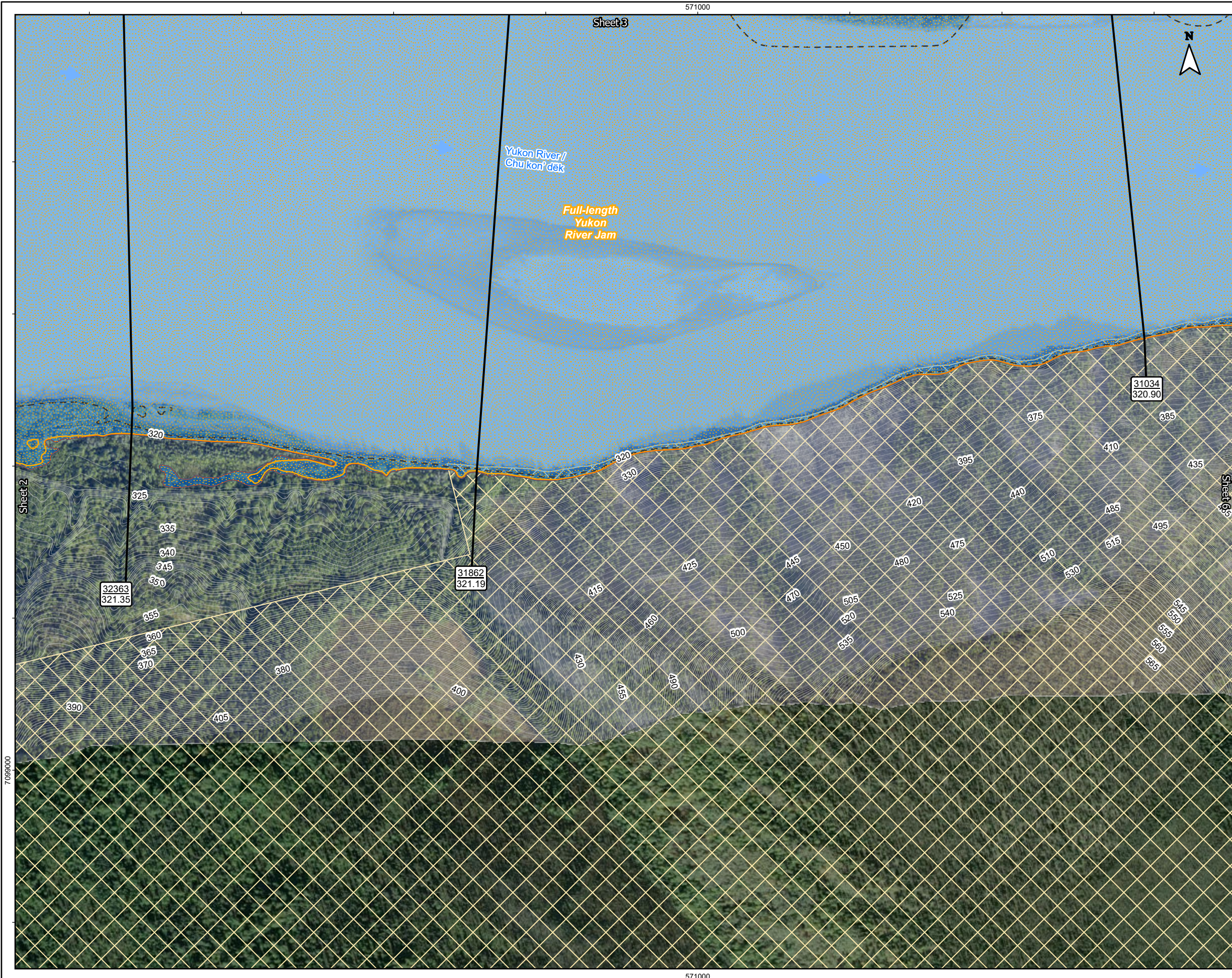


Figure No. **YR-5-04** Sheet 04 of 19

Title: **Dawson City and Klondike Valley Flood Mapping Study
Composite Flood Hazard Map - Yukon River
5% Annual Exceedance Probability (AEP)**

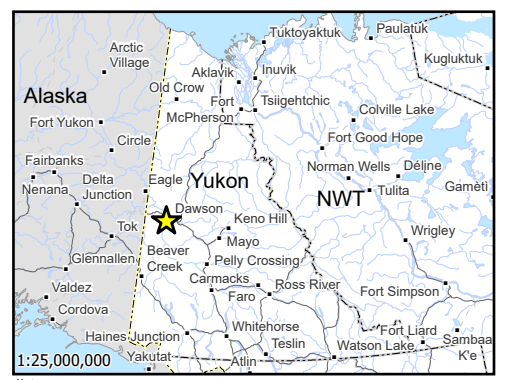
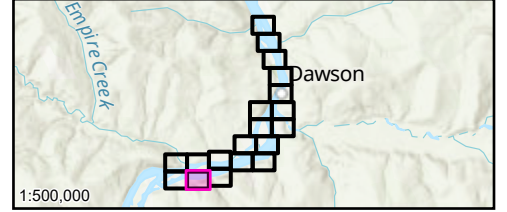
Client/Project:
Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon
Prepared by MANDERSON on 2025-07-29
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2025-07-29

- River Flow Direction
- Ground Elevations of Interest
- Cross-Section Number WSE (m) Along Cross-Section
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Trondék Hwéch'in Settlement Land
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Approximate 50% AEP Open Water Flood Inundation
- Composite Open Water and Ice Jam Inundation Extent
- Ice Coverage in Breakup Jam Scenarios

Map Publication Date: 7/29/2025
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-5-05** Sheet 05 of 19

Title: **Dawson City and Klondike Valley Flood Mapping Study
Composite Flood Hazard Map - Yukon River
5% Annual Exceedance Probability (AEP)**

Client/Project:
Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon

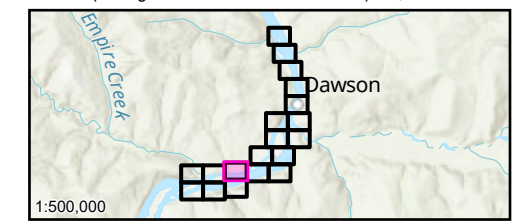
Prepared by MANDERSON on 2025-07-29
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2025-07-29

- River Flow Direction
- Tr'ondëk Hwëch'in Settlement Land
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Ground Elevations of Interest
- Cross-Section Number WSE (m) Along Cross-Section
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Approximate 50% AEP Open Water Flood Inundation
- Composite Open Water and Ice Jam Inundation Extent
- Ice Coverage in Breakup Jam Scenarios

Map Publication Date: 7/29/2025

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



Notes

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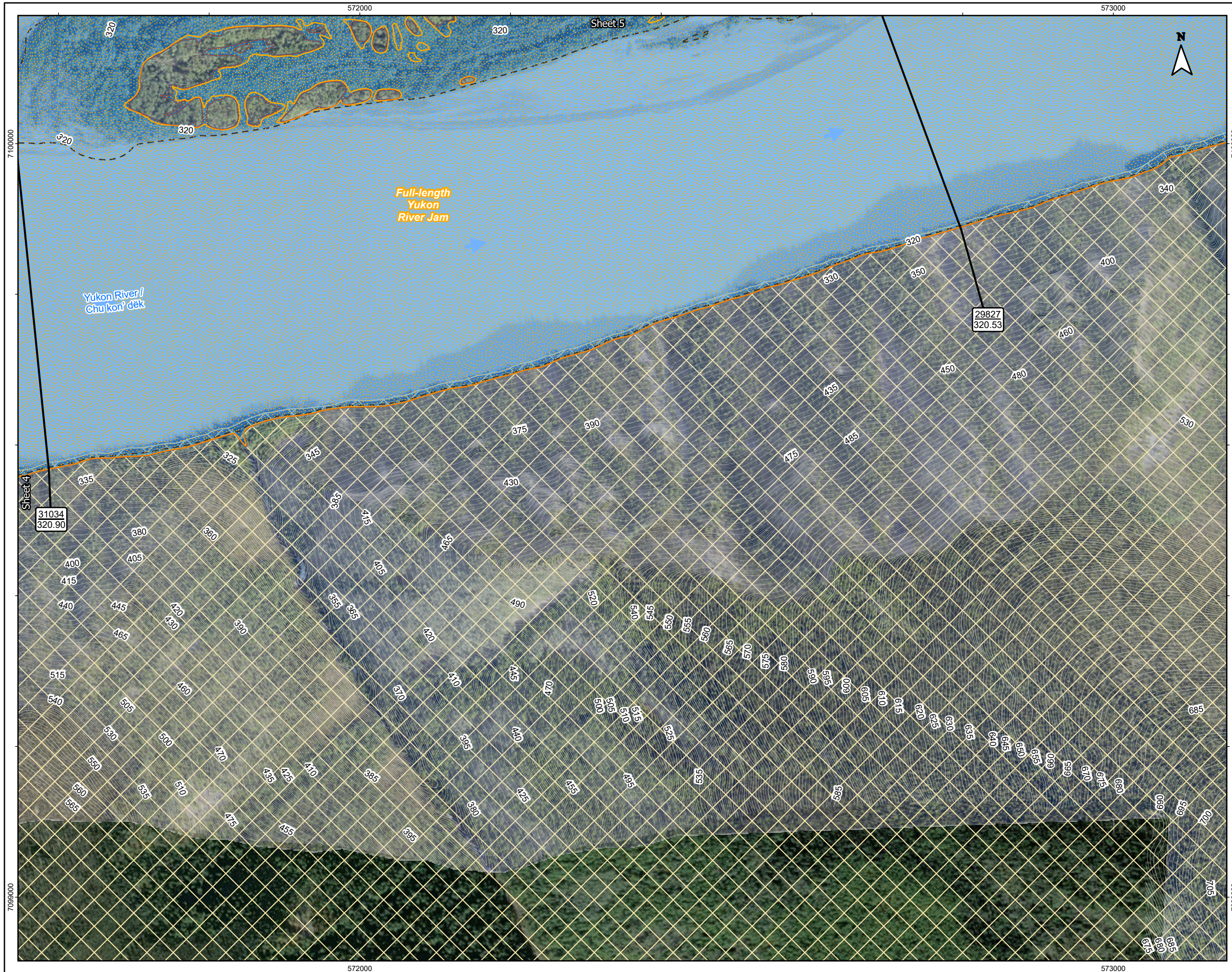


Figure No. **YR-5-06** Sheet 06 of 19

Title: **Dawson City and Klondike Valley Flood Mapping Study
Composite Flood Hazard Map - Yukon River
5% Annual Exceedance Probability (AEP)**

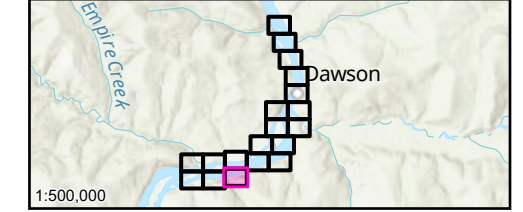
Client/Project:
Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon
Prepared by MANDERSON on 2025-07-29
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2025-07-29

- River Flow Direction
- Ground Elevations of Interest
- Cross-Section Number WSE (m) Along Cross-Section
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Trondék Hwëch'in Settlement Land
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Approximate 50% AEP Open Water Flood Inundation
- Composite Open Water and Ice Jam Inundation Extent
- Ice Coverage in Breakup Jam Scenarios

Map Publication Date: 7/29/2025
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(At original document size of 11x 17) 1:5,000



- Notes**
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This project is funded in part by the Government of Canada

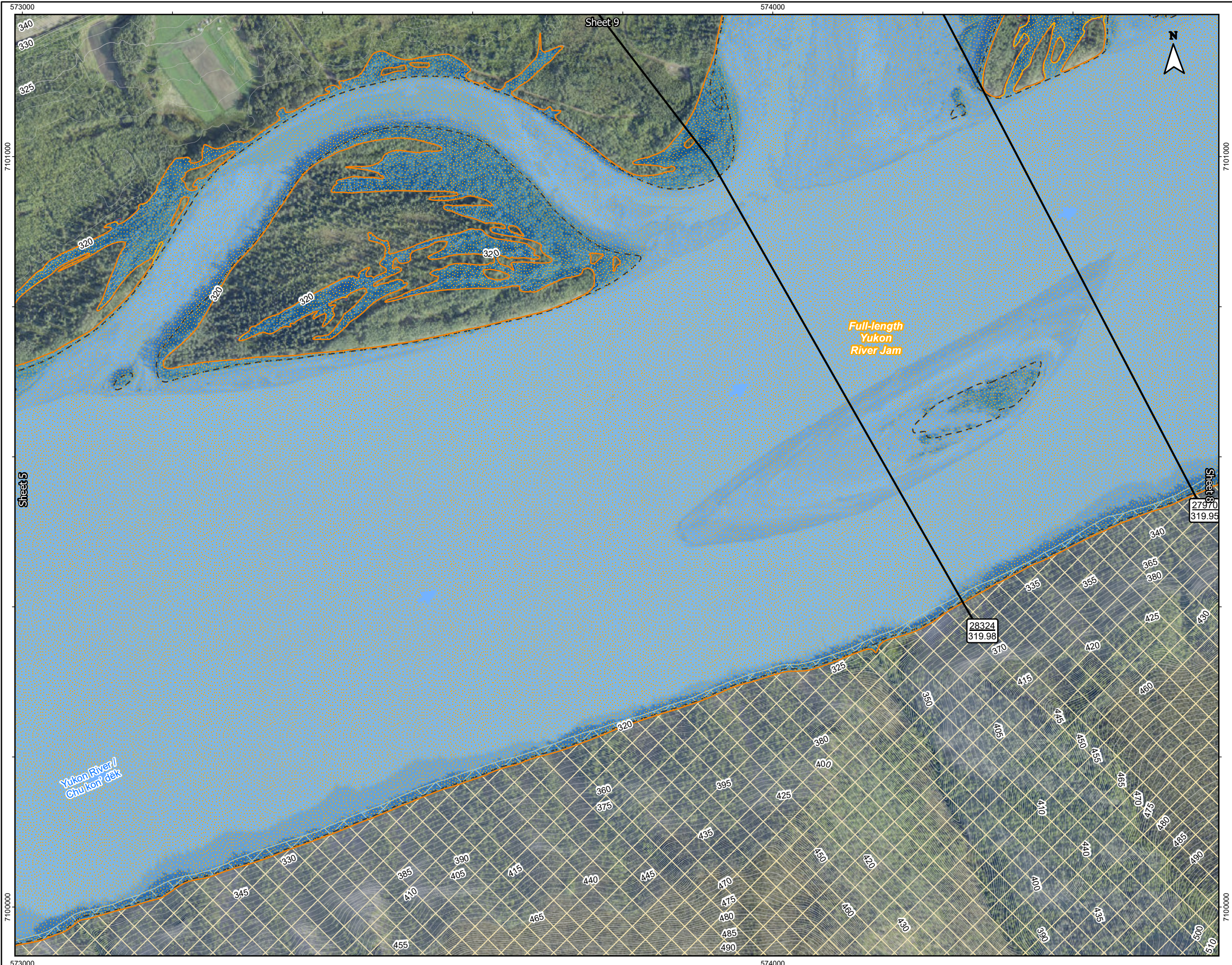


Figure No. **YR-5-07** Sheet 07 of 19

Title: **Dawson City and Klondike Valley Flood Mapping Study
Composite Flood Hazard Map - Yukon River
5% Annual Exceedance Probability (AEP)**

Client/Project:
Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon

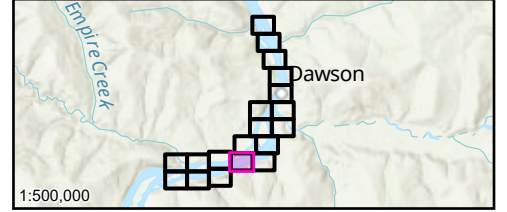
Prepared by MANDERSON on 2025-07-29
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2025-07-29

- River Flow Direction
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Ground Elevations of Interest
- Cross-Section Number WSE (m) Along Cross-Section
- Approximate 50% AEP Open Water Flood Inundation
- Major Contour (5m)
- Composite Open Water and Ice Jam Inundation Extent
- Minor Contour (1m)
- Ice Coverage in Breakup Jam Scenarios
- Surveyed Cross-Sections Used in Hydraulic Model
- Tr'ondëk Hwëch'in Settlement Land

Map Publication Date: 7/29/2025

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



Notes

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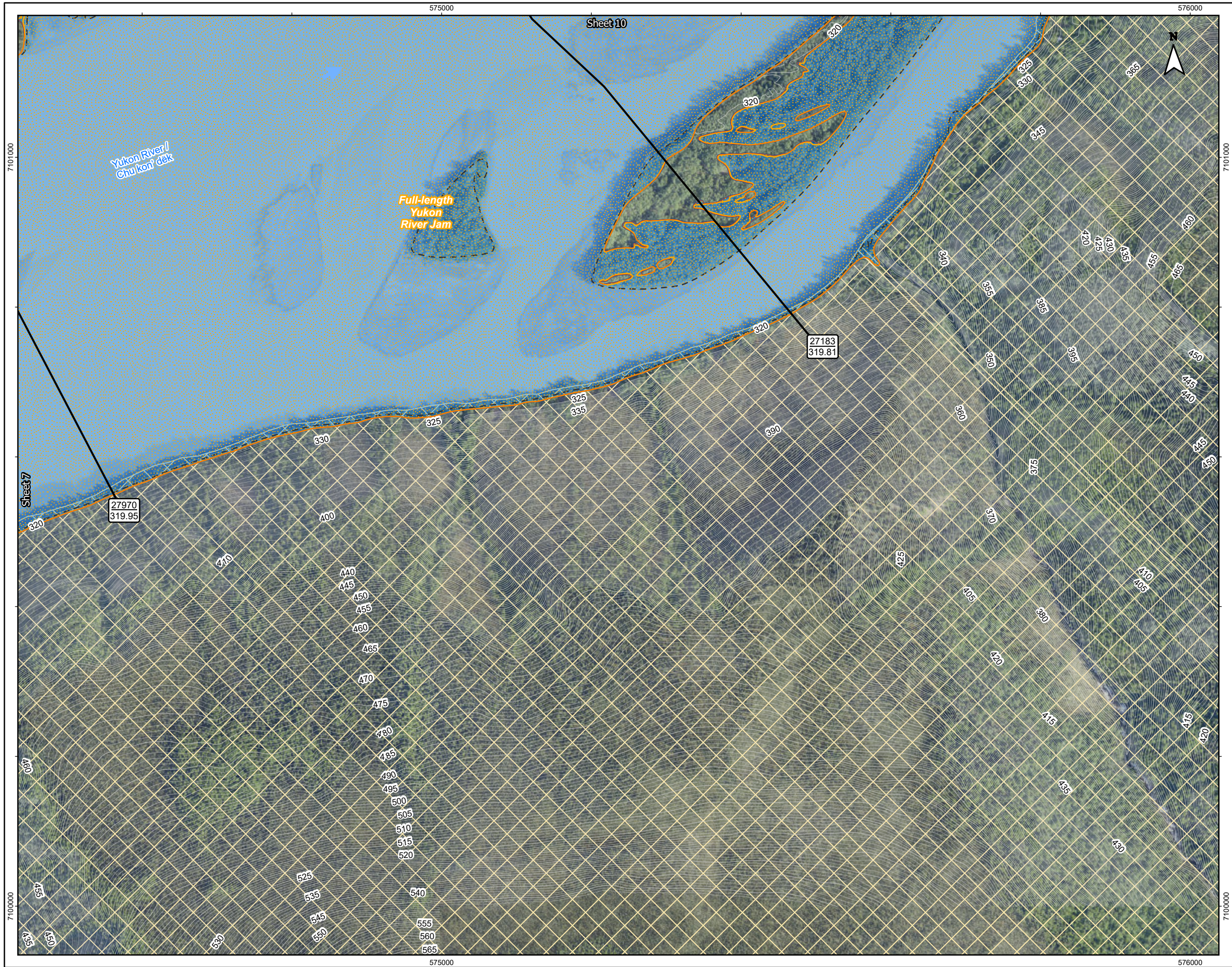


Figure No. **YR-5-08** Sheet 08 of 19

Title: **Dawson City and Klondike Valley Flood Mapping Study
Composite Flood Hazard Map - Yukon River
5% Annual Exceedance Probability (AEP)**

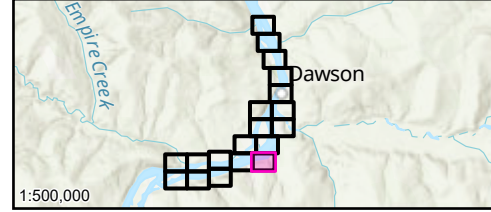
Client/Project:
Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon
Prepared by MANDERSON on 2025-07-29
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2025-07-29

- River Flow Direction
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Ground Elevations of Interest
- Approximate 50% AEP Open Water Flood Inundation
- Composite Open Water and Ice Jam Inundation Extent
- Cross-Section Number WSE (m) Along Cross-Section
- Major Contour (5m)
- Ice Coverage in Breakup Jam Scenarios
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Trondék Hwëch'in Settlement Land

Map Publication Date: 7/29/2025
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(At original document size of 11x 17) 1:5,000



- Notes**
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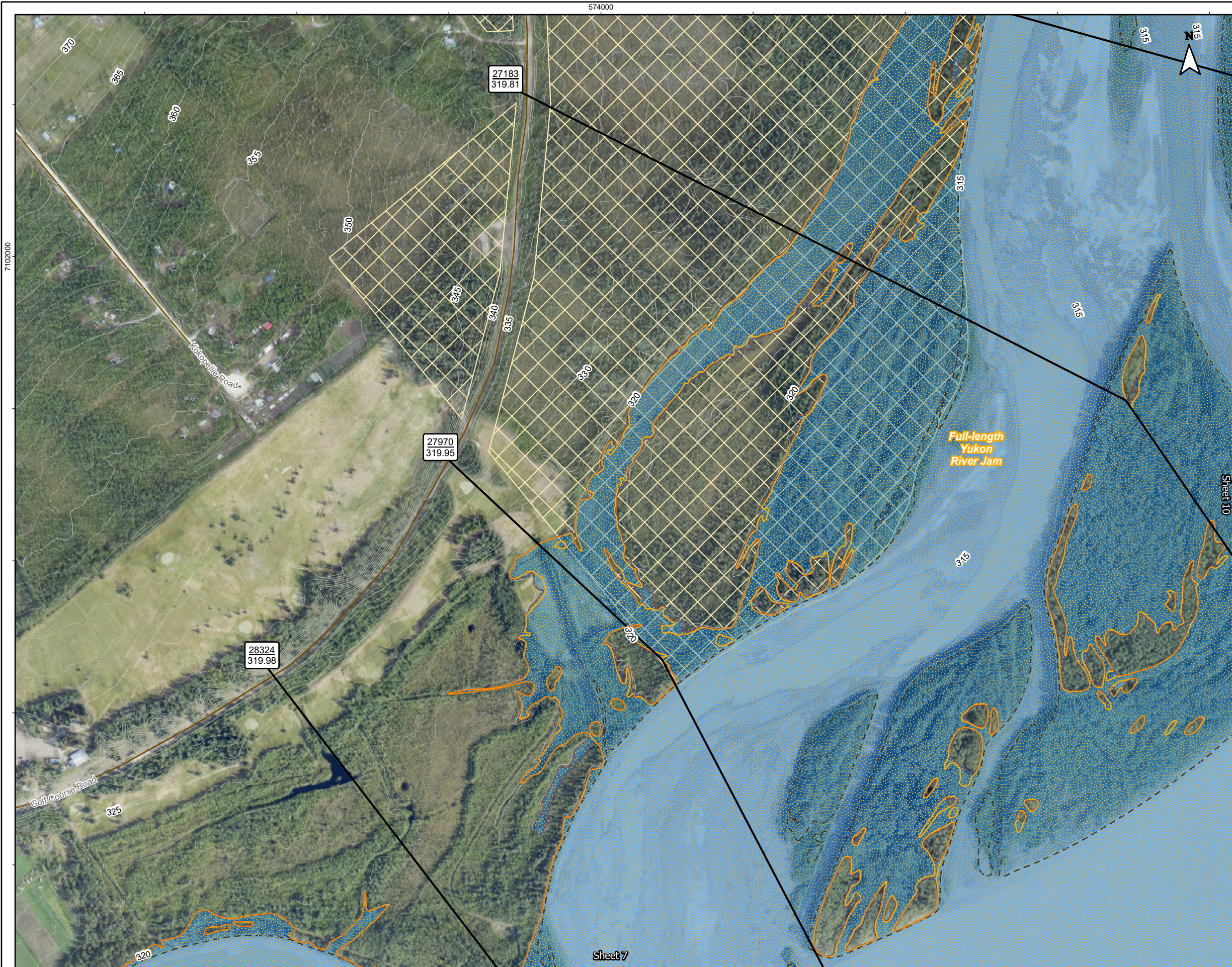


Figure No. **YR-5-09** Sheet 09 of 19

Title: **Dawson City and Klondike Valley Flood Mapping Study
Composite Flood Hazard Map - Yukon River
5% Annual Exceedance Probability (AEP)**

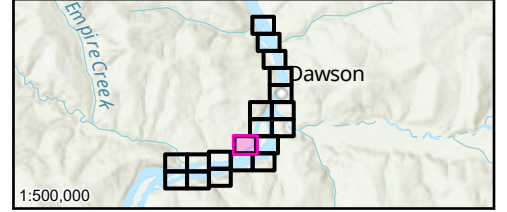
Client/Project:
Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon
Prepared by MANDERSON on 2025-07-29
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2025-07-29

- ▲ Ground Elevations of Interest
- 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
- Trondëk Hwëch'in Settlement Land
- Inundation Under Modelled Open Water Runs
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Map Publication Date: 7/29/2025
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(At original document size of 11x 17) 1:5,000

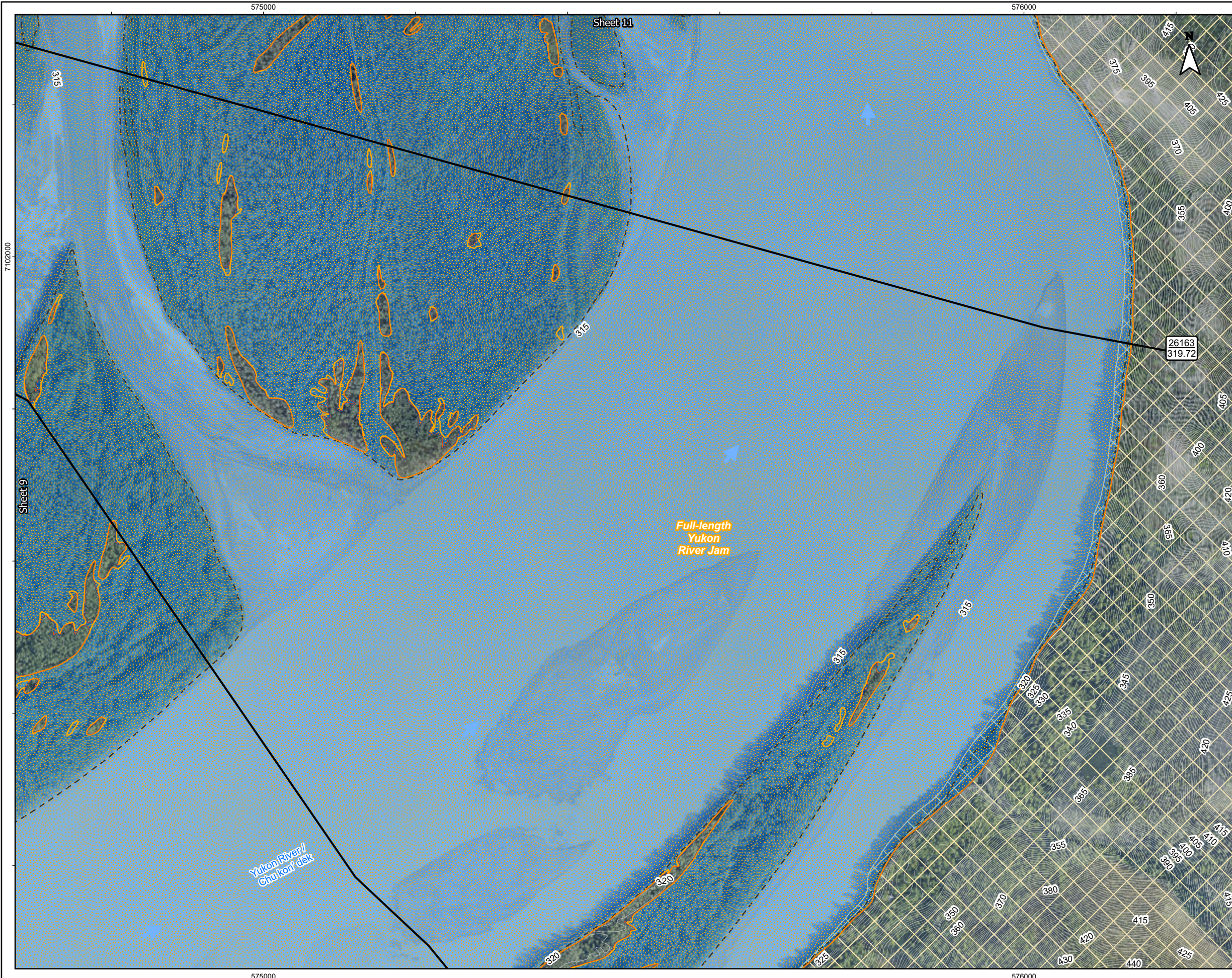


Notes
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Title: Dawson City and Klondike Valley Flood Mapping Study
Composite Flood Hazard Map - Yukon River
5% Annual Exceedance Probability (AEP)

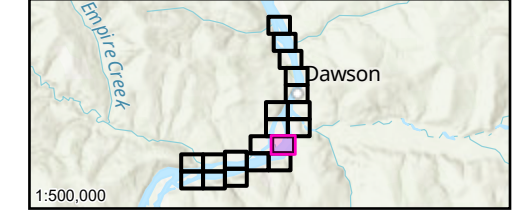
Client/Project:
 Government of Yukon
 Department of Environment
 Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon
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- River Flow Direction
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- Ice Coverage in Breakup Jam Scenarios

Map Publication Date: 7/29/2025
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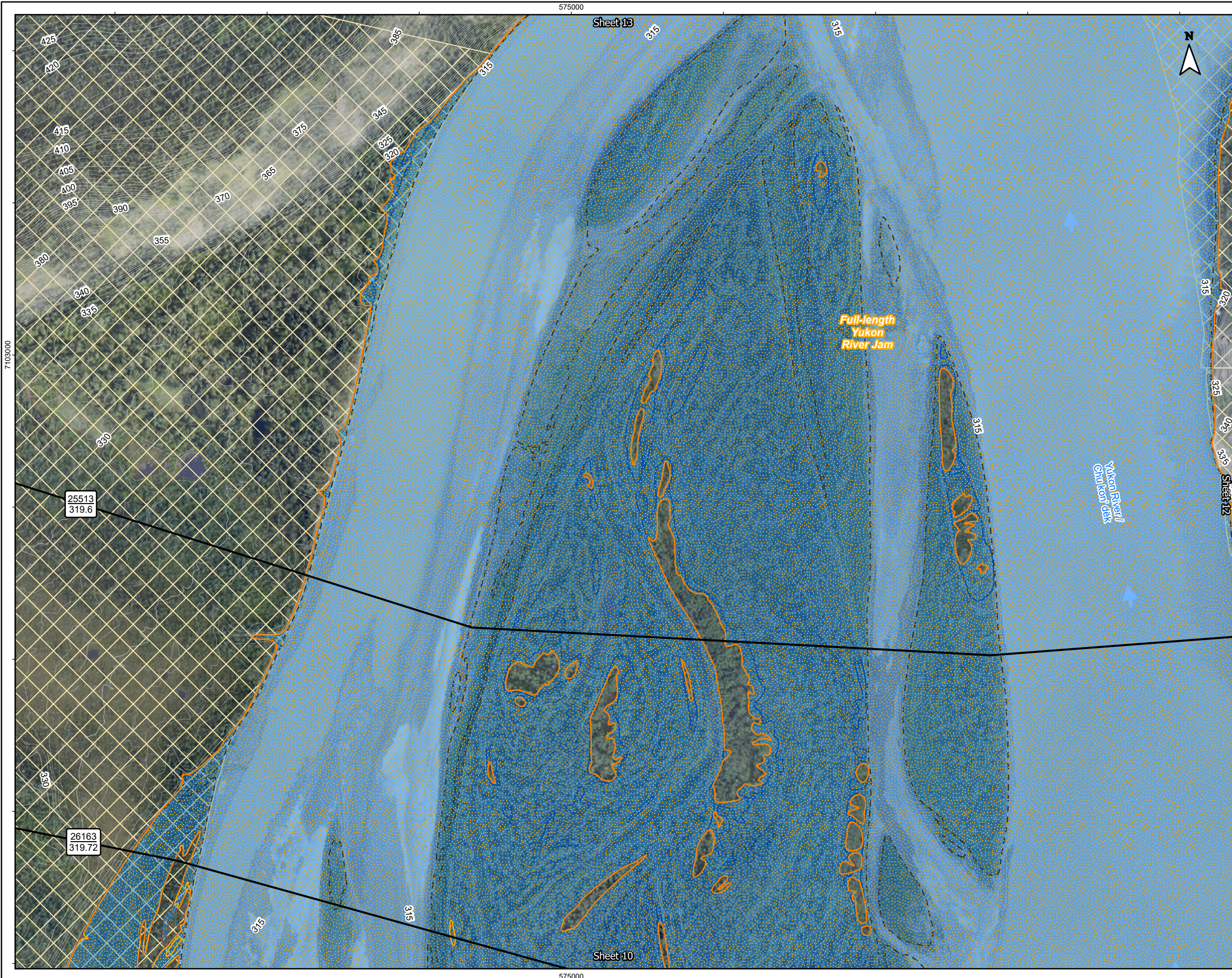


Figure No. **YR-5-11** Sheet 11 of 19

Title: **Dawson City and Klondike Valley Flood Mapping Study
Composite Flood Hazard Map - Yukon River
5% Annual Exceedance Probability (AEP)**

Client/Project:
Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon

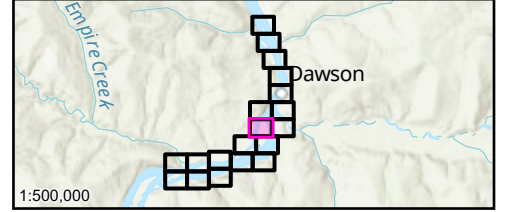
Prepared by MANDERSON on 2025-07-29
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2025-07-29

- River Flow Direction
- Ground Elevations of Interest
- Cross-Section Number WSE (m) Along Cross-Section
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Trondëk Hwëch'in Settlement Land
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Approximate 50% AEP Open Water Flood Inundation
- Composite Open Water and Ice Jam Inundation Extent
- Ice Coverage in Breakup Jam Scenarios

Map Publication Date: 7/29/2025

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



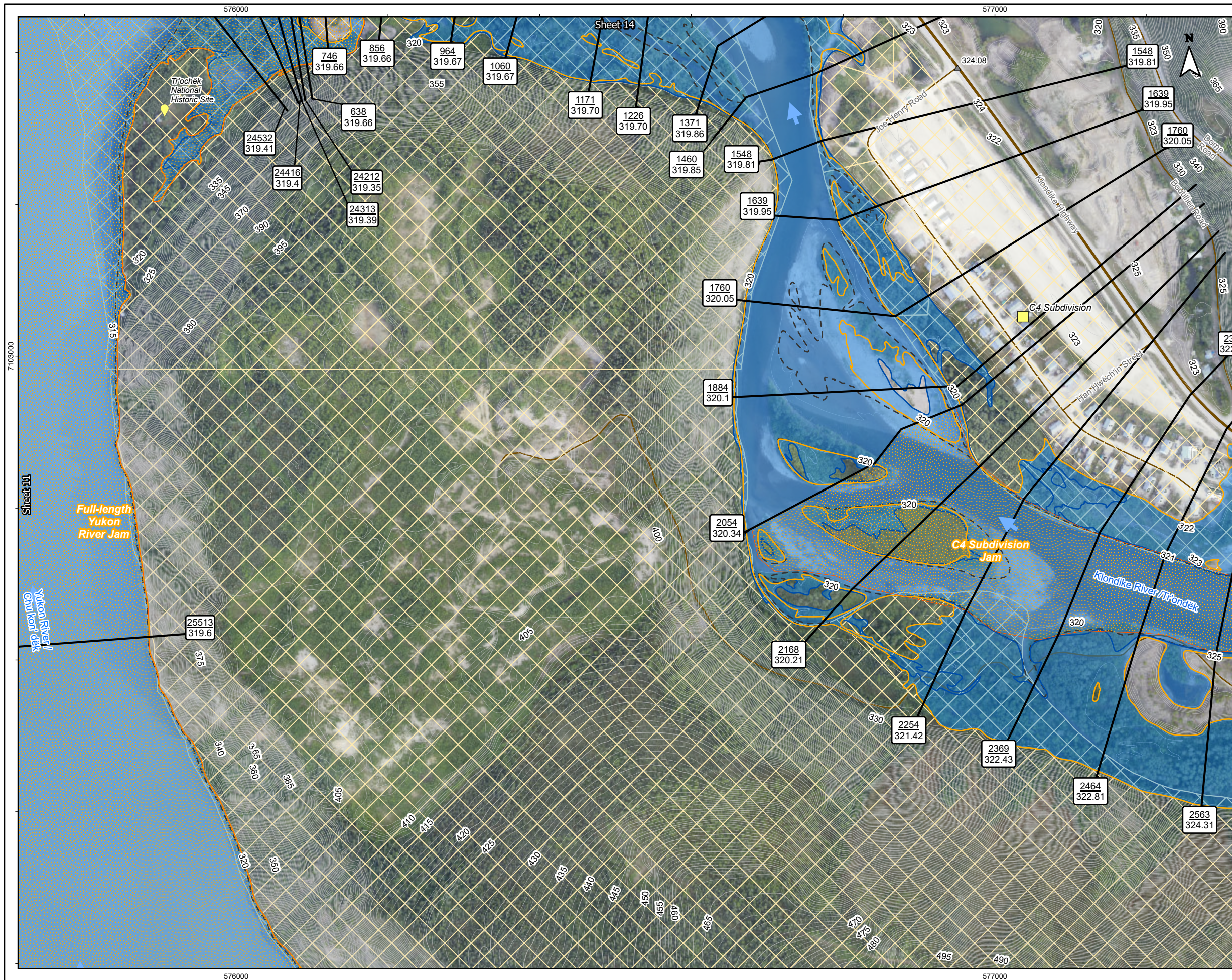
Notes

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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Title: Dawson City and Klondike Valley Flood Mapping Study
**Composite Flood Hazard Map - Yukon River
 5% Annual Exceedance Probability (AEP)**

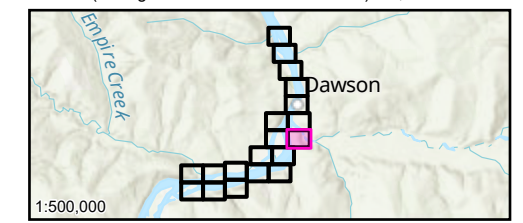
Client/Project:
 Government of Yukon
 Department of Environment
 Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon
 Prepared by MANDERSON on 2025-07-29
 Requested by JMUIRHEAD on 2024-03-30
 Review by JMUIRHEAD on 2025-07-29

- River Flow Direction
- Ground Elevations of Interest
- Community Developments
- Point of Interest
- 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
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Approximate 50% AEP Open Water Flood Inundation
- Composite Open Water and Ice Jam Inundation Extent
- Ice Coverage in Breakup Jam Scenarios

Map Publication Date: 7/29/2025
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 (At original document size of 11x 17) 1:5,000



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Title: Dawson City and Klondike Valley Flood Mapping Study
Composite Flood Hazard Map - Yukon River
5% Annual Exceedance Probability (AEP)

Client/Project:
Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon

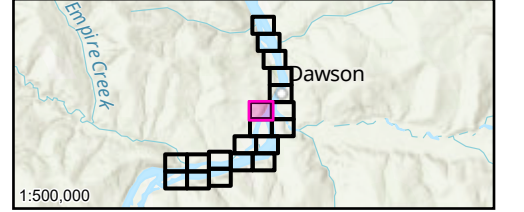
Prepared by MANDERSON on 2025-07-29
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2025-07-29

- River Flow Direction
- Surveyed Cross-Sections Used in Hydraulic Model
- Ground Elevations of Interest
- Tr'ondëk Hwëch'in Settlement Land
- HPW Drainage Culverts
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Cross-Section Number WSE (m) Along Cross-Section
- Approximate 50% AEP Open Water Flood Inundation
- Composite Open Water and Ice Jam Inundation Extent
- Highway
- Ice Coverage in Breakup Jam Scenarios
- Local Road
- Major Contour (5m)
- Minor Contour (1m)

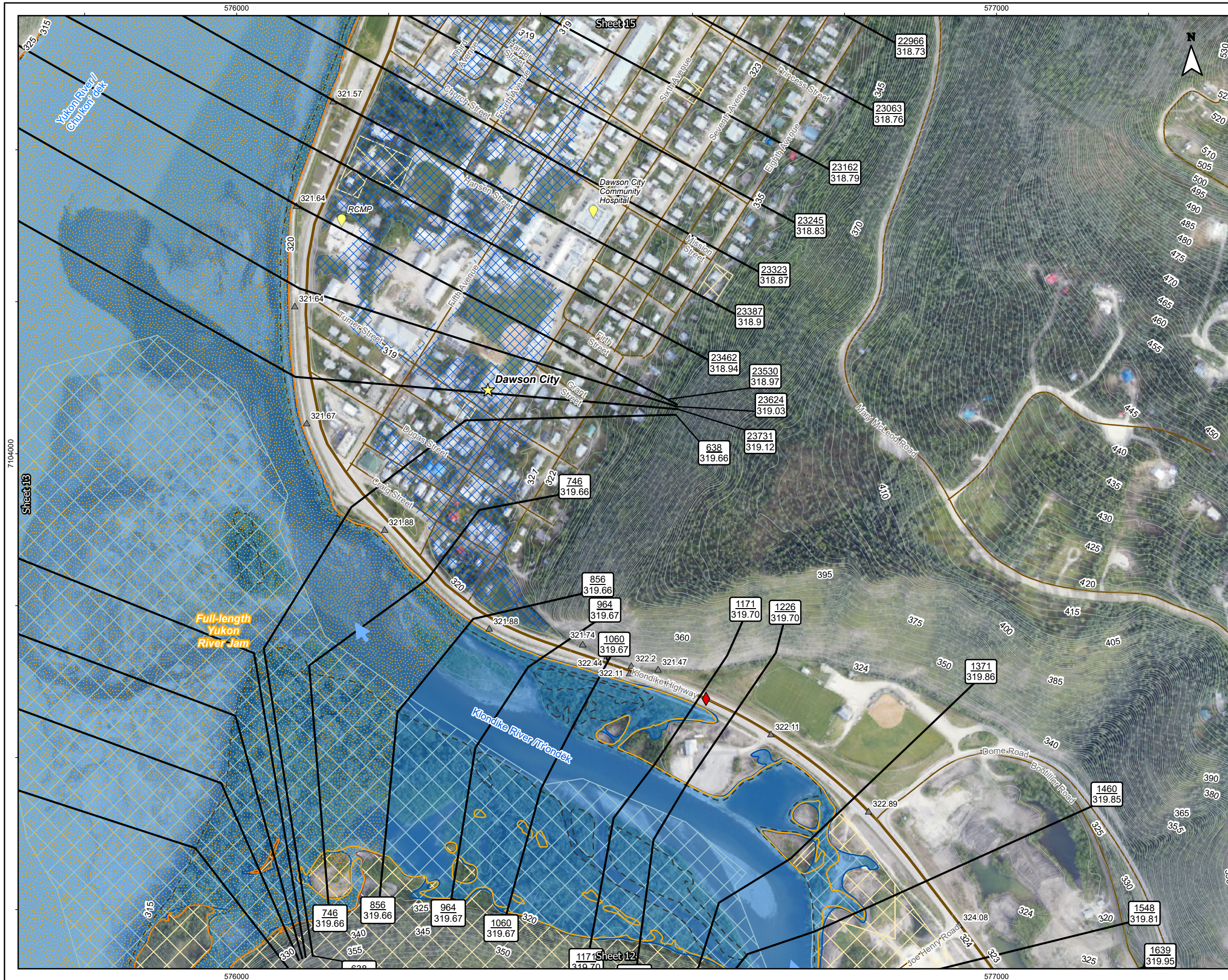
Map Publication Date: 7/29/2025

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- Notes**
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Title: Dawson City and Klondike Valley Flood Mapping Study
Composite Flood Hazard Map - Yukon River
5% Annual Exceedance Probability (AEP)

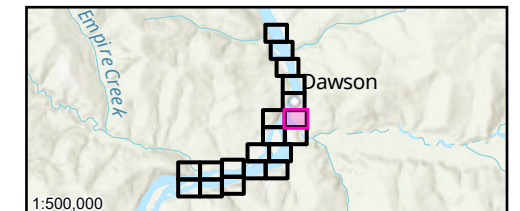
Client/Project:
Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon
Prepared by MANDERSON on 2025-07-29
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2025-07-29

- River Flow Direction
- Surveyed Cross-Sections Used in Hydraulic Model
- Ground Elevations of Interest
- Municipality
- Point of Interest
- HPW Drainage Culverts
- Cross-Section Number WSE (m) Along Cross-Section
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Tr'ondëk Hwëch'in Settlement Land
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Approximate 50% AEP Open Water Flood Inundation
- Composite Open Water and Ice Jam Inundation Extent
- Area Protected by Dike
- Ice Coverage in Breakup Jam Scenarios

Map Publication Date: 7/29/2025
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(At original document size of 11x 17) 1:5,000



Notes
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Composite Flood Hazard Map - Yukon River
5% Annual Exceedance Probability (AEP)

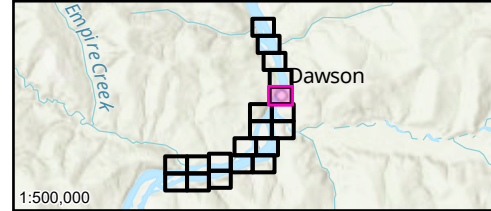
Client/Project:
Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon
Prepared by MANDERSON on 2025-07-29
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2025-07-29

- River Flow Direction
- Surveyed Cross-Sections Used in Hydraulic Model
- Ground Elevations of Interest
- Municipality
- Point of Interest
- Cross-Section Number WSE (m) Along Cross-Section
- Highway
- Local Road
- Major Contour (5m)
- Minor Contour (1m)
- Tr'ondëk Hwëch'in Settlement Land
- Inundation Under Modelled Open Water Inundation
- Inundation Under Modelled Breakup Ice Jam Runs
- Approximate 50% AEP Open Water Flood Inundation
- Composite Open Water and Ice Jam Inundation Extent
- Area Protected by Dike
- Ice Coverage in Breakup Jam Scenarios

Map Publication Date: 7/29/2025
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(At original document size of 11x 17) 1:5,000



Notes
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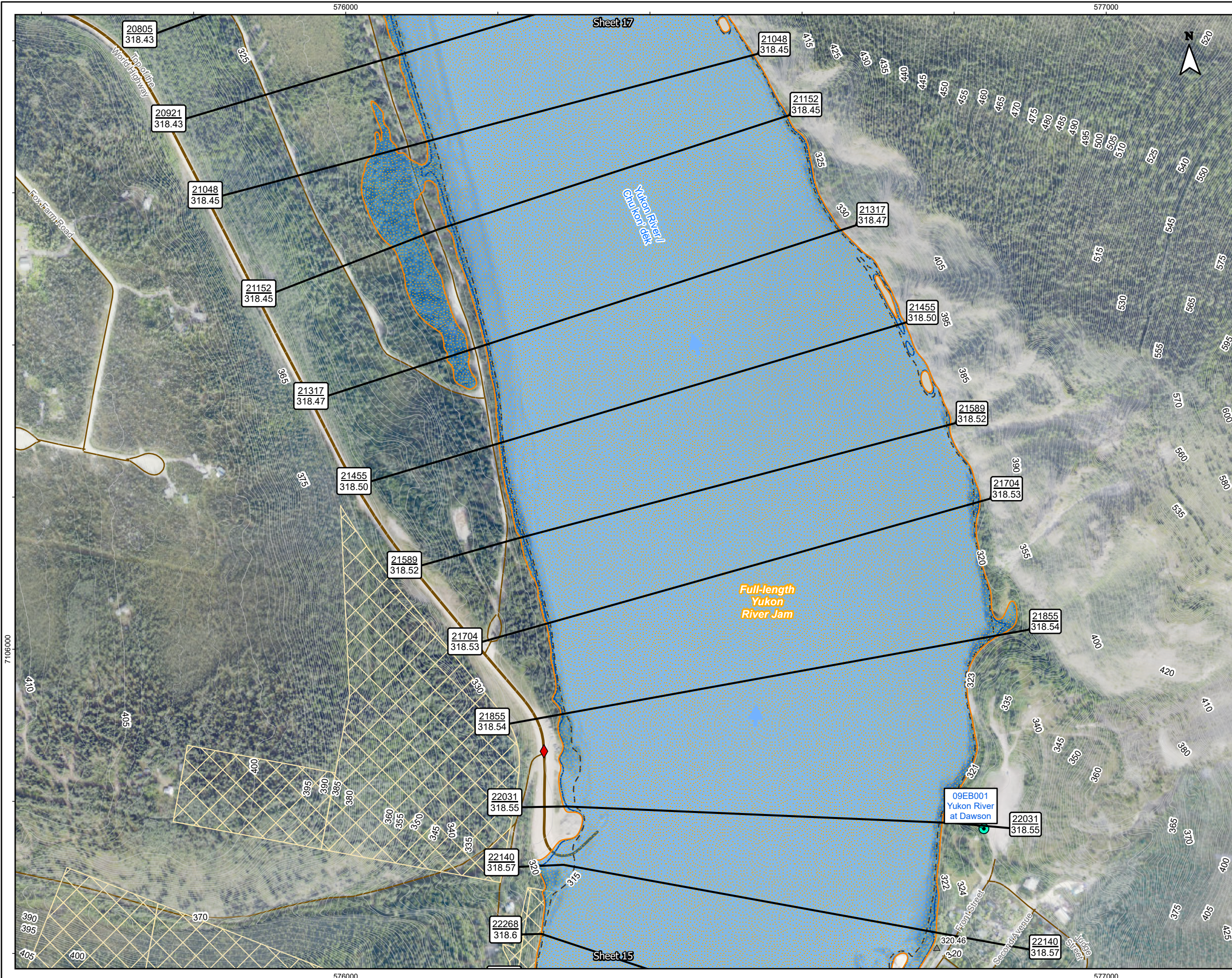


Figure No. **YR-5-16** Sheet 16 of 19

Title: **Dawson City and Klondike Valley Flood Mapping Study
Composite Flood Hazard Map - Yukon River
5% Annual Exceedance Probability (AEP)**

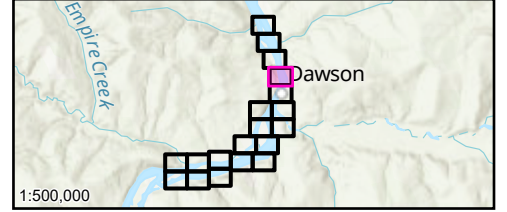
Client/Project:
Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon
Prepared by MANDERSON on 2025-07-29
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2025-07-29

- River Flow Direction
- WSC Stations
- Ground Elevations of Interest
- HPW Drainage Culverts
- 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
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Approximate 50% AEP Open Water Flood Inundation
- Composite Open Water and Ice Jam Inundation Extent
- Ice Coverage in Breakup Jam Scenarios

Map Publication Date: 7/29/2025
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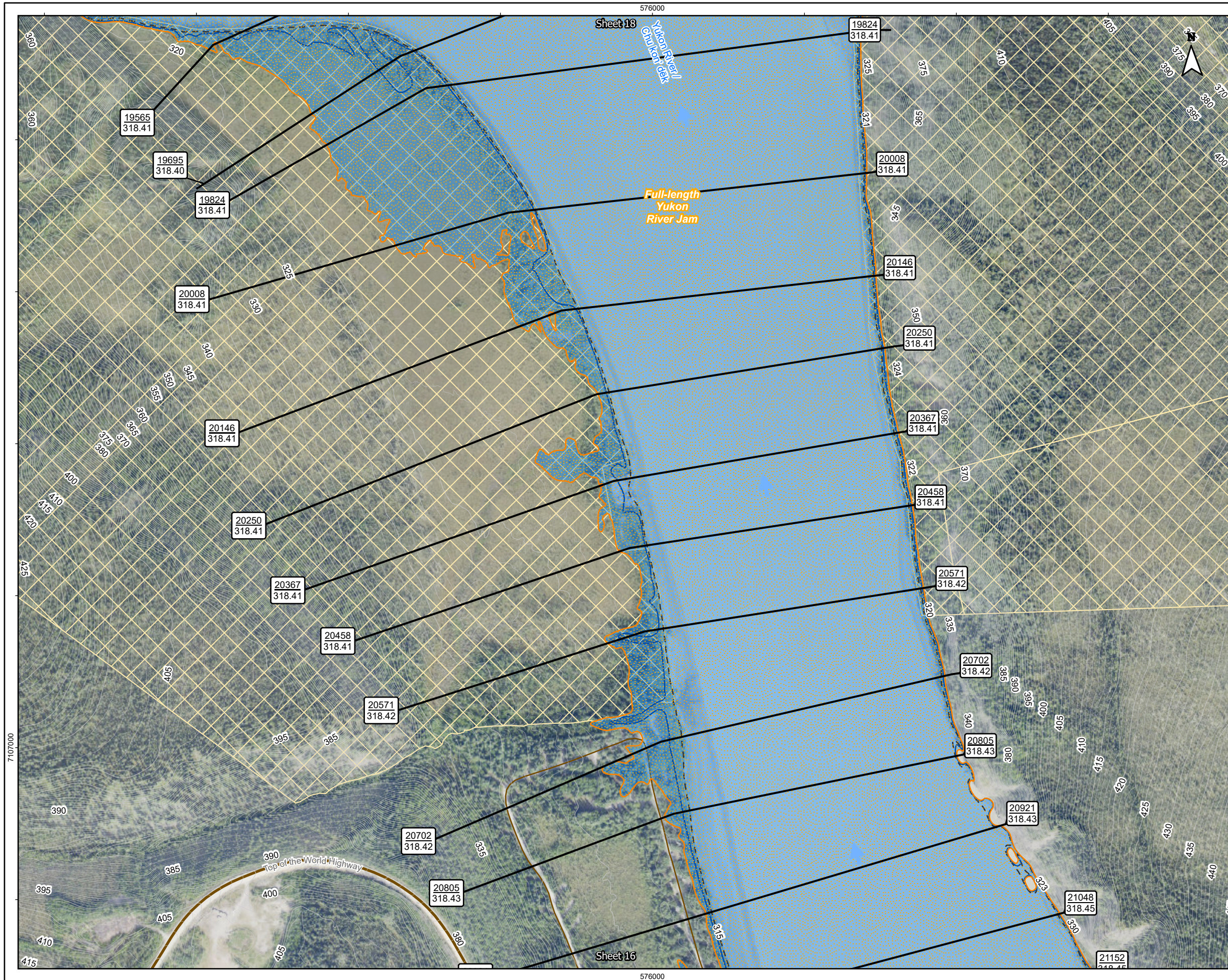


- Notes
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**Title: Dawson City and Klondike Valley Flood Mapping Study
Composite Flood Hazard Map - Yukon River
5% Annual Exceedance Probability (AEP)**

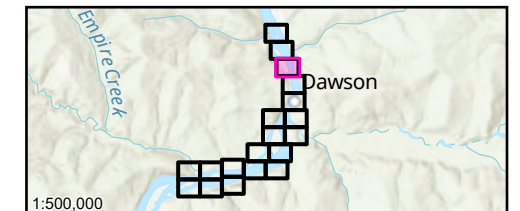
Client/Project:
Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

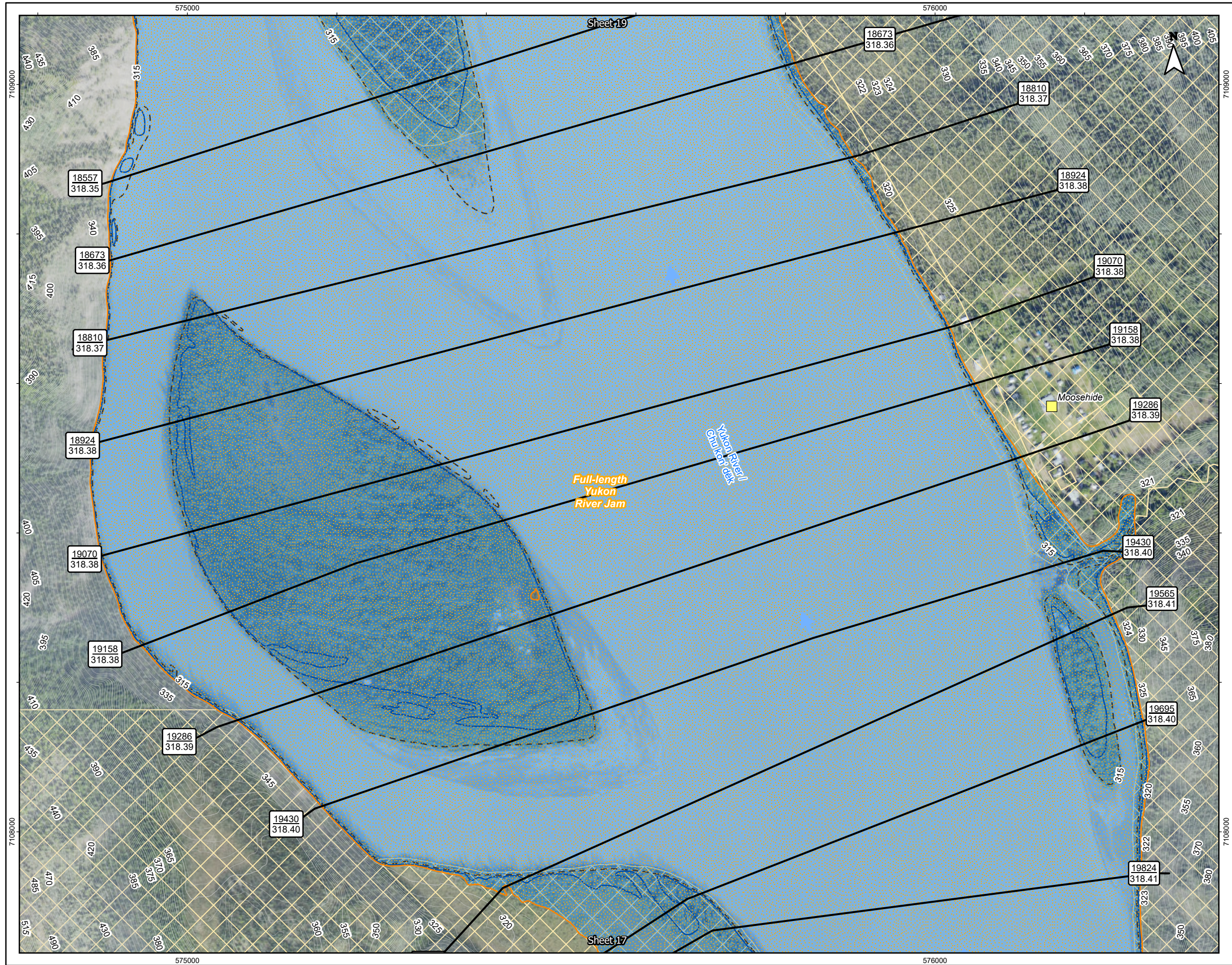
Project Location: Dawson, Yukon
Prepared by MANDERSON on 2025-07-29
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2025-07-29

- River Flow Direction
- Tr'ondëk Hwëch'in Settlement Land
- Ground Elevations of Interest
- Inundation Under Modelled Open Water Runs
- Cross-Section Number WSE (m) Along Cross-Section
- Inundation Under Modelled Breakup Ice Jam Runs
- Highway
- Local Road
- Approximate 50% AEP Open Water Flood Inundation
- Composite Open Water and Ice Jam Inundation Extent
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Ice Coverage in Breakup Jam Scenarios

Map Publication Date: 7/29/2025
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(At original document size of 11x 17) 1:5,000



- Notes**
- Coordinate System: NAD 1983 CSRS UTM Zone 7N Vertical Datum: CGVD2013, Geoid: CGG2013a
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Title: Dawson City and Klondike Valley Flood Mapping Study
Composite Flood Hazard Map - Yukon River
5% Annual Exceedance Probability (AEP)

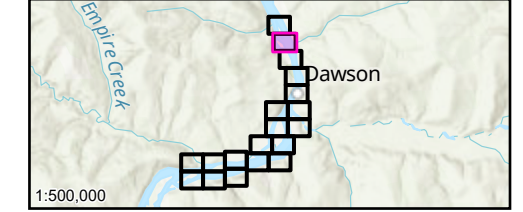
Client/Project:
Government of Yukon
Department of Environment
Water Resources Branch

Project: 123222713

Project Location: Dawson, Yukon
Prepared by MANDERSON on 2025-07-29
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2025-07-29

- River Flow Direction
- Ground Elevations of Interest
- Community Developments
- 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
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Approximate 50% AEP Open Water Flood Inundation
- Composite Open Water and Ice Jam Inundation Extent
- Ice Coverage in Breakup Jam Scenarios

Map Publication Date: 7/29/2025
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(At original document size of 11x 17) 1:5,000



- Notes**
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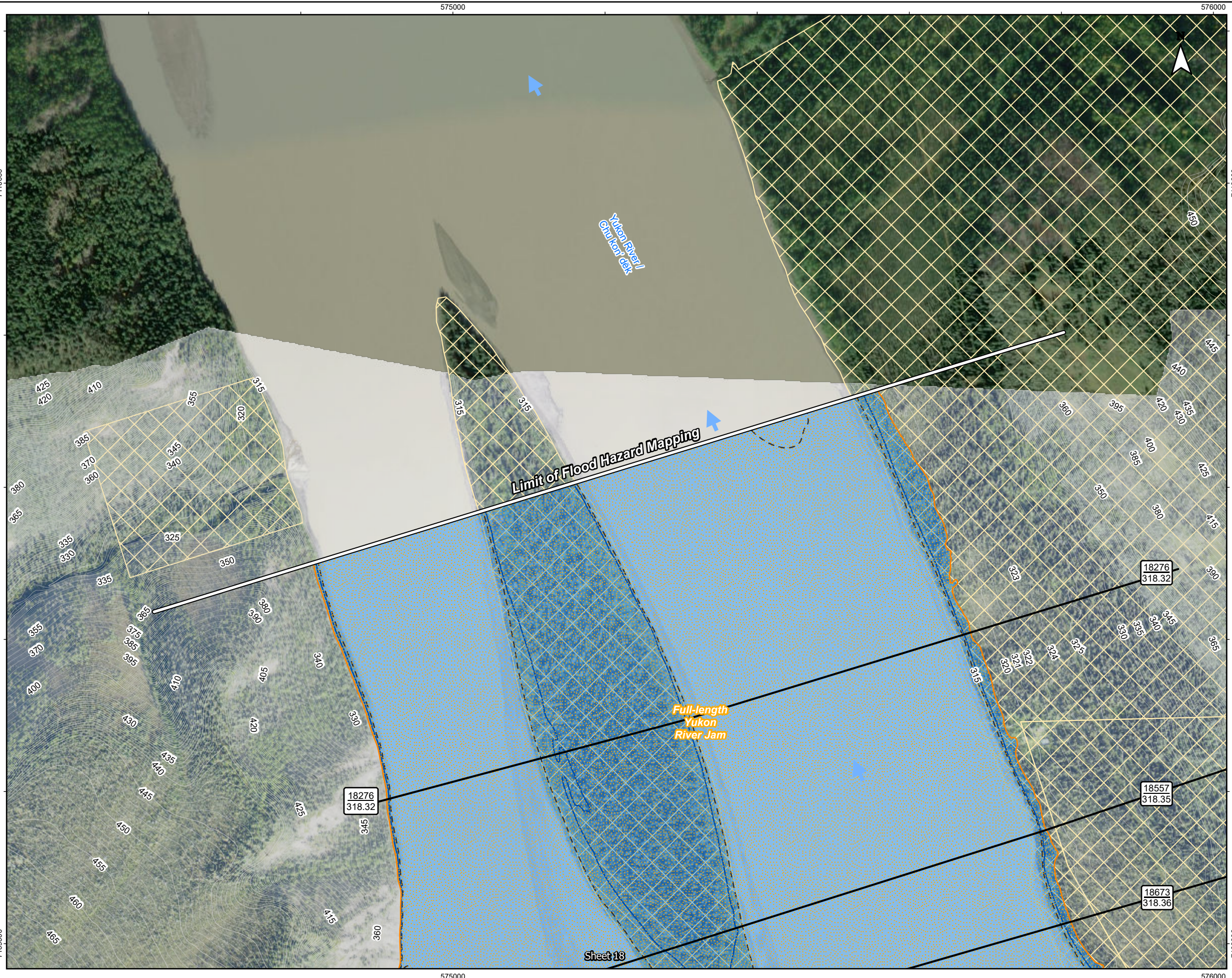
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Yukon River /
Chulion Creek

Limit of Flood Hazard Mapping

Full-length
Yukon
River Jam

18276
318.32

18276
318.32

18557
318.35

18673
318.36

Sheet 18

Figure No. **YR-5-19** Sheet 19 of 19

Title: **Dawson City and Klondike Valley Flood Mapping Study
Composite Flood Hazard Map - Yukon River
5% Annual Exceedance Probability (AEP)**

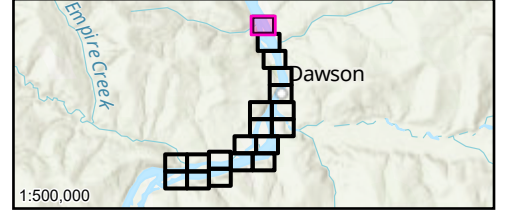
Client/Project:
**Government of Yukon
Department of Environment
Water Resources Branch**

Project: 123222713

Project Location: Dawson, Yukon
Prepared by MANDERSON on 2025-07-29
Requested by JMUIRHEAD on 2024-03-30
Review by JMUIRHEAD on 2025-07-29

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- Ground Elevations of Interest
- Cross-Section Number WSE (m) Along Cross-Section
- Major Contour (5m)
- Minor Contour (1m)
- Surveyed Cross-Sections Used in Hydraulic Model
- Limit of Flood Hazard Mapping
- Tr'ondëk Hwëch'in Settlement Land
- Inundation Under Modelled Open Water Runs
- Inundation Under Modelled Breakup Ice Jam Runs
- Approximate 50% AEP Open Water Flood Inundation
- Composite Open Water and Ice Jam Inundation Extent
- Ice Coverage in Breakup Jam Scenarios

Map Publication Date: 7/29/2025
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- Notes
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