

2023 Ecological Analysis Update The University of British Columbia Okanagan



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Prepared For:
Sustainability Office, Campus Planning

October 13, 2023

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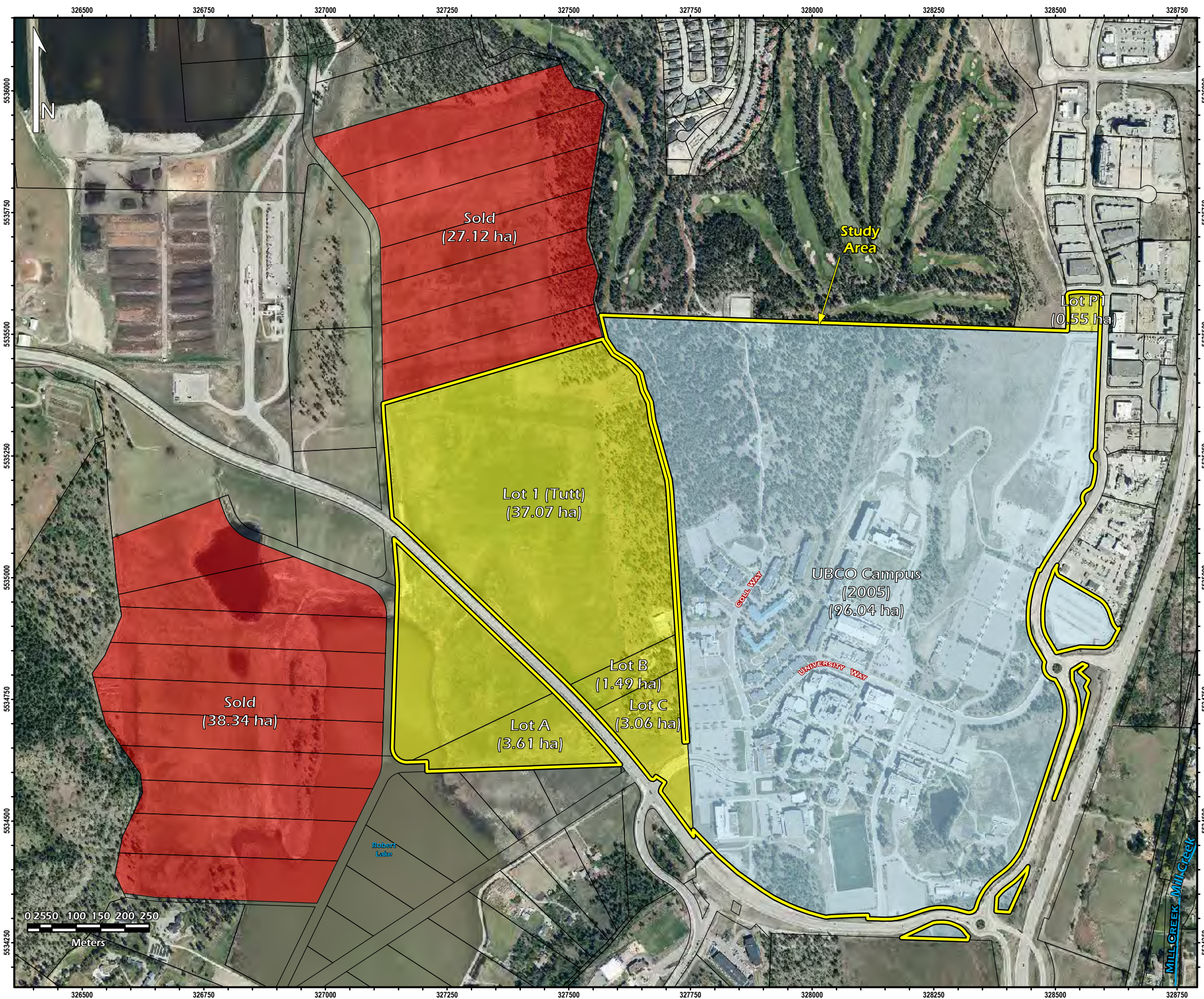


FIGURE 2-1 Site Location

Project: Environmental Assessment
Location: University of British Columbia Okanagan
Project No.: 21-4102
Prepared for: UBC Okanagan
Prepared by: Dan Austin, GIS Specialist
 Ecoscape Environmental Consultants Ltd.
Coordinate System: NAD83-UTM Zone 11
Imagery: Kelowna 2021
Field Visit: N/A
Map Date: July 13, 2023

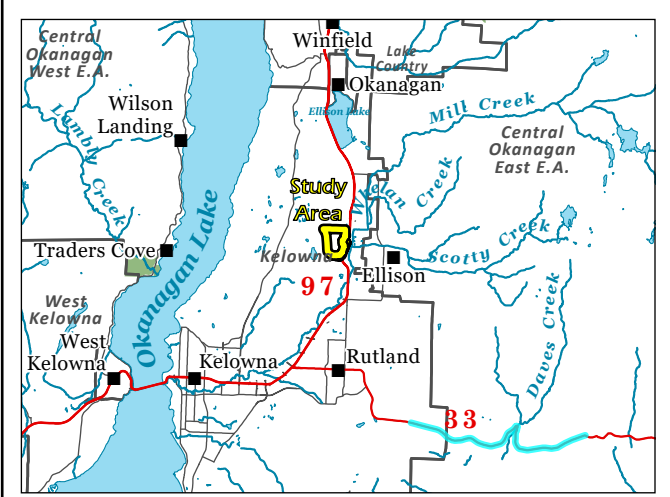
LEGEND

- Streams
- Cadastre
- Study Area

Land Ownership

- 2005 UBCO Campus
- Land Aquired (since 2005)
- Land Acquired and Sold (since 2005)

Regional Location of Subject Property



DISCLAIMER
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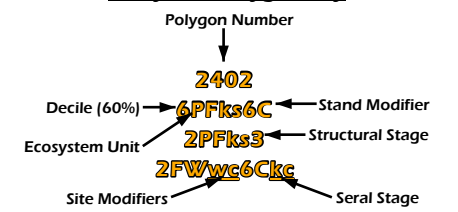
FIGURE 2-2
2006 Ecologically Sensitive Areas

Project: Environmental Assessment
 Location: University of British Columbia Okanagan
 Project No.: 21-4102
 Prepared for: UBC Okanagan
 Prepared by: Dan Austin, GIS Specialist
 Ecoscape Environmental Consultants Ltd.
 Coordinate System: NAD83-UTM Zone 11
 Imagery: Kelowna 2006
 Field Visit: N/A
 Map Date: July 13, 2023

LEGEND

- Streams
 - Cadastre
 - UBCO Property (2005)
 - UBCO Property (2021)
 - Ecosystem Polygons (2006)
- Ecosystem Sensitivity**
- Human Modified Area
 - Ecologically Sensitive Areas

Ecosystem Polygon Key



Ecosystem Unit

- AK Alkaline Lake
- CF Cultivated Field
- CO Cultivated Orchard
- CT Cattail Marsh
- GP Gravel Pit
- OW Shallow Water
- PC Py - Bluebunch wheatgrass - Cheatgrass
- PF FdPy - Pinegrass - Idaho fescue
- PT Py - Red three-awn
- PW Py - Bluebunch wheatgrass - Idaho fescue
- RW Rural
- UR Urban

Site Modifier

- c coarse-textured soils
- k cool aspect (285 – 135°) slope (26% – 100%)
- v very shallow soils (<20 cm)
- w warm aspect (135 – 285°) slope (26% – 100%)
- x drier than typical

Structural Stage

- 2 Herb
- 4 Pole Sapling
- 5 Young Forest

Stand Modifier

- C Coniferous

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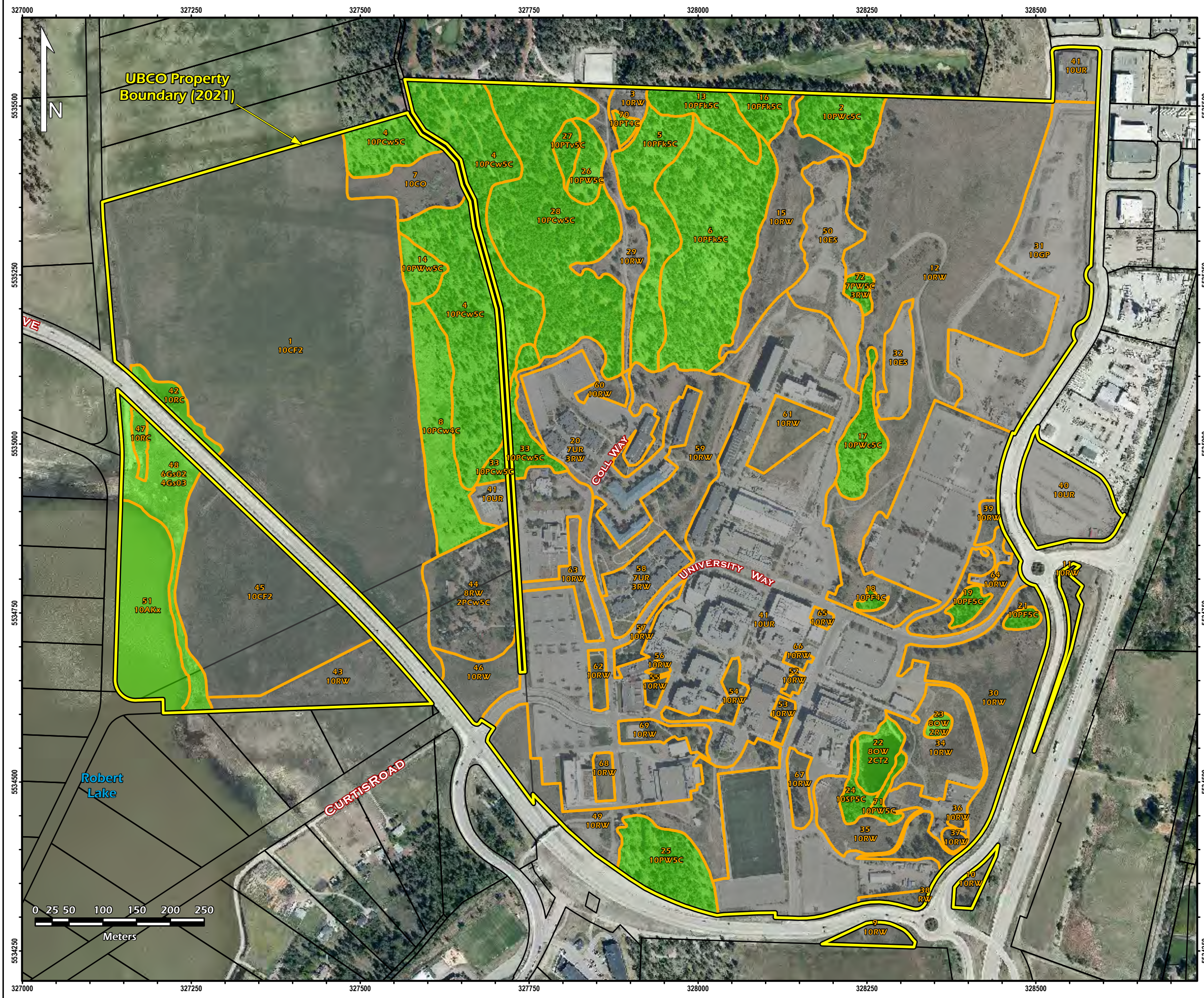


FIGURE 2-3
2021 Ecologically Sensitive Areas

Project: Environmental Assessment
 Location: University of British Columbia Okanagan
 Project No.: 21-4102
 Prepared for: UBC Okanagan
 Prepared by: Dan Austin, GIS Specialist
 Ecoscape Environmental Consultants Ltd.
 Coordinate System: NAD83-UTM Zone 11
 Imagery: Kelowna 2021
 Field Visit: N/A
 Map Date: July 13, 2023

LEGEND

- Streams
- Cadastre
- UBCO Property (2021)
- Ecosystem Polygons (2021)

Ecosystem Sensitivity

- Human Modified Areas
- Ecologically Sensitive Areas

Ecosystem Polygon Key

Polygon Number
 ↓
 2402
 Decile (60%) → 6PFk56C ← Stand Modifier
 Ecosystem Unit → 2PFk53 ← Structural Stage
 Site Modifiers → 2FWw56Ck ← Seral Stage

Ecosystem Unit

- AK Alkaline Lake
- CF Cultivated Field
- CO Cultivated Orchard
- CT Cattail Marsh
- ES Exposed Soil
- GP Gravel Pit
- Gs02 Nuttall's Alkaligrass – Foxtail Barley
- Gs03 Baltic Rush – Field Sedge
- OW Shallow Water
- PC Py - Bluebunch wheatgrass - Cheatgrass
- PF FdPy - Pinegrass - Idaho fescue
- PT Py - Red three-awn
- PW Py - Bluebunch wheatgrass - Idaho fescue
- RC Reed Canarygrass
- RW Rural
- RZ Road Surface
- SP FdPy - Snowbrush - Pinegrass
- UR Urban

Site Modifier

- c coarse-textured soils
- k cool aspect (285 – 135°) slope (26% – 100%)
- v very shallow soils (<20 cm)
- w warm aspect (135 – 285°) slope (26% – 100%)
- x drier than typical

Structural Stage

- 2 Herb
- 4 Pole Sapling
- 5 Young Forest

Stand Modifier

- C Coniferous

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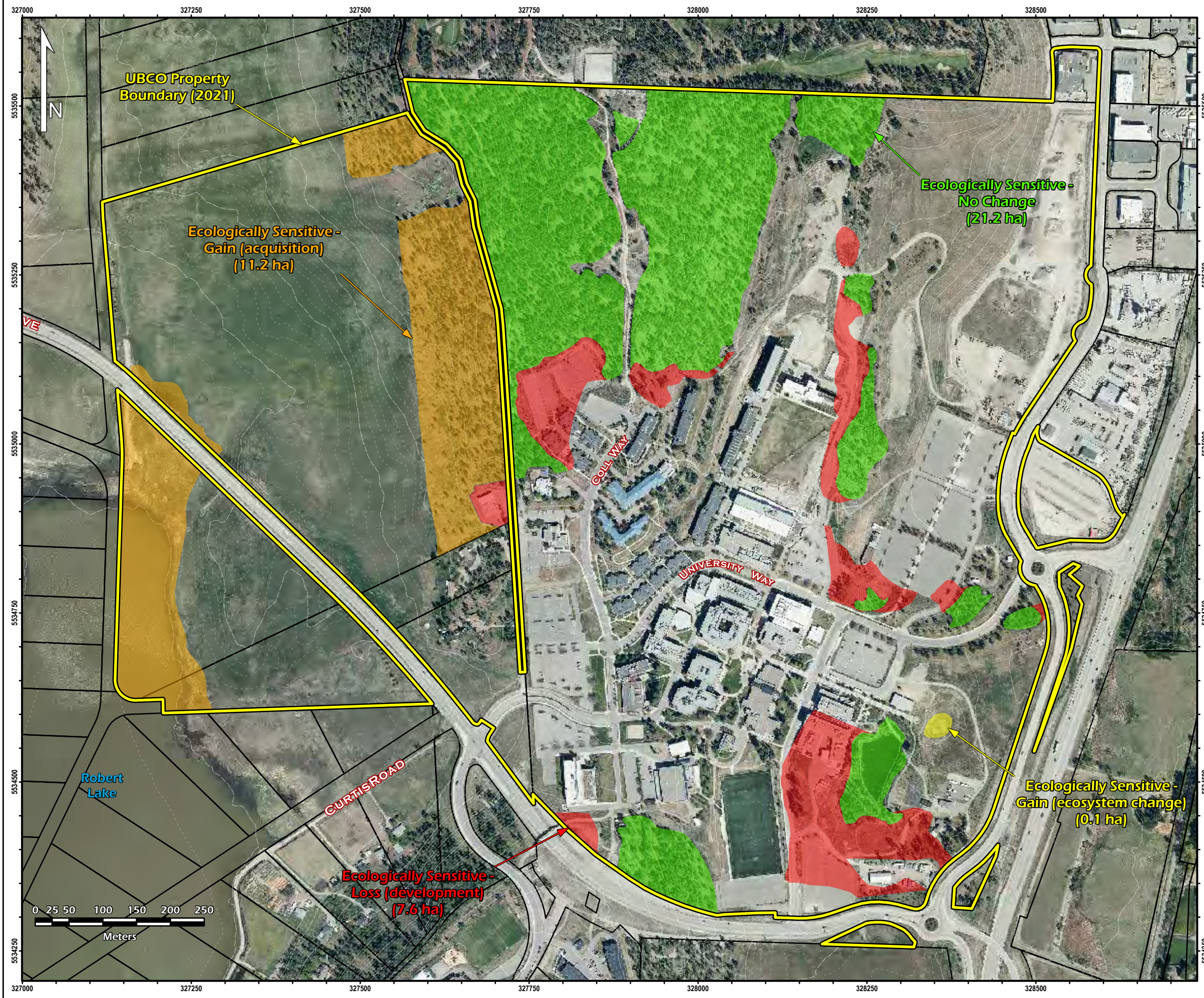


FIGURE 2-4
Ecosystems Change from 2006 to 2021

Project: Environmental Assessment
 Location: University of British Columbia Okanagan
 Project No.: 21-4102
 Prepared for: UBC Okanagan
 Prepared by: Dan Austin, GIS Specialist
 Ecoscope Environmental Consultants Ltd.
 Coordinate System: NAD83-UTM Zone 11
 Imagery: Kelowna 2021
 Field Visit: N/A
 Map Date: July 13, 2023

LEGEND

- Cadastre
- UBCO Property (2021)

Ecosystem Change from 2006 to 2021

- Ecologically Sensitive - Gain (ecosystem change)
- Ecologically Sensitive - Gain (acquisition)
- Ecologically Sensitive - Loss (development)
- Ecologically Sensitive - No Change

Ecosystem Transition	Area (ha)
Ecologically Sensitive - Gain (ecosystem change)	0.1
Ecologically Sensitive - Gain (acquisition)	11.2
Ecologically Sensitive - Loss (development)	7.6
Ecologically Sensitive - No Change	21.2

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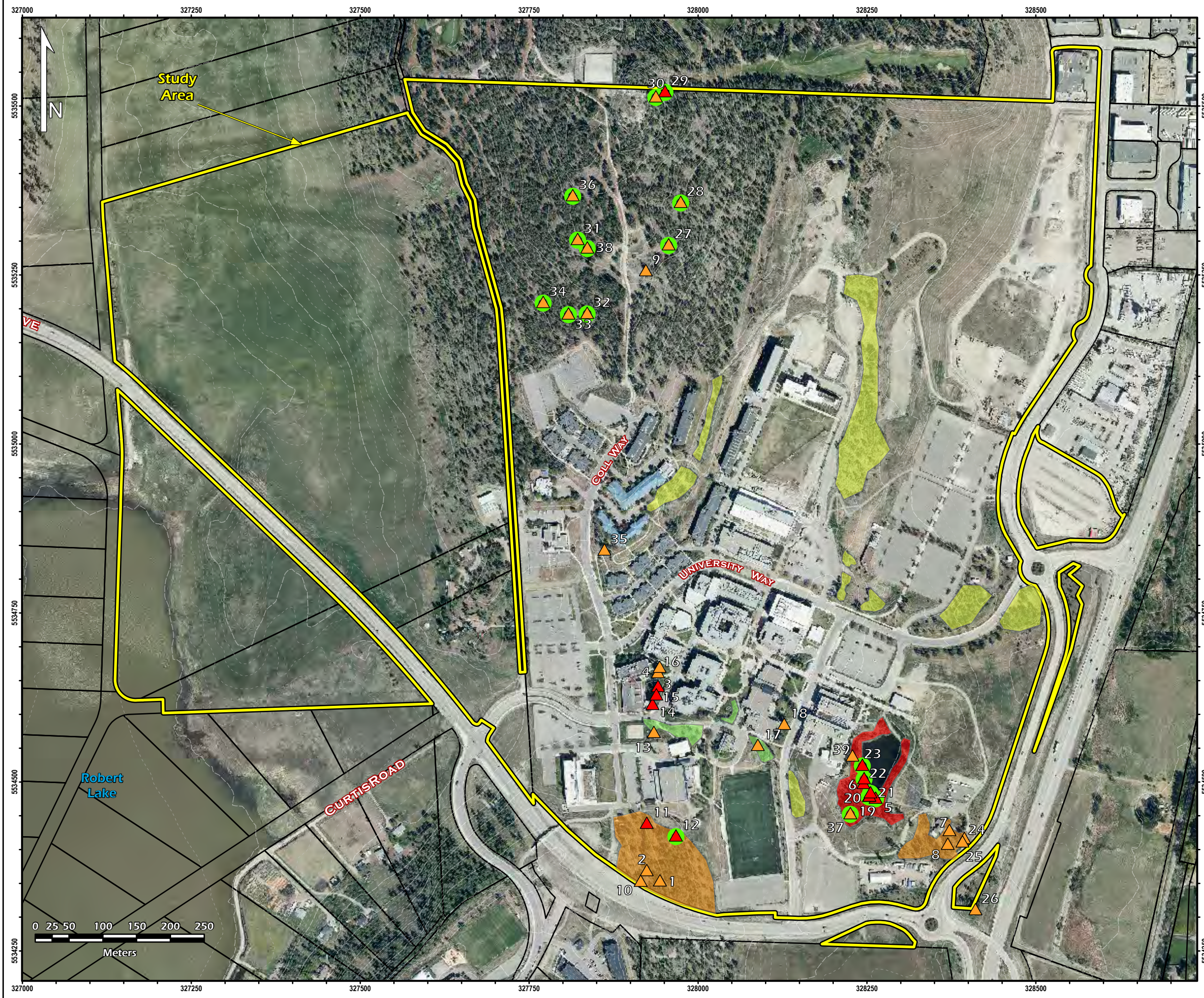


FIGURE 3-1
UBCO Campus Wildlife Trees and Tree Groups

Project: Wildlife Tree Assessment
 Location: University of British Columbia Okanagan
 Project No.: 21-4102
 Prepared for: UBC Okanagan
 Prepared by: Dan Austin, GIS Specialist
 Ecoscape Environmental Consultants Ltd.
 Coordinate System: NAD83-UTM Zone 11
 Imagery: Kelowna 2021
 Field Visit: N/A
 Map Date: July 13, 2023

LEGEND

- Streams
- Cadastre
- Study Area

Wildlife Tree Value

- Very High
- High
- Snag

Tree Group Value

- Very High
- High
- Medium
- Low

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ecological analyses updates.mxd

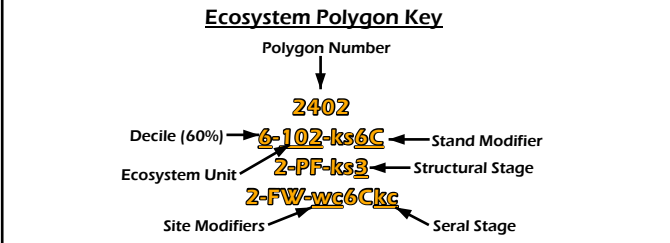


FIGURE 3-2
2023 Ecosystem Mapping

Project: Environmental Assessment
 Location: University of British Columbia Okanagan
 Project No.: 21-4102
 Prepared for: UBC Okanagan
 Prepared by: Dan Austin, GIS Specialist
 Ecoscape Environmental Consultants Ltd.
 Coordinate System: NAD83-UTM Zone 11
 Imagery: Kelowna 2021
 Field Visit: N/A
 Map Date: August 4, 2023

LEGEND

- Streams
- Cadastre
- UBCO Property Boundary (2021)
- Ecosystem Polygons (2023)



Ecosystem Unit

AK	Alkaline Lake
CF	Cultivated Field
CO	Cultivated Orchard
Ff01	Water birch - Red-osier dogwood - Rose
ES	Exposed Soil
GP	Gravel Pit
Ga02	Nuttall's alkaligrass - Foxtail barley
Ga03	Field Sedge
OW	Open Water
RW	Rural
UR	Urban
Wm05	Cattail Marsh
101	Py(Fd) - Bluebunch wheatgrass - Rough fescue
102	Py(Fd) - Bluebunch wheatgrass - Selaginella
104	Py - Bluebunch wheatgrass - Balsamroot
110	FdPy - Pinegrass

Site Modifier

c	coarse-textured soils
k	cool aspect (285 – 135°) slope (26% – 100%)
v	very shallow soils (<20 cm)
w	warm aspect (135 – 285°) slope (26% – 100%)
x	drier than typical

Structural Stage

2	Herb
4	Pole Sapling
5	Young Forest

Stand Modifier

C	Coniferous
---	------------

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FIGURE 3-3
Environmental Sensitivity Analysis

Project: Environmental Assessment
 Location: University of British Columbia Okanagan
 Project No.: 21-4102
 Prepared for: UBC Okanagan
 Prepared by: Dan Austin, GIS Specialist
 Ecoscope Environmental Consultants Ltd.

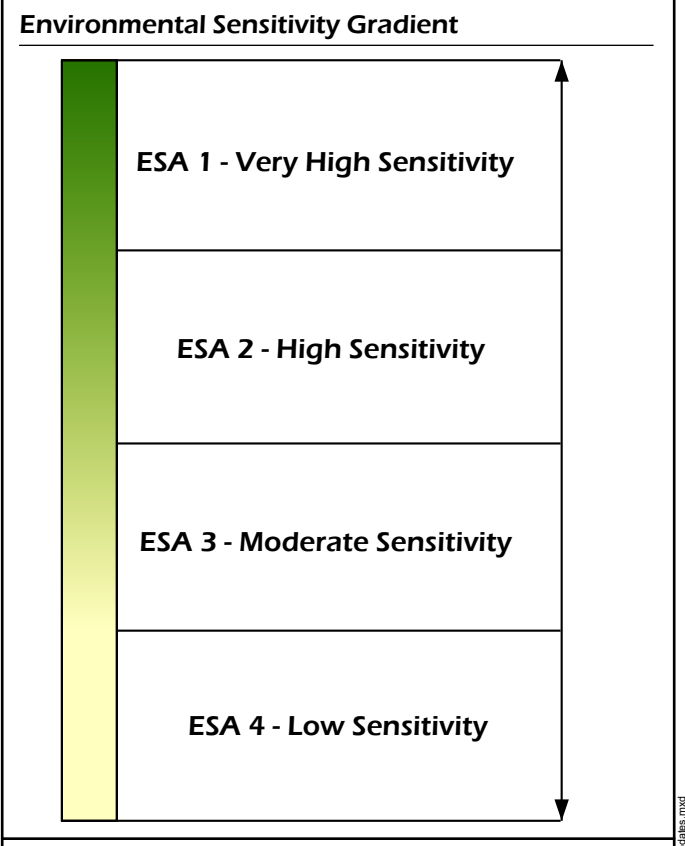
Coordinate System: NAD83-UTM Zone 11
 Imagery: Kelowna 2021
 Field Visit: N/A
 Map Date: August 8, 2023

LEGEND

- Ecosystem Polygon Number
- Streams
- Cadastre
- UBCO Property Boundary (2021)

Environmental Sensitivity

- Very High (ESA 1)
- High (ESA 2)
- Moderate (ESA 3)
- Low (ESA 4)



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21-4102 ecological analysis report.mxd

APPENDIX A: Wildlife Tree Photos



1. WILDLIFE TREES



Figure 1-1. Wildlife tree ID 1, ponderosa pine.



Figure 1-2. Wildlife tree ID 2, ponderosa pine.



Figure 1-3. Wildlife tree ID 3, ponderosa pine.



Figure 1-4. Wildlife tree ID 4, ponderosa pine.



Figure 1-5. Wildlife tree ID 5, snag.



Figure 1-6. Wildlife tree ID 6, snag.



Figure 1-7. Wildlife tree ID 7, ponderosa pine.



Figure 1-8. Wildlife tree ID 8, ponderosa pine.



Figure 1-9. Wildlife tree ID 9, ponderosa pine.



Figure 1-10. Wildlife tree ID 10, Douglas fir.



Figure 1-11. Wildlife tree ID 11, ponderosa pine.



Figure 1-12. Wildlife tree ID 12, snag.



Figure 1-13. Wildlife tree ID 13, ponderosa pine.



Figure 1-14. Wildlife tree ID 14, ponderosa pine.



Figure 1-15. Wildlife tree ID 15, ponderosa pine.



Figure 1-16. Wildlife tree ID 16, ponderosa pine.

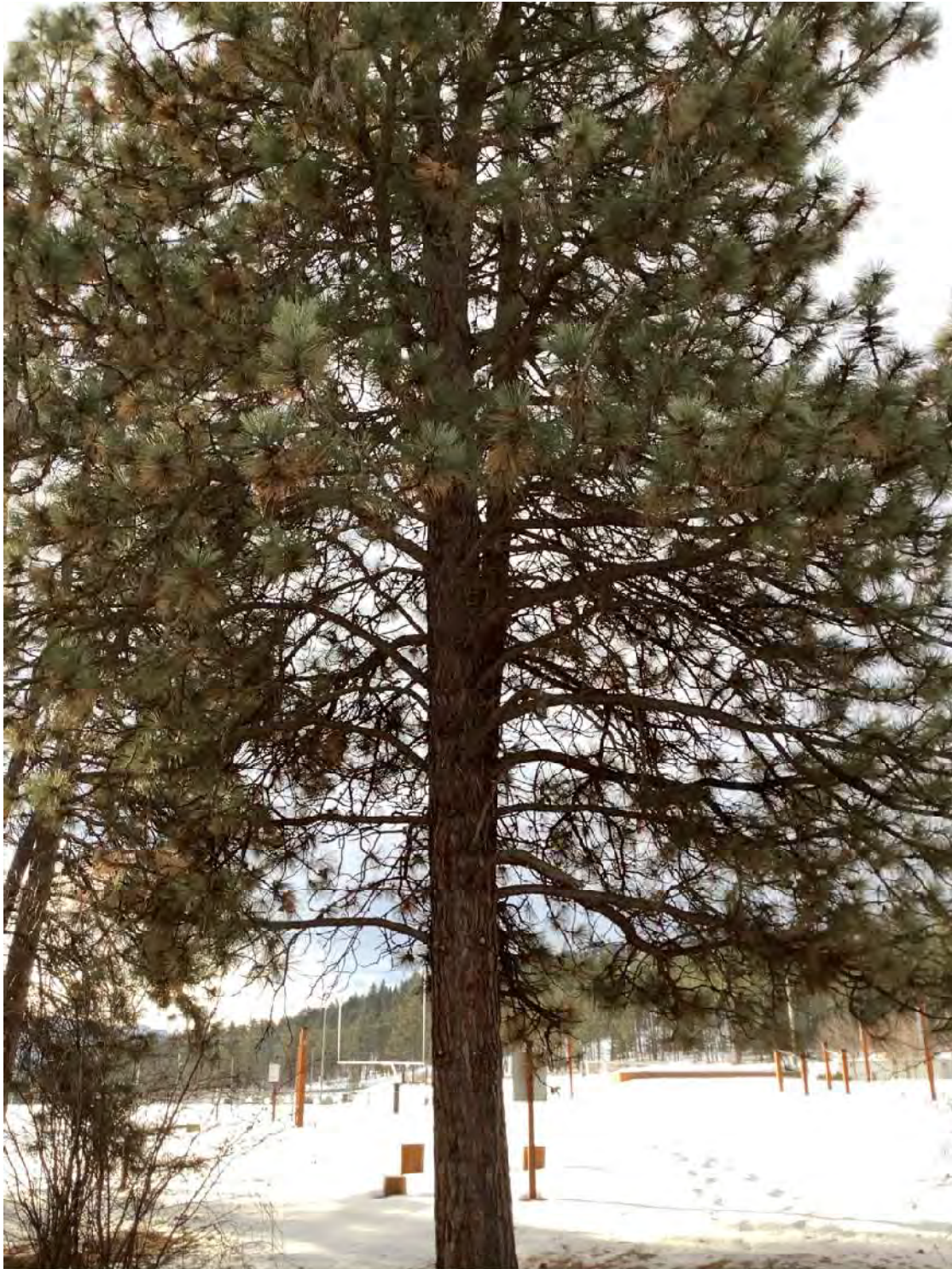


Figure 1-17. Wildlife tree ID 17, ponderosa pine.



Figure 1-18. Wildlife tree ID 18, ponderosa pine.



Figure 1-19. Wildlife tree ID 19, snag.



Figure 1-20. Wildlife tree ID 20, snag.



Figure 1-21. Wildlife tree ID 21, snag.



Figure 1-22. Wildlife tree ID 22, snag.



Figure 1-23. Wildlife tree ID 23, snag.



Figure 1-24. Wildlife tree ID 24, ponderosa pine.



Figure 1-25. Wildlife tree ID 25, ponderosa pine.



Figure 1-26. Wildlife tree ID 26, ponderosa pine.



Figure 1-27. Wildlife tree ID 27, snag.



Figure 1-28. Wildlife tree ID 28, snag.