



Deep Dive into ParcelMap BC

Community Workshop

ICI Society Virtual Café

February 24th 2021 9:30 am to 12:00 pm Presented By:

ParcelMap BC Operations Team

Agenda

Welcome to the Workshop: Learning with the Community

ParcelMap BC Community Overview: What is today's state?

Maintaining Currency & Quality in ParcelMap BC: How is it maintained?

Understanding ParcelMap BC Spatial Improvements: Why, Where and When?

Finding the Information You Need in ParcelMap BC: What is in ParcelMap BC?

Getting help with ParcelMap BC: Where to find Adopter Resources?



Welcome to the Workshop

New: Subscribe to the ParcelMap BC Newsletter

Camille Reid - VP Customer Operations **Brian Greening** - Director, ParcelMap BC Products

Theme: Learning with the Community

We want to hear from you!

Please: Raise your hand or use the chat to add your voice to the conversation today!

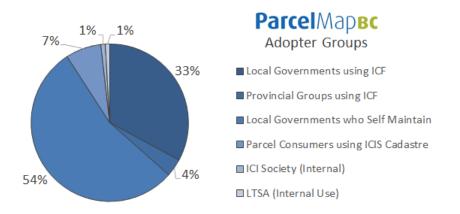


ParcelMap BC Community Overview

What is Today's State?

Fully operational on **June 30 2017** - Our <u>3rd Anniversary StoryMap</u>

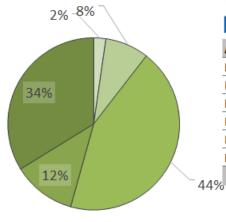
Adoption is a milestone, where ParcelMap BC is recognized as the authoritative cadastral parcel fabric representation in BC, spatially and for accompanying attribution, by the Adopter organization



supporting economic and social development throughout the province.



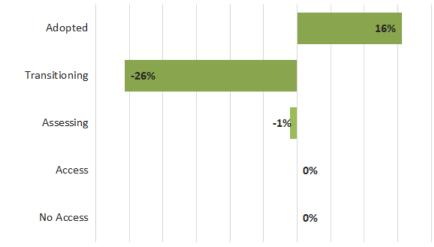
Adopter Community: January 31st 2021 Report



ParcelMap**BC**

Adopter Groups by State	No Access	Access	Assessing	Transitioning	Adopted	Total
Local Governments using ICF	3	2	23	4	40	72
Provincial Groups using ICF	0	0	4	2	2	8
Local Governments who Self Maintain	1	15	62	14	27	119
Parcel Consumers using ICIS Cadastre	1	1	7	2	5	16
ICI Society (Internal)	0	0	0	2	0	2
LTSA (Internal Use)	0	0	0	2	0	2
	5	18	96	26	74	219

Full details **here**

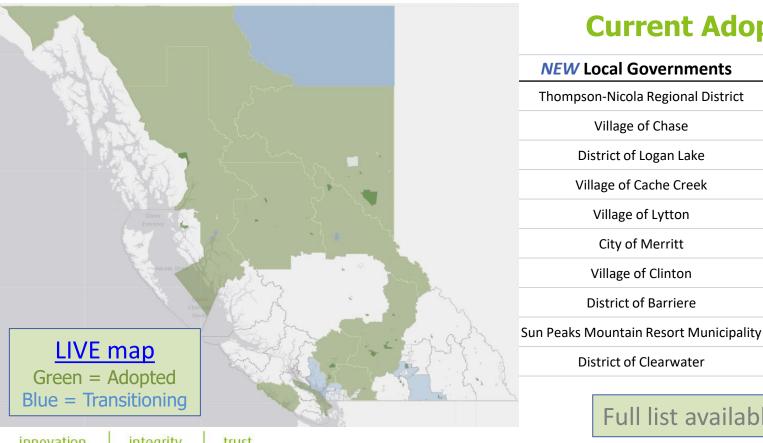




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Adopter Dashboard: January 31st 2021 Footprint



Current Adopters (74):

NEW Local Governments **NEW** Other Adopters Thompson-Nicola Regional District Village of Chase District of Logan Lake Village of Cache Creek Village of Lytton City of Merritt Village of Clinton District of Barriere

District of Clearwater

Full list available here



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Adoption Working Group (AWG)

Adoption Working Group created in 2018 with the ICI Society as a forum to address issues related to the adoption of ParcelMap BC.

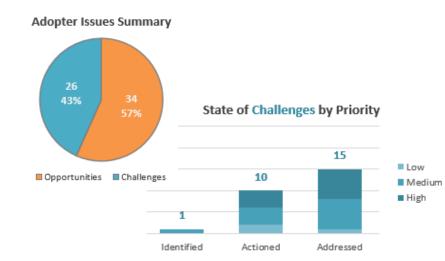
New Participants Welcome: Contact us!

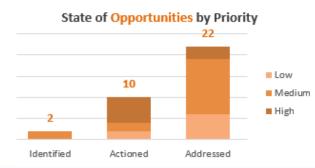
Focused on the **Issues Log** = 60 to date!

- LTSA Commitment to <u>Local Government Access to</u> ParcelMap BC (aka: "Fees Issue")
- Creation of many <u>Adopter Resources</u>, including Implementation Partners

Sub-groups include:

- Data Alignment
- Land Records
- Province / ICF Retirement





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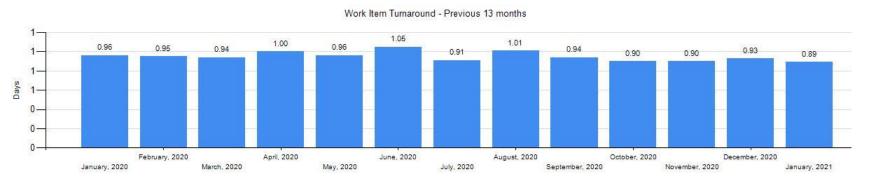
ParcelMap BC Operational Status

Turnaround Target:

2 days from Registration / Confirmation Met or exceeded since March 2018 with ~1 day for well over a year!

Extending the original scope:

Added Crown SRWs, AFBs, Foreshores, Cad Ties, Titled Roads In the works: Historic ROWs, Historic Highway Plans...







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Maintaining Currency & Quality in ParcelMap BC

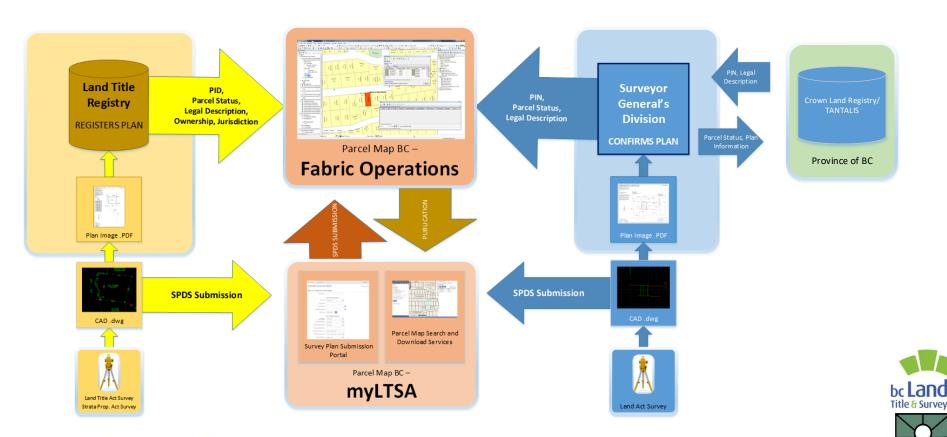
How is ParcelMap BC Maintained?

Key Concepts:

Survey Plan Datasets Integration process and Spatial QA Operational Statistics



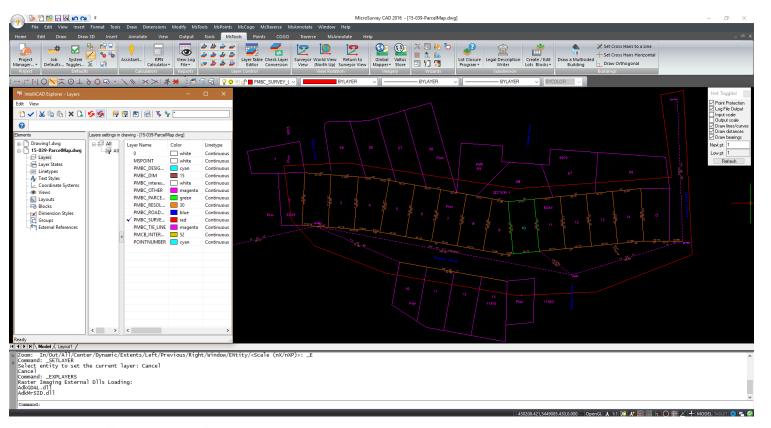
ParcelMap BC: Connecting all the Dots



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ParcelMap BC: Prepare Survey Plan Dataset



Prepared using drafting / CAD software such as:

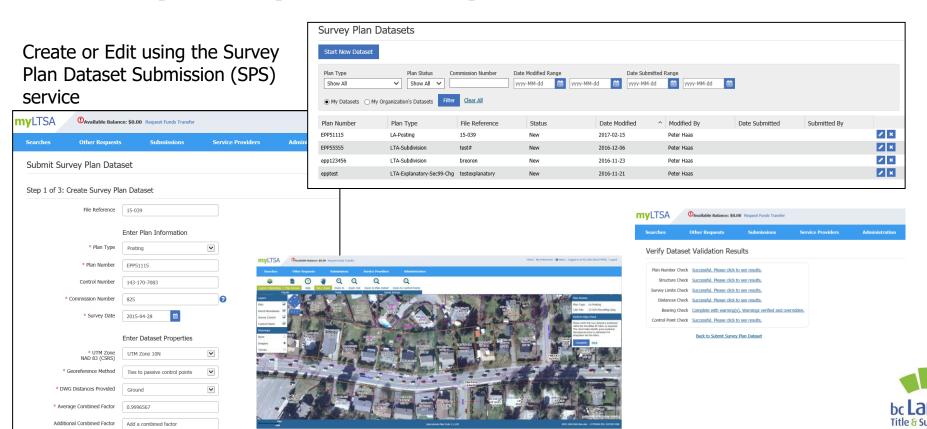
- MicroSurvey
- AutoCAD
- Other CAD platforms

Guidelines for Preparing a Survey Plan Dataset



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ParcelMap BC: Upload Survey Plan Dataset



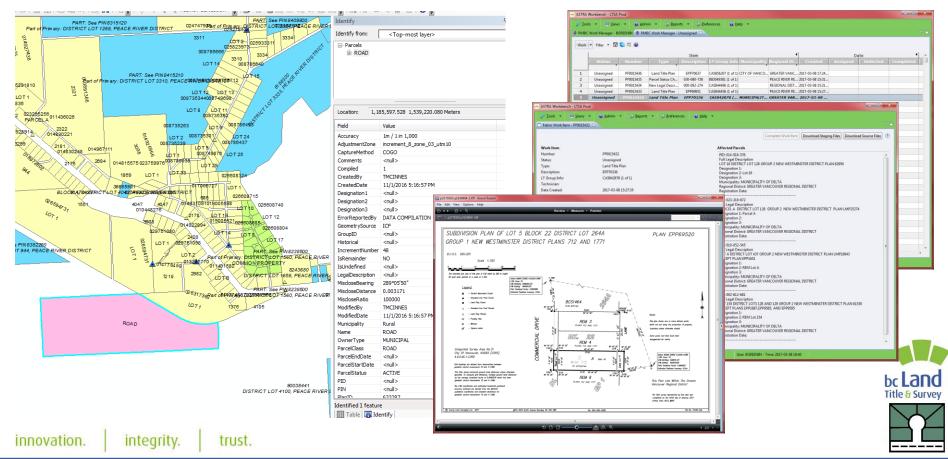
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* Relative Survey Accuracy

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Level 3 - 0.020m / 60" / 50 PPM

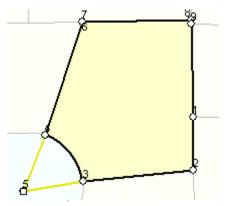
ParcelMap BC: PFM & Work Management

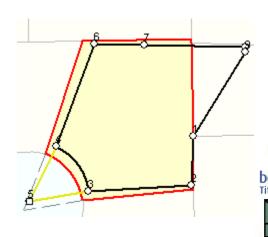


Data Stored in Parcel Fabric

- "manages the spatial and topological relationships inherent in cadastral data" – ESRI
- Preserves COGO information regardless of mapped or representative shape.
- Retains historic parcels/plans.



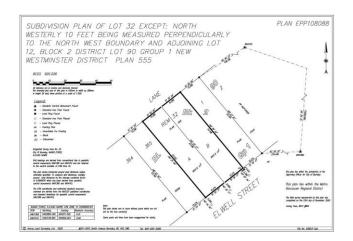


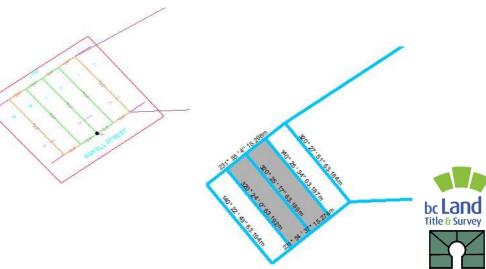




General Integration Steps

- Survey Plan Data is submitted by Surveyors in a CAD format and a CSV (associated Control Points).
- 2. FME Script transforms that source data into a GIS format (lines and polygons) which are downloaded from the Work Manager along with the source CAD / CSV file(s).
- 3. Operations Team attributes the polygons with data from the Land Title Register related to the registered parcels and transforms it into a 'staging' Esri Parcel Fabric.
- It is then integrated or joined into the Parcel Fabric via several methods before being QC'd and posted.





Using Survey Plan Datasets to Update ParcelMap BC

Type 1

Incoming survey spatially aligns with existing fabric.

Existing parcel fabric is of high quality.

Survey plan dataset gets fit to the location of existing parcel points so shape and location of existing fabric are preserved.

Type 2

Incoming survey does not spatially align with existing fabric.

Occurs when location and/or shape of existing fabric is lower quality.

Survey plan dataset preserved, and existing fabric parcel points being fit to new survey.



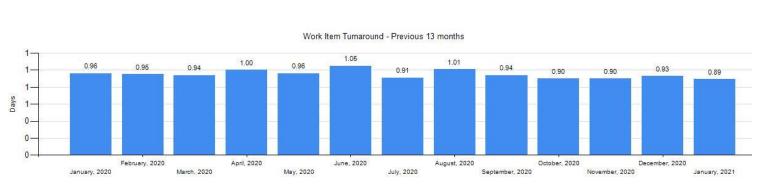
Survey Plan Dataset Integration – Demo



ParcelMap BC Ops: Current Stats

Workitem Completed Volumes - Previous 13 months





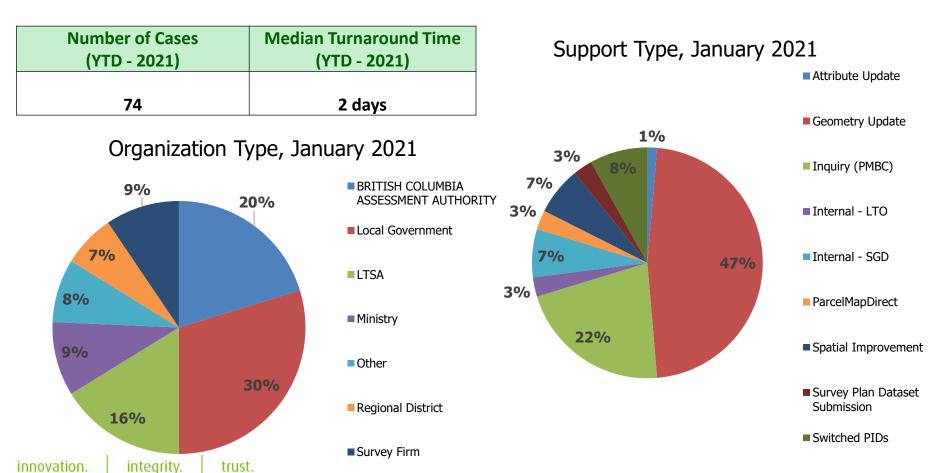
SPDS Defect Rate (Reported)				
YTD	Curr. Month			
5%	6%			





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ParcelMapBC: Tier 2 Customer Support - 2021



Understanding ParcelMap BC Spatial Improvements

Why, Where and When is ParcelMap BC spatially improved?

Key Concepts:

Spatial Improvements

Spatial Improvement Assessment (SIA) App & Layers

Cad Tie Submission Program

Spatial Improvement Operational Statistics



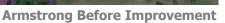
Parcel Fabric Spatial Improvements

The ParcelMap BC Operations team targets delivery of spatial improvements for <u>1-2 Areas of Interest each month</u>.

<u>Areas of Interest</u> are prioritized to address those areas of the parcel fabric most in need of improvement or through collaboration with the customer dependent on operational priories and a set of criteria.

In well-aligned areas, where an adjustment would not provide a meaningful improvement (e.g. shifting parcels by a few centimetres), spatial improvements are not generally applied.







Armstrong After Improvement



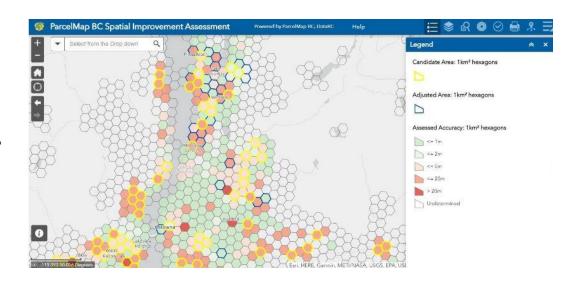
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Spatial Improvement Assessment App & Map Layers

Spatial Improvement Assessment app delivers a visualization of the analysis used by the ParcelMap BC Operations team to plan and prioritize spatial improvement work across the province.

Help resources for using the App and accessing the WebMap & Layers



- 1. Provides transparency and insight into spatial improvement planning.
- 2. Provides a view into the assessed accuracy of the parcel fabric to broadly identify areas across the province with significant misalignment to control
- 3. Highlights areas where the assessment indicates an area's readiness and, if appropriate, as a candidate for improvement see the list of Targeted Spatial Improvement Areas.





Cadastral Ties Submission for Spatial Improvements

<u>Cadastral Tie Submission Guidelines</u> have been defined for organizations to submit cadastral ties captured outside legal survey plans to provide additional input to support spatial improvements.

- New candidate areas for adjustment can be created with additional Control.
- Standards / Guidelines and a Template (input data model) are available for those who want to participate.

Point Id	UTM N	UTM E	Elevation	Monument Type	<u>Survey Date</u>	Monument Comment	<u>Plan</u>	Positional Accuracy	Survey Method	UTM Zone	<u>Horizontal Datum Ver</u>	CSF
ID	5553706.646	330453.995	395.512	ΙP	dd/mm/yyyy		KAP80402	0.051	GNSS or conventional ties to passive control points	NAD_1983_CSRS_UTM_Zone_11N	NAD83(CSRS) 4.0.0.BC.1	0.99989080
	М	М		0 м	M	C		о м		м	N	1 N

Success!!

District of Summerland, Thompson Nicola Regional District as well as several BC Land Surveyors have participated in this program providing control ties which were integrated and used to spatially improve ParcelMap BC.



Spatial Improvement Demo



ParcelMap BC Ops: Current Stats

Spatial Improvements:

Latest assessment to Feb. 4th, 2020.

Adjustme	nt Readiness Summary	*	×
() 1 - 1	Areas of Interest	8	32
	Candidate Areas	2,6	53

Targeted:

Area of Interest	Target Month
Fruitvale	February 2021
Naramata	February 2021
Cowichan Valley Regional District	March 2021
West Vancouver	April 2021
Rossland	April 2021
Oliver and surrounding area	April 2021

Completed (*Latest* only – full list <u>here</u>):

Area Of Interest	Publication Date
Brackendale	November 17, 2020
Quadra Island	November 19, 2020
West of Armstrong	December 4, 2020
Chase	December 17, 2020
Barrier	December 20, 2020
Beaverdell	January 19, 2021
Savona	January 28, 2021
Waneta	January 26, 2021



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Finding the Information You Need in ParcelMap BC

What information is available in ParcelMap BC?

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Key Concepts:
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Parcel Types in ParcelMap BC:

"PINs, PIDs (and JUROLs) and neither" -- Crown, Interest, Strata, Roads, Parks, First Nations parcels

Owner Types in ParcelMap BC

More than just parcels!

Parcel Points (and Spatial Improvement Vectors), Plans, Control Points, Real

World Changes



ParcelMap BC by Parcel Class

See <u>How Parcels are Represented in ParcelMap BC</u> for more details.

- Parcel Class defines the ParcelMap BC logical data model
- Content categorized into 4 sections:
 - Strata Property Act
 - Land Title Act
 - Land Act
 - Other
- See also the <u>ParcelMap BC Data Dictionary</u> for information on the physical data model



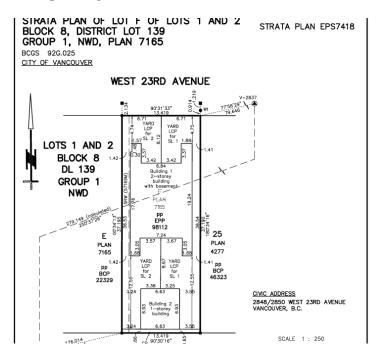
Building Strata Parcels

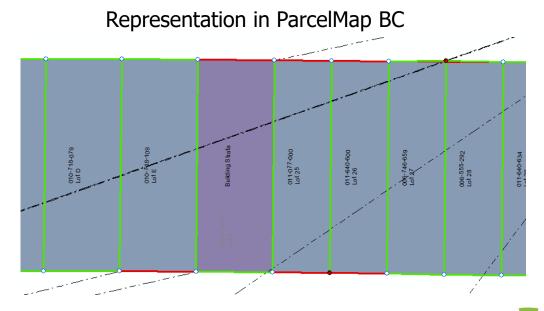
- Parcel Class= Building Strata
- Mapping only outer extent of Building Strata plan (i.e. 2D)
- No PID assigned to Parcel polygon
- Associated Strata Lots (PIDs) captured in Shared Geometry table
- For phased strata: Extent of current phase and remainder mapped



Building Strata Parcels

EPS7418

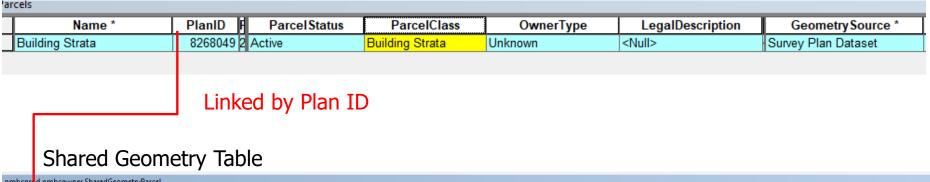






Building Strata Parcels

Parcel Attribute Table



pn	mbcpro	ocpr <mark>e</mark> d.pmbcowner.SharedGeometryParcel										
	linked	lplanid	PID *	ParcelStatu	LegalDescription							
	82	268049	313104	Active	STRATA LOT 2 DISTRICT LOT 139 GROUP 1 NEW WESTMINSTER DISTRICT STRATA PLAN EPS7418 TOGETHER WITH AN INTEREST IN THE COMMON PROPERTY IN PROPORTION TO THE UNIT ENTITLEMENT OF THE STF							
	82	268049	313104	Active	STRATA LOT 1 DISTRICT LOT 139 GROUP 1 NEW WESTMINSTER DISTRICT STRATA PLAN EPS7418 TOGETHER WITH AN INTEREST IN THE COMMON PROPERTY IN PROPORTION TO THE UNIT ENTITLEMENT OF THE STF							



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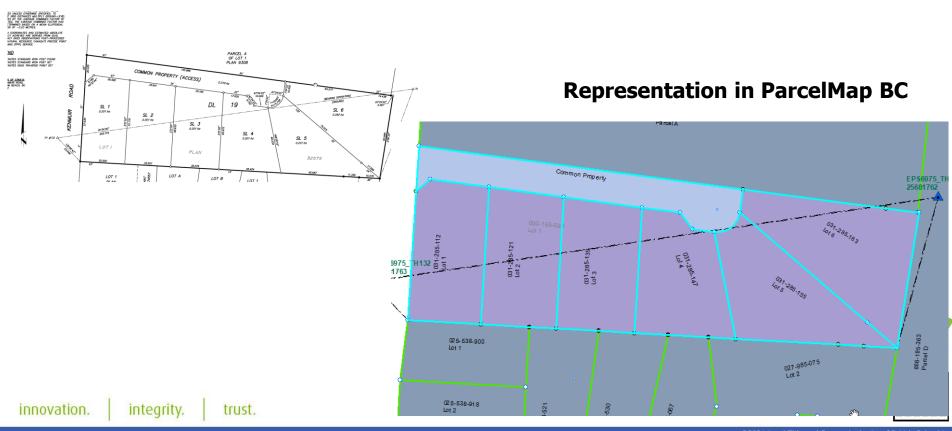
Bare Land Strata Parcels

- Parcel Class= Bare Land Strata
- Every Strata Lot mapped individually (as well as the Common Property see Common Ownership parcels)
- For phased strata: Extent of current phase and remainder mapped



Bare Land Strata Parcels

EPS6975



Bare Land Strata Parcels

Parcel Attribute Table – Individual strata lots mapped

pmbcprod.pmbcowner.ParcelFabric_Parcels											
PID*	PlanID	Parcel Status	ParcelClass	OwnerType	LegalDescription						
128516	8169642	Active	Bare Land Strata	Private	STRATA LOT 6 DISTRICT LOT 19 NEWCASTLE DISTRICT STRATA PLAN EPS6975 TOGETHER WITH AN INTEREST IN THE COMMON P						
128511		Active	Bare Land Strata	Private	STRATA LOT 1 DISTRICT LOT 19 NEWCASTLE DISTRICT STRATA PLAN EPS6975 TOGETHER WITH AN INTEREST IN THE COMMON P						
128512	8169642	Active	Bare Land Strata	Private	STRATA LOT 2 DISTRICT LOT 19 NEWCASTLE DISTRICT STRATA PLAN EPS6975 TOGETHER WITH AN INTEREST IN THE COMMON P						
128513	8169642	Active	Bare Land Strata	Private	STRATA LOT 3 DISTRICT LOT 19 NEWCASTLE DISTRICT STRATA PLAN EPS6975 TOGETHER WITH AN INTEREST IN THE COMMON P						
128514	8169642	Active	Bare Land Strata	Private	STRATA LOT 4 DISTRICT LOT 19 NEWCASTLE DISTRICT STRATA PLAN EPS6975 TOGETHER WITH AN INTEREST IN THE COMMON P						
128515	8169642	Active	Bare Land Strata	Private	STRATA LOT 5 DISTRICT LOT 19 NEWCASTLE DISTRICT STRATA PLAN EPS6975 TOGETHER WITH AN INTEREST IN THE COMMON P						
1: 1: 1: 1:	28516 28511 28512 28513 28514	PlanID 8169642 28511 8169642 28512 8169642 28513 8169642 28514 8169642	PlanID ParcelStatus 28516 8169642 Active 28511 8169642 Active 28512 8169642 Active 28513 8169642 Active 28514 8169642 Active	PlanID ParcelStatus ParcelClass 28516 8169642 Active Bare Land Strata 28511 8169642 Active Bare Land Strata 28512 8169642 Active Bare Land Strata 28513 8169642 Active Bare Land Strata 28514 8169642 Active Bare Land Strata Bare Land Strata Bare Land Strata Bare Land Strata	PlanID ParcelStatus ParcelClass OwnerType 28516 8169642 Active Bare Land Strata Private 28511 8169642 Active Bare Land Strata Private 28512 8169642 Active Bare Land Strata Private 28513 8169642 Active Bare Land Strata Private 28514 8169642 Active Bare Land Strata Private						

Parcel Attribute Table: Common Ownership

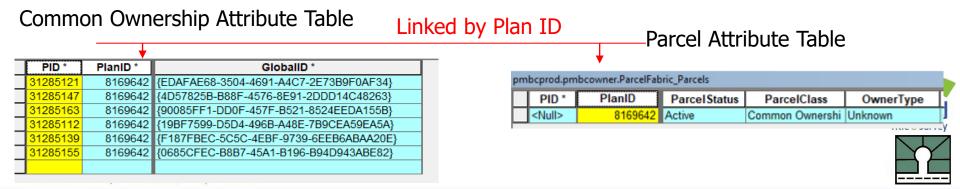
pm	mbcprod.pmbcowner.ParcelFabric_Parcels										
	PID *	PlanID	ParcelStatus	ParcelClass	OwnerType	LegalDescription					
	<null></null>	8169642	Active	Common Ownershi	Unknown	<null></null>					





Common Ownership Parcels

- Parcel Class = Common Ownership
- Bareland Strata Common Property or Common Lot
- Ex: Clubhouse or courtyard
- "Proportionate Interest" in Common property related via the Common
 Ownership table Answers: "Which PIDs share an interest in this parcel?"
- Non-spatial table contains PIDs and Plan ID



Air Space Parcels

- Parcel Class = Air Space
- Not mapped in 3D: Parent parcel polygon duplicated as per number of Air Space lots (which sometimes may become Building Strata...)
- Always a Remainder parcel, too!
- Each lot assigned a PID

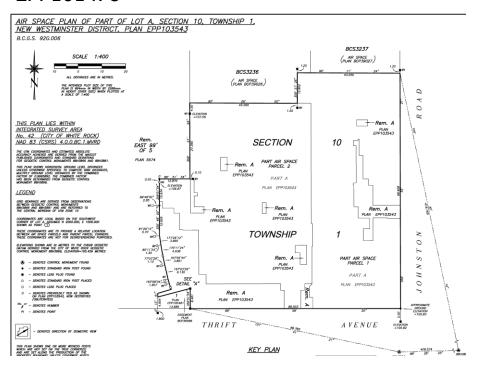
Parcel Attribute Table

ErrorMsg	Name *	PID *	PlanID	Ассигасу	ParcelStatus	ParcelClass	OwnerType	LegalDescription
<null></null>	031207219	31207219	7883236	0.02m / 1 in 20,000	Active	Air Space	Private	AIR SPACE PARCEL 1 SECTION 10 TOWNSHIP 1 NEW WESTMINSTER DISTRICT AIR SPACE PLAN EPP101478
<null></null>	031207227	31207227	7883236	0.02m / 1 in 20,000	Active	Air Space	Private	AIR SPACE PARCEL 2 SECTION 10 TOWNSHIP 1 NEW WESTMINSTER DISTRICT AIR SPACE PLAN EPP101478

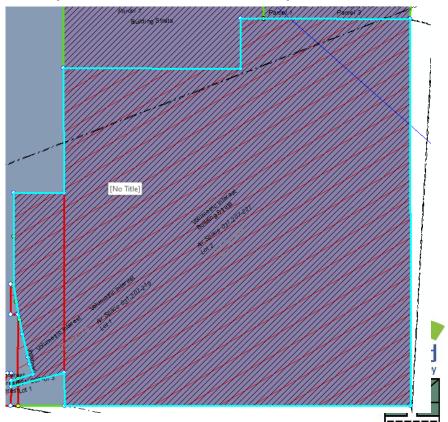


Air Space Parcels

EPP101478



Representation in ParcelMap BC



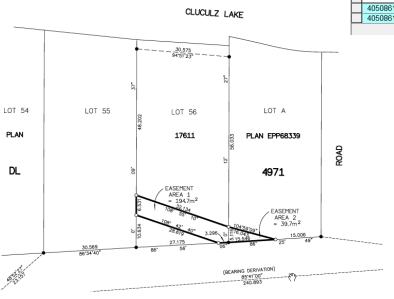
Interest Parcels

- Parcel Class = Interest
- Represents surveyed extent of a charge defined on a survey plan
- Ex. Easements, covenants and SRWs (over titled or untitled crown land)
- Interest parcels will overlap underlying titled parcels
- Name attribute distinguishes the types of interest
- 3 types mapped in ParcelMap BC: Interest, Statutory RoW and Volumetric Interest



Interest Parcels

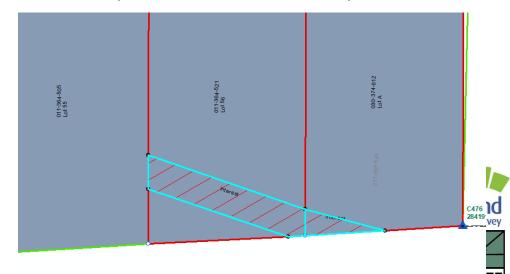
EPP68340



Parcel Attribute Table

П	PlanID	Name *	PID *	PIN *	ParcelStatus	Designation1	ParcelClass	OwnerType	LegalDescription
	4050861	Interest	<null></null>	901587	Active	<null></null>	Interest	None	RIGHT OF WAY OVER DISTRICT LOT 4971, 0
	4050861	Interest	<null></null>	901587	Active	<null></null>	Interest	None	RIGHT OF WAY OVER DISTRICT LOT 4971, 0

Representation in ParcelMap BC



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Interest Parcels: Statutory RoW

PlanID

Map each Area A, B and C separately (& PIDs associated if/when charges registered)

PID

PIN:

Parcel Status

Designation1

ParcelClass

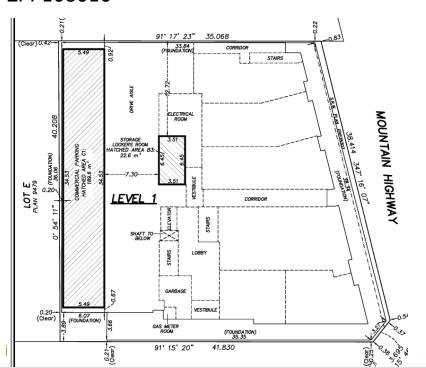
OwnerType

8247250 Statutory RoW <Null> <Null> Active Area C Interest Unknown EPP107256 8247250 Statutory RoW <Null> <Null> Active Area A Unknown Interest 8247250 Statutory RoW <Null> <Null> Active Interest Unknown Representation in ParcelMap BC PLAN TP 23 HILLTOWN DRIVE DETAIL not to scale innovation. integrity. trust.

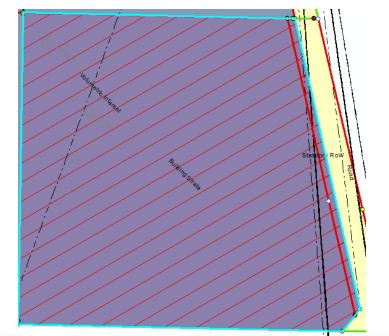
Interest Parcels: Volumetric Interest

Map extent of the underlying parent parcel (i.e. in 2D)

EPP108016



Representation in ParcelMap BC





Designation 1, 2 and 3 Fields

See What are Designations 1, 2 and 3? for more details.

Summarizes survey divisions from the legal description to uniquely identify the location of a parcel in survey system - aka "Lot, Parcel, Block"

Field	Definition	Subdivided	Unsubdivided	
Designation 1	The smallest division of lands in the legal description of the parcel.	Parcel or Lot	Quadrant or Block	
Designation 2	The second smallest division of lands in the legal description of the parcel.	Block	District Lot or Section	
Designation 3	The third smallest division of lands in the legal description of the parcel.	District Lot or Section	Township and/or Range	

Basic Rules:

For titled Parcels (PID): Auto populated using short legal description from land title register.

For crown parcels (PIN): Manually populated using set of approved rules.

Road and Park parcels (with no PID /PIN): No Designation values populated.

SRW parcels (with no PID /PIN): Designation 1 populated with "Area X" as shown on survey plan.



Parcel Ownership Types

The OwnerType attribute in ParcelMap BC describes the generalized ownership type classification based on registration of title for the parcel (or lack thereof...) via one of 9 classes.

Parcels By Owner Type Private First Nations Federal Crown Provincial Crown Agency Municipal Mixed Ownership None Unknown

- Details on how is Owner Type assigned in ParcelMap BC including the relationship to Parcel Class
- Reference: ParcelMap BC's "Owner Type" vs ICF's "Ownership Class"

Swipe Map Sample and WebMap resources.





ParcelMap BC Data Products

Summary of ParcelMap BC Data Products & Uses

Parcel Fabric Extract is AOI based and includes all entities:

- Parcel Polygons
- Parcel Points
- Parcel Lines
- <u>Shared Geometry Table</u> ("Building Strata Lots")
- <u>Common Ownership Table</u> ("Shared Interest Parcels")
- PID <-> JUROL Table
- Plans Table
- Control Points

<u>Province-wide Parcel Snapshot</u> is a province-wide subset

Temporal Products:

<u>Fabric Spatial Improvements</u> (aka "Change Vectors") <u>Real-World Changes</u> (aka Parcel "Adds, Edits & Deletes")





Getting help with ParcelMap BC

Where to find Adopter Resources?

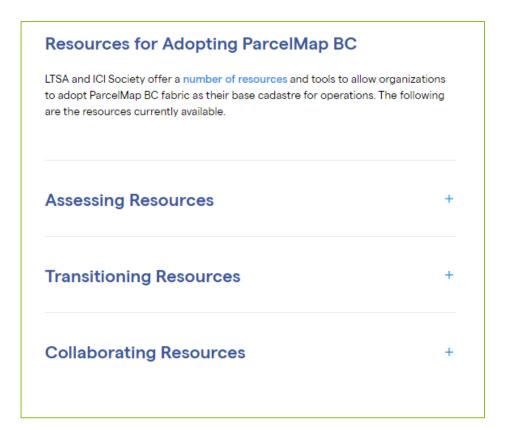
Key Concepts:

Adoption Resource Summary
Spatial Alignment Resources
Information Model Alignment Resources
Transition Planning Resources
Collaboration Resources



Resources for Adopting ParcelMap BC

Many Adopter Resources are available tied to the "transition" phase





Adoption Resources & Tools

- See <u>Resources and tools to assist organizations transition to ParcelMap BC adoption</u> for more information.
- Spatial Alignment Resources
 - Data Alignment Workflow Package (DAWp)
 - Cadastral Ties for Spatial Improvement
 - Third Party Datasets
- Information Model Alignment Resources
 - ParcelMap BC Data Products and Descriptions
 - X-Ray ArcGIS Catalog Add-In



Adoption Resources & Tools

- Transition Planning Resources
 - ParcelMap BC Transition Project Management Guide
 - ParcelMap BC Transition Planning Situation Assessment Template
 - ParcelMap BC Transition Planning Executive Summary PowerPoint Deck
 - ParcelMap BC Transition Planning A Case Study on the Large Municipality Focus Group
- Collaboration Resources
 - o <u>ICI Society Collaboration Forum</u> (Requires ICI Society member credentials)
 - ParcelMap BC Adoption Working Group
 - o <u>Implementation Partners</u>



Using Other Data with ParcelMap BC

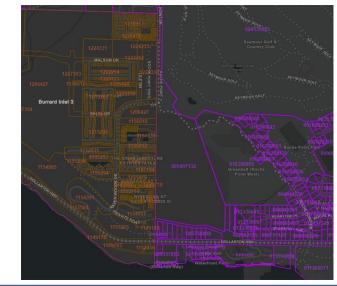
Agricultural Land Commission's <u>Agricultural Land</u> <u>Reserve</u> is aligned with ParcelMap BC

BC Assessment's <u>Assessment Fabric</u> is highly derived from & aligned with ParcelMap BC

Esri Canada's Public Canada Lands Parcel Mapping

- Available as a feature service: December 2020
- Seamless, up-to-date coverage of Canada Lands Digital Cadastral Data (First Nations, National Parks, etc...)
- Updates from NRCan weekly compiled into service
- NRCan and LTSA Operations starting to work together to improve identified alignment issues

Dataset	Organization	Description	Update Frequency
Agricultural Land Reserve 团	Agricultural Land Commission 답	The spatial representation for the boundary of an Agricultural Land Reserve, which is a parcel of land maintained for agricultural use.	Quarterly - end of: Jan, Apr, Jul and Oct.
BC Assessment Fabric 🗗	BC Assessment ぴ	An ownership-based spatial representation of the assessment roll in British Columbia. Different from a legal fabric, there may be many legal lots (as represented in ParcelMap BC) in one assessment parcel. Dataset access requires ICI Society	Weekly (On Sunday)



Wrap-Up & Thanks!

Group Feedback?

Open Questions?

ParcelMapBC@ltsa.ca

