



BCTS Multiphase Data Entry Guidelines and Standards

Southern Interior GIS Group (SIGG): TKO, TKA & TOC

**Compiled By:
SIGG & BCTS HQ**

**Created: March 2022
Version: 1.0**

It is your responsibility to ensure you are using the most current version of this document. If you are unsure, [check here.](#)

Contents

ACRONYMS.....	3
DOCUMENT CHANGE TRACKING	3
GETTING STARTED.....	4
ADDITIONAL SOURCES OF INFORMATION	4
FOLDER STRUCTURE ON (BCTS DATA / DATA DRIVE / F DRIVE).....	5
MANAGING SPACE ON THE DATASHARE (BCTS DATA / DATA DRIVE / F DRIVE)	5
LIFE OF A SPATIAL BLOCK – SAMPLE DATA LOADING PROCESS	5
LRM SDE LAYER REQUIREMENTS	6
LRM SYSTEM LAYERS	6
MANAGED LAYERS.....	8
BLOCK_HARV_METHOD_SHAPE.....	8
BLOCK_HARV_SEASON_SHAPE.....	8
BLOCK_HARV_STRATEGY_SHAPE.....	9
CUT_BLOCK_SHAPE.....	9
CUT_PERMIT_SHAPE.....	10
DEplete_SHAPE	10
ECOLOGY_UNIT_SHAPE	10
HARVEST_UNIT_SHAPE.....	11
LICENCE_SHAPE.....	11
NON_MERCH_SHAPE.....	11
PLANTING_UNIT_SHAPE.....	12
RIPARIAN_ZONE_SHAPE.....	12
ROAD_SHAPE.....	13
SILV_ACTIVITY_SHAPE.....	14
SILV_DISTURBANCE_SHAPE	14
STOCKING_STRATA_SHAPE	15
SILV_STRATUM_HIST_SHAPE.....	15
SU_SHAPE	15
NON-MANAGED LAYERS.....	17
GPS_HUB.....	17
LAYOUT_POINT.....	17
LAYOUT_LINE.....	20
LAYOUT_POLYGON.....	21
OPERATING_AREA.....	22
SPECIALTREEREG.....	22
CRUISE_PLOT.....	25
CRUISE_LINE.....	25
TIMBERTYPE_TMP.....	26
STREAM.....	26
WATERBODY.....	29
LRM SPATIAL DATA LOADING PROCESS	32
TOPOLOGY RULES.....	34
TOPOLOGY MANDATORY PRACTICE – CUTBLOCKS (GAPS, SLIVERS AND SNAPPING TO EXISTING ADJACENT FEATURES)	35
OVERLAPPING BLOCKS/CONFIRMING EXISTING ROAD LOCATIONS	35
GIS DATA ENTRY CHECKLIST	35
BCTS GIS SPATIAL REVIEW	35
TEMPLATES	36

SPATIAL DATASET NAMING STANDARDS.....	37
DATASETS CREATED BY CONTRACTORS.....	37
PDF AND MAPPING SCRIPT STANDARDS.....	37
STANDARD TSL MAP TEMPLATES AND NAMING CONVENTIONS.....	37
APPENDICES.....	39
APPENDIX A: TOPOLOGY RULES FOR NON-MANAGED AND MANAGED LAYERS.....	39
APPENDIX B: REFERENCED AND RELATED MATERIALS	41
APPENDIX C: MULTI-PHASE GIS DATA LOADING PROCESS	42

Acronyms

BCTS	British Columbia Timber Sales
FTA	Forest Tenure Administration System
FTEN	Forest Tenures
GPS	Global Positioning System
LRM	Land and Resource Management System
RESULTS	Reporting Silviculture Updates and Land Status Tracking System
SDE	Spatial Database Engine
SIGG	Southern Interior Geographic Information Systems Group
SOP	Standard Operating Procedure
SP	Site Plan
SU	Standard Unit
TKA	BCTS Kamloops Business Area
TKO	BCTS Kootenay Business Area
TOC	BCTS Okanagan Columbia Business Area
TRIM	Terrain Resource Information Management
TSL	Timber Sale License
TSO	Timber Sales Office

Document Change Tracking

Date of Issue	Author(s)	Brief Description of Change
March 2022	TKA, TOC, TKO & HQ	First iteration of SIGG data standards developed.
June 2022	Ginny Ritchie	Updated PDF and mapping script Standards to clarify naming convention Clipped image for clarification on georeferencing Removed Appendix C and added to body of document Updated hyperlinks to Appendix C to point to Standard

		TSL Map Templates and Naming Conventions section
August 2022	Ginny Ritchie	<p>Added in new non – managed domains</p> <p>CruisePlotType – TIE Tie Point</p> <p>GPSHubType – WTRA_B DRY WTRA Boundary RT Reference Tree</p> <p>LayoutLineType- AR Access Route AVT Avalanche Track BLF Bluff HSL Harvest Splitline PR Pruning PWRL Power Line RR Road - Referral SLD Slide Track SRG Steep Road Grade</p> <p>LayoutPointType- SSP Steep Slope Point WIND Windfall/Windthrow</p> <p>Streamclass- S6-A S6-A S6-B S6-B FSF Fisheries Sensitive Feature FSZ Fisheries Sensitive Zone</p> <p>WaterbodyType- FSF Fisheries Sensitive Feature FORSWMP Forested Swamp</p>

Getting Started

Contractors completing spatial work must attend a mandatory GIS prework every year, including those years where they have signed a multi-year contract. BCTS GIS staff will arrange a date and method with the contractor with guidance from the Contract Coordinator.

Additional Sources of Information

BCTS-specific LRM reference materials [can be accessed via this link](#).

Folder Structure on (BCTS Data / Data Drive / F Drive)

The F Drive contains root folders for each BA. Within each root folder is a Contractor_Workspace folder that is designed for the Multiphase contractor to store their working files while working on the TSL. This requires that **all spatial data** including the mxd projects that you have saved be stored in your contractor workspace. The structure of your working folder(s) will be discussed during prework meetings. If you are unsure of how to structure your working folder, please contact your Contract Coordinator.

Managing Space on the Datashare (BCTS Data / Data Drive / F Drive)

Follow the relevant sections of the [BCTS Datashare Best Practices](#) to properly manage your workspace (LiDAR and drone imagery sections are not applicable). Please do not upload transitory files. BCTS GIS staff will archive this folder as per the Datashare Best Practices after the contract is complete.

Life of a Spatial Block – Sample Data Loading Process

Below is a **sample workflow** of loading data into the SDE layers. This process may differ slightly between contractors but gives the user a general idea of how the process works.

For specific deliverables and deliverable format, refer to your contract.

Note that the below phases refer to linking and entering spatial information. The other tabular information is usually entered by the Prescribing Forester.

PHASE 1 (Entered by Ops Tech or Planner or Multiphase Contractor):

- Create Records in Nav Tree
- Create Blob & Link
- Create Proposed Road Spatial
- Link Road and enter Proposed Road attributes (see Roads SOPs in [ROAD_SHAPE](#))
- Run block and Road Recce Templates
- Create LIDAR maps

PHASE 2 (Entered by Multiphase GIS Contractor):

- Update block boundary - ensure no overlaps with adjacent blocks in Results or FTEN. If overlap notify contract coordinator.
- Enter Layout point, layout poly, layout line information
- Enter Stream and Waterbody information
- Enter GPS_Hubs: falling corners, road hubs
- Enter SU, cruise lines/cruise data and grid
- Enter Harvest information: harvest strategy, harvest method, harvest season, harvest units
- Enter Timber types
- Run Cruise Plan Template
- Enter Road information as per the Road Decision Matrix (see Roads SOPs in [ROAD_SHAPE](#))
- Run SP template
- Enter Cruise slopes and skid directions

- Run Harvest plan template

PHASE 3 (Entered by Multiphase GIS Contractor):

- Enter Appraisal information
- Run Road Templates
- Run Appraisal Template
- Enter Ecology information
- Enter Licence information – spatial for FTA submission
- Run Location Templates
- Run Seedzone Template
- FTA submission – Multiphase or BCTS staff would complete

LRM SDE Layer Requirements

BCTS currently provides two feature datasets on our SDE production server (DBP06.sde): Managed and Non-Managed (including Special Sites). It is essential that all data collected or created for the purposes of timber harvesting, planning, or resource stewardship activities be updated to the appropriate feature classes as outlined in these data standards. **Do not keep data in local datasets outside of these layers.** Provincial and Business Area maps and reports required for important resource-based decisions are produced using these datasets and missing information may lead to inaccuracies and errors.

Managed Layers: FOREST.migration_dataset contains the feature classes more commonly known as the **managed layers**. These layers are considered managed because all the spatial features contained in these layers must be linked to a tabular record in LRM. These feature classes are the base datasets in LRM and only contain the spatial geometry requirements and a link to the tabular record where the attribute information is created and maintained.

Non-Managed Layers: BCTS_SPATIAL.BCTS PROV OP dataset layers are considered non-managed because the spatial features contained in these layers are not linked to a tabular record in LRM. Although they may contain attributes that can be used to create links to tabular records or managed layers, no links are maintained in the LRM application. These feature classes may have more attributes included that are needed to describe the features as there is no maintained link to tabular data.

In addition, BCTS_SPATIAL.Special_Sites is a feature dataset that is non-managed, and stores legislated or regulated information for mapping and reporting purposes.

LRM System Layers

The SDE features must be edited in LRM. System layers were created for convenient use in LRM. The following table lists the editable LRM layers and which SDE layers they are sourced from:

Managed Layers	
Blocks	
Block Depletion Shape	DEplete_SHAPE
Block Stratification Block Shape	NON_MERCH_SHAPE
Cutblock Shape	CUT_BLOCK_SHAPE

Cutting Permit Shape	CUT PERMIT SHAPE
Harvest Unit Shape	HARVEST UNIT SHAPE
HU – Critical Season Shape	BLOCK HARV SEASON SHAPE
HU – Harvest Method Shape	BLOCK HARV METHOD SHAPE
HU – Harvest Strategy Shape	BLOCK HARV STRATEGY SHAPE
Licence Shape	LICENCE SHAPE
Roads	
Road	ROAD SHAPE
Silviculture	
Brushing Shape	SILV ACTIVITY SHAPE
Ecology Unit Shape	ECOLOGY UNIT SHAPE
Fertilization/Non-Reportable Shape	SILV ACTIVITY SHAPE
Planting Unit Shape	PLANTING UNIT SHAPE
Riparian Zone Shape	RIPARIAN ZONE SHAPE
Seedling Protection Shape	SILV ACTIVITY SHAPE
Silv Disturbance Shape	SILV DISTURBANCE SHAPE
Site Preparation Shape	SILV ACTIVITY SHAPE
Standard Unit Shape	SU SHAPE
Stocking Status Strata Shape	STOCKING STRATA SHAPE
Survey Unit Shape	SILV STRATUM HIST SHAPE
Non-Managed Layers	
BCTS Cruise – Timber Type	TIMBERTYPE TMP
BCTS Cruise Line Features	CRUISE LINE
BCTS Cruise Plots	CRUISE PLOT
BCTS GPS Hubs	GPS HUB
BCTS Layout Line Features	LAYOUT LINE
BCTS Layout Point Features	LAYOUT POINT
BCTS Layout Polygon Features	LAYOUT POLYGON
BCTS Special Trees	SPECIALTREEREG
BCTS Operating Area	OPERATING AREA
BCTS Streams Class	STREAM
BCTS Waterbody	WATERBODY
BCTS Old Growth TSL Deferral Impact	BCTS_SPATIAL.OGSR_TSL_DEFERRAL_IMPACT
BCTS Old Growth Field Verification	BCTS_SPATIAL.OGSR_BCTS_FIELD_VERIFICATION

Managed Layers

These layers have specific acceptable values for the fields, as outlined below.

Associated tabular data must be entered in LRM to link spatial data for all managed layers.

BLOCK_HARV_METHOD_SHAPE [HU – HARVEST METHOD SHAPE] POLYGON

Notes:

- The harvest unit inventory tab in the blocks module allows users to digitize area that are to be logged by a specific logging method.
- Associated tabular data must be entered in LRM to link spatial data.

Topology Rules:

- Must not overlap
- Must be covered by feature class of BLOCK

Attributes: (For contractor use. Managed layer attributes will be linked to the tabular data in LRM)

Attribute	Data Type	Field Properties	Description	Example							
LICENSE	TEXT	15	TSL Formatted	'A57005'							
CUT_PERMIT	TEXT	40	Where applicable	'1'							
BLOCK_ID	TEXT	20	Block Number	'2'							
HARV_METHOD	TEXT	20	Method type as identified by Site Plan. <table><tr><th>HARVEST_METHOD</th></tr><tr><td>GROUND</td></tr><tr><td>CABLE</td></tr><tr><td>CABLE/HELICOPTER</td></tr><tr><td>GROUND/HELICOPTER</td></tr><tr><td>HELICOPTER</td></tr><tr><td>OTHER</td></tr></table>	HARVEST_METHOD	GROUND	CABLE	CABLE/HELICOPTER	GROUND/HELICOPTER	HELICOPTER	OTHER	'CABLE'
HARVEST_METHOD											
GROUND											
CABLE											
CABLE/HELICOPTER											
GROUND/HELICOPTER											
HELICOPTER											
OTHER											
COMMENTS	TEXT	254	For contractor use								
DATE	DATE		For contractor use								

BLOCK_HARV_SEASON_SHAPE [HU – CRITICAL SEASON SHAPE] POLYGON

Notes:

- The harvest unit inventory tab in the blocks module allows users to digitize areas that are to be logged during a specific logging season.
- Associated tabular data must be entered in LRM to link spatial data

Topology Rules:

- Must not overlap
- Must be covered by feature class of BLOCK

Attributes: (For contractor use. Managed layer attributes will be linked to the tabular data in LRM)

Attributes for contractor user managed layer. Attributes will be linked to the tabular data in entry				
Attribute	Data Type	Field Properties	Description	Example
LICENSE	TEXT	15	TSL Formatted	'A57005'
CUT_PERMIT	TEXT	40	Where applicable	'1'
BLOCK_ID	TEXT	20	Block Number	'2'
SEASON	TEXT	10	Critical season as identified by Site Plan.	'AN'
			<table><tr><th>CRITICAL SEASON</th></tr><tr><td>AN = ANY SEASON</td></tr></table>	
CRITICAL SEASON				
AN = ANY SEASON				

			FA = FALL SP = SPRING SU = SUMMER WI = WINTER ONLY	
COMMENTS	TEXT	254	For contractor use	
DATE	DATE		For contractor use	

BLOCK_HARV_STRATEGY_SHAPE [HU – HARVEST STRATEGY SHAPE] POLYGON

Notes:

- The harvest unit inventory tab in the blocks module allows users to digitize areas of a block that have specific harvest strategy.
- A harvest strategy is special harvesting that may occur in Riparian Management Zones, Machine Free Zones, within block roads, etc. You would digitize parts of the block that do not have any special strategy as "Standard Practices" or "None".
- Where a riparian shape is required to inform harvesting (no harvesting or conditional harvesting), then a redundant entry into the Harvest Strategy is recommended (i.e. one spatial record in Riparian Zone Shape and the same spatial record in the Harvest Strategy Shape)
- Associated tabular data must be entered in LRM to link spatial data.

Topology Rules:

- Must not overlap.
- Must be covered by feature class of BLOCK.

Attributes: (For contractor use. Managed layer attributes will be linked to the tabular data in LRM)

Attribute	Data Type	Field Properties	Description	Example																																		
LICENSE	TEXT	15	TSL Formatted	'A57005'																																		
CUT_PERMIT	TEXT	40	Where applicable	'1'																																		
BLOCK_ID	TEXT	20	Block Number	'2'																																		
STRATEGY	TEXT	10	Code identifying polygons with special logging considerations.	'DWSHD'																																		
			<table><tr><th>CODE</th><th>DESCRIPTION</th></tr><tr><td>MFZ</td><td>Machine Free Zone</td></tr><tr><td>RMZ</td><td>Riparian Management Zone</td></tr><tr><td>SMZ</td><td>Special Management Zone</td></tr><tr><td>STD</td><td>Standard Practice</td></tr><tr><td>WMZ</td><td>Wildlife Management Zone or sensitive areas</td></tr><tr><td>BD</td><td>Blowdown</td></tr><tr><td>DW</td><td>Decked Wood</td></tr><tr><td>DWSHD</td><td>Domestic Watershed</td></tr><tr><td>FSALE</td><td>Pulpwood Sale</td></tr><tr><td>FSALV</td><td>Fire Salvage</td></tr><tr><td>IBM</td><td>Mountain Pine Beetle</td></tr><tr><td>ITSL</td><td>Innovative Timber Sale Licence</td></tr><tr><td>NA</td><td>No Special Conditions</td></tr><tr><td>R/W</td><td>Licensee Road Construct or Upgrade</td></tr><tr><td>VQO</td><td>Visual Quality Objective Zone</td></tr><tr><td>WHO</td><td>Winter Harvest Zone</td></tr></table>		CODE	DESCRIPTION	MFZ	Machine Free Zone	RMZ	Riparian Management Zone	SMZ	Special Management Zone	STD	Standard Practice	WMZ	Wildlife Management Zone or sensitive areas	BD	Blowdown	DW	Decked Wood	DWSHD	Domestic Watershed	FSALE	Pulpwood Sale	FSALV	Fire Salvage	IBM	Mountain Pine Beetle	ITSL	Innovative Timber Sale Licence	NA	No Special Conditions	R/W	Licensee Road Construct or Upgrade	VQO	Visual Quality Objective Zone	WHO	Winter Harvest Zone
			CODE		DESCRIPTION																																	
			MFZ		Machine Free Zone																																	
			RMZ		Riparian Management Zone																																	
			SMZ		Special Management Zone																																	
			STD		Standard Practice																																	
			WMZ		Wildlife Management Zone or sensitive areas																																	
			BD		Blowdown																																	
			DW		Decked Wood																																	
			DWSHD		Domestic Watershed																																	
			FSALE		Pulpwood Sale																																	
			FSALV		Fire Salvage																																	
			IBM		Mountain Pine Beetle																																	
			ITSL		Innovative Timber Sale Licence																																	
NA	No Special Conditions																																					
R/W	Licensee Road Construct or Upgrade																																					
VQO	Visual Quality Objective Zone																																					
WHO	Winter Harvest Zone																																					
COMMENTS	TEXT	254	For contractor use																																			
DATE	DATE		For contractor use																																			

CUT_BLOCK_SHAPE [CUTBLOCK SHAPE] POLYGON

Notes:

- This layer is the layer from which all other layers are built off.

Topology Rules:

- Must not overlap.

- New shapes are to be snapped to existing shapes where operationally feasible so as to share a single common boundary. Please refer to [Topology Rules](#) within this document. If you are still unsure, please speak with your BCTS Contract Coordinator.

Attributes: (For contractor use. Managed layer attributes will be linked to the tabular data in LRM)

Attribute	Data Type	Field Properties	Description	Example
LICENSE	TEXT	15	TSL Formatted	'A57005'
CUT_PERMIT	TEXT	40	Where applicable	'1'
BLOCK_ID	TEXT	20	Block Number	'2'
BLOCK_NBR	TEXT	15	PRE NUMBER	'1'
COMMENTS	TEXT	254	For contractor use	
DATE	DATE		For contractor use	

CUT_PERMIT_SHAPE [CUTTING PERMIT SHAPE] POLYGON

Notes:

- This layer is no longer used.

DEplete_SHAPE [BLOCK DEPLETION SHAPE] POLYGON

Notes:

- In LRM the deplete layer is completed under the Logging Completed Block Activity once logging has been completed.
- Associated tabular data must be entered in LRM to link spatial data.

Topology Rules:

- Must not overlap
- Must be covered by feature class of BLOCK

Attributes: (For contractor use. Managed layer attributes will be linked to the tabular data in LRM)

Attribute	Data Type	Field Properties	Description	Example
LICENSE	TEXT	15	TSL Formatted	'A57005'
CUT_PERMIT	TEXT	40	Where applicable	'1'
BLOCK_ID	TEXT	20	Block Number	'2'
DEPLETION_PHASE	TEXT	20	Harvested S108 Disturbance Wildfire	
COMMENTS	TEXT	254	For contractor use	
DATE	DATE		For contractor use	

ECOLOGY_UNIT_SHAPE [ECOLOGY UNIT SHAPE] POLYGON

Notes:

- In LRM, the ecounit shape is created by linking your productive SU (SU1, SU2).
- Typically the ecounit can be linked in LRM using the SU feature; there are rare cases that ecounits may be split within a SU. If this is the case, use the ecounit shape layer in the geodatabase provided.
- The total area of ecounits within the block should match the total productive SU area.

Topology Rules:

- Must not overlap
- Must be covered by feature class of BLOCK

Attributes: (For contractor use. Managed layer attributes will be linked to the tabular data in LRM)

Attribute	Data Type	Field Properties	Description	Example
LICENSE	TEXT	15	TSL Formatted	'A57005'

CUT_PERMIT	TEXT	40	Where applicable	'1'
BLOCK_ID	TEXT	20	Block Number	'2'
ECO_UNIT	TEXT	5	This is a code used to identify the specific ecological units within a block. If the entire block is the same ecological unit then there is only one unit and not one for each SU.	'1'
ZONE_SUBZONE_VARIANT	TEXT	12	Of the BioGeo Classification	"MS dk 1"
SITE_SERIES_PHASE	TEXT	12	Of the BioGeo Classification	'01/70,04/30'
COMMENTS	TEXT	254	For contractor use	
DATE	DATE		For contractor use	

HARVEST_UNIT_SHAPE [HARVEST UNIT SHAPE] POLYGON

Notes:

- This layer is created using the populate function in LRM and should not be created manually (includes HU – Critical Season, HU – Harvest Method, HU – Harvest Strategy and HU – Silviculture Strategy). Spatial for harvest method and harvest strategy must exist prior to populating.
- The harvest unit inventory tab in the blocks module enables user to initiate an overlay among the harvest method, harvest season and harvest strategy layers. Each area that has a unique harvest season, harvest method and harvest strategy will become a harvest unit. LRM saves the features resulting from the overlay into the harvest unit layer.
- See workflow: <https://gww.nrs.gov.bc.ca/flnrord/book/bcts-onboarding-and-training/land-resource-manager-lrm/blocks/workflows/build-and-populate>

LICENCE_SHAPE [LICENCE SHAPE] POLYGON

Notes:

- This layer is used to store the merged polygons of the block layer for licenses. This layer must have multi-part polygons for all the blocks within a license. This layer must be populated for submissions to FTA and for Sales Plan Mapping that is undertaken by the Business Area.

Topology Rules:

- Must not overlap
- Must be covered by feature class of BLOCK

Attributes: (For contractor use. Managed layer attributes will be linked to the tabular data in LRM)

Attribute	Data Type	Field Properties	Description	Example
LICENSE_ID	TEXT	15	Timber Sale license formatted	'A57005', 'TA1371'
COMMENTS	TEXT	254	For contractor use	
DATE	DATE		For contractor use	

NON_MERCH_SHAPE [BLOCK STRATIFICATION BLOCK SHAPE] POLYGON

Notes:

- WTRAs are the only features being digitized in this layer. WTRAs are multipart features in the SU layer but split into separate singlepart features on this layer.
- Use if you wish to have separately labelled WTRAs (e.g., site plan map).
- There must be a separate polygon and record for each WTRA.

Topology Rules:

- Must not overlap.
- Must be covered by feature class of BLOCK.

Attributes: (For contractor use. Managed layer attributes will be linked to the tabular data in LRM)

Attribute	Data Type	Field Properties	Description	Example
LICENSE	TEXT	15	TSL Formatted	'A57005'

CUT_PERMIT	TEXT	40	Where applicable	'1'
BLOCK_ID	TEXT	20	Block Number	'2'
LABEL	TEXT	20	Number according to block.	'2'
COMMENTS	TEXT	254	For contractor use	
DATE	DATE		For contractor use	

PLANTING_UNIT_SHAPE

[PLANTING UNIT SHAPE]

POLYGON

Notes:

- Each planting activity allows the creation of multiple strata.
- Strata can have multiple planting activities over the same area.
- BCTS staff only.

Topology Rules:

- Must be covered by feature class of BLOCK.

Attributes:

- Link to tabular.

RIPARIAN_ZONE_SHAPE

[RIPARIAN ZONE SHAPE]

POLYGON

Notes:

- Riparian Zone tabular entry feeds the generation of the Site Plan and is mandatory. Though the input of Riparian Zone shapes are not technically required in this feature class (i.e. the Riparian Zone Shape spatial data does not feed any other data population in LRM), this is the spatial entry recommendation for the purposes of data management and reporting across the BAs.
- In the event MFZ, RMZ, RRZ and / or SMA are located inside of the block boundary, they are to be included in this layer. If MFZ, RMZ, RRZ, and / or SMA are outside the block, these are to be included in the LAYOUT_POLYGON.

Topology Rules:

- Must not overlap.
- Must be covered by feature class of BLOCK.

Attributes: Managed layer attributes will be linked to the tabular data in LRM.

Attribute	Data Type	Field Properties	Description	Example
LICENSE	TEXT	15	TSL Formatted	'A57005'
CUT_PERMIT	TEXT	40	Where applicable	'1'
BLOCK_ID	TEXT	20	Block Number	'2'
RIPZ_LAKE_ID	TEXT	50		
RIPZ_CLASS	TEXT	15	CLASS	'S6'
			L1	
			L2	
			L3	
			L4	
			NCD	
			S1	
			S2	
			S3	
			S4	
			S5	

			<table><tr><td>S6</td></tr><tr><td>UC</td></tr><tr><td>W1</td></tr><tr><td>W2</td></tr><tr><td>W3</td></tr><tr><td>W4</td></tr><tr><td>W5</td></tr></table>	S6	UC	W1	W2	W3	W4	W5						
S6																
UC																
W1																
W2																
W3																
W4																
W5																
RIMZ_ZONE_ID	TEXT	15	<table><tr><td colspan="2">Code identifying polygons with riparian considerations.</td></tr><tr><td>CODE</td><td>DESCRIPTION</td></tr><tr><td>MFZ</td><td>Machine Free Zone</td></tr><tr><td>RMZ</td><td>Riparian Management Zone</td></tr><tr><td>RRZ</td><td>Riparian Reserve Zone</td></tr><tr><td>SMZ</td><td>Special Management Zone</td></tr></table>	Code identifying polygons with riparian considerations.		CODE	DESCRIPTION	MFZ	Machine Free Zone	RMZ	Riparian Management Zone	RRZ	Riparian Reserve Zone	SMZ	Special Management Zone	'RRZ'
Code identifying polygons with riparian considerations.																
CODE	DESCRIPTION															
MFZ	Machine Free Zone															
RMZ	Riparian Management Zone															
RRZ	Riparian Reserve Zone															
SMZ	Special Management Zone															
COMMENTS	TEXT	254	For contractor use													
DATE	DATE		For contractor use													

ROAD_SHAPE	[ROAD]	LINE
-------------------	---------------	-------------

Notes:

- The road layer should be used to identify the road sections in the map window.
- Major culverts, gates, bridges and cattle guards are to be entered into tabular structures in LRM. Please talk to your Contract Coordinator.
- **Each BA has its own road naming convention. Depending on which BA you are working with, refer to the [road naming convention folder on the SharePoint site](#).**

Topology Rules:

- Must not overlap
- Must not have pseudo-nodes
- Must not self-overlap
- Must not self-intersect
- Must be singlepart

Attributes:

Attribute	Data Type	Field Properties	Description	Example					
LICENSE	TEXT	15	TSL Formatted	'A57005'					
CUT_PERMIT	TEXT	40	Where applicable	'1'					
BLOCK_ID	TEXT	20	Block Number	'2'					
CLASS	TEXT	20	<div>Road Class</div> <table><tr><th>CLASS</th></tr><tr><td>On Block</td></tr><tr><td>Other</td></tr><tr><td>Public</td></tr><tr><td>Resource Road</td></tr></table>	CLASS	On Block	Other	Public	Resource Road	'On Block'
CLASS									
On Block									
Other									
Public									
Resource Road									

STATE	TEXT	12	Road State	'PROP'
			CODE DESCRIPTION	
			DEAC Deactivated	
			MAIN Maintained	
			NEBU Never Built	
			PROP Proposed	
			REHB Rehabbed	
METHOD	TEXT	10	Spatial data collection method, one of the following:	'GPS'
			CODE DESCRIPTION	
			GPS GPS 3d Differentially Corrected	
			ORTHO Digitized from Orthophoto	
ROAD_NAME	TEXT	25	NAME	Refer to specific links in 'Notes' above
			Name of road, include sections and segments	
COMMENTS	TEXT	254	For contractor use	
DATE	DATE		For contractor use	

SILV_ACTIVITY_SHAPE [BRUSHING SHAPE, FERTILIZATION/NON REPORTABLE SHAPE, SEEDLING PROTECTION SHAPE, SITE PREPARATION SHAPE] **POLYGON**

Notes:

- BCTS staff only.
- This layer applies to all silviculture base activities excluding planting and surveys. The silviculture activity allows user to digitize the activity area within the block.
- There can be multiple silvicultural activities over the same area.

Topology Rules:

- Must be covered by feature class of BLOCK

Attributes:

- Link to tabular.

SILV_DISTURBANCE_SHAPE [SILV DISTURBANCE SHAPE] **POLYGON**

Notes:

- BCTS staff only.
- This layer is important to submit disturbance information to RESULTS.

Topology Rules:

- Must not overlap
- Must be covered by feature class of BLOCK

Attributes:

- Link to tabular.

STOCKING_STRATA_SHAPE	[STOCKING STATUS STRATA SHAPE]	POLYGON
------------------------------	---------------------------------------	----------------

Notes:

- BCTS staff only.
- Strata layers apply exclusively to the stocking status. The stocking status window enables users to perform an overlay of all relevant survey activities in chronological order. Each area that has the most recent and unique survey will become a stratum. This produces a current view of the cut block.

Topology Rules:

- Must not overlap
- Must be covered by feature class of BLOCK

Attributes:

- Link to tabular.

SILV_STRATUM_HIST_SHAPE	[SURVEY UNIT SHAPE]	POLYGON
--------------------------------	----------------------------	----------------

Notes:

- The strata history layer allows user to digitize multiple strata in the survey activity. Each stratum stores unique information on the species, pests, density and stocking status of that area.
- BCTS staff only.

Topology Rules:

- Must be covered by feature class of BLOCK

Attributes:

- Link to tabular.

SU_SHAPE	[STANDARD UNIT SHAPE]	POLYGON
-----------------	------------------------------	----------------

Notes:

- The standard unit allows users to digitize an area in the cut block where there is a consistent silvicultural system, stocking standard, and soil conservation. Each standard unit generally corresponds with an ecology unit. This layer must have multi-part polygons for all the WTRAs within a block (i.e., all WTRAs should be merged into a multi-part polygon).
- Minimum size for SU polygon is 0.10 ha.
- Landing PAS SU shape must be square and NOT round. Default size for landings is 50m x 50m unless more accurate data is available.
- Default road buffer size for FSRs is 10m on both sides from road centre line (20m total) unless more accurate data is available.
- Default road buffer size for Road Permit roads is 5m on both sides from road centre line (10m total) unless more accurate data is available.
- Default road buffer size for on-block roads (i.e., neither Road Permit nor FSR) is 3m on both sides from road centre line (6m total) unless more accurate data is available.
- Riparian (MFZ, RMZ, RRZ & SMZ) should not be captured as a SU shape.

Topology Rules:

- Must not overlap
- Must be covered by feature class of BLOCK

Attributes: (For contractor use. Managed layer attributes will be linked to the tabular data in LRM)

- No zeros or # signs to be placed before any numbers.
- Letters are to be capitalized.

Attribute	Data Type	Field Properties	Description	Example
LICENSE	TEXT	15	TSL Formatted	'A57005'
CUT_PERMIT	TEXT	40	Where applicable	'1'
BLOCK_ID	TEXT	20	Block Number	'2'
SU_NAME	TEXT	10	See table Below	'PAS'
SU_TYPE	TEXT	10	See table below	'NPPERMACC'

COMMENTS	TEXT	254	For contractor use	
DATE	DATE		For contractor use	

The following table summarizes how the SU_CODE and SU_TYPE are related. **Please only use the values listed in the table below.**

ITEM	SU_CODE	SU_TYPE	DESCRIPTION
Productive SU	1, 2, 3, 4, 5,6, 7, 8, 9, 10	PROD	Productive area to which the same stocking standards apply regardless of harvesting method, etc. No sub-units of SU's (i.e., no 1a and 1b labels).
Non-Productive Permanent Access	PAS	NPPERMACC	Describes all roads, landings, trails, etc. which have been permanently removed from the productive landbase.
Wildlife Tree Retention Area	WTRA	WTRA	Reserved to meet wildlife tree retention requirements. It is largely undisturbed and has no stocking standards. Any WTRAs located outside the boundary are to be included within the block area and linked.
Interior Reserve	RES	INTRES	All other reserves that do not fit anywhere else.
Other	NPOTHER	NPOTHER	<u>Use for deferred.</u> Areas within the block which are not reserves.
Non-Commercial	NCFOR NCBR	NPNCBR	A Standard unit with potential productive forest land covered or occupied by either "forest" or "brush" which will not be harvested and no stocking standards will apply.
Non-Productive NCBR	NPFOR	NPNCBR	Forest land incapable of growing merchantable stands within a reasonable length of time.
Non-Productive Natural	NPNAT	NPNAT	Used when you don't know specifically what type of NP (R, S, G etc.) to describe.
Non-Productive Other	NPOR	NPOTHER	Non-forested rangeland, bet suited for range management.
Cultivated	NPC	NPOTHER	Land cleared for agricultural purposes.
Non-Productive Water	NPL	NPWATER	
Non-Productive Rock	NPR	NPROCK	
Non-Productive Swamp	NPS	NPSWAMP	
Non-Productive Unnatural	NPU	NPUNN	Manmade cover such as industrial sites, power lines, seismic lines.

Non-managed Layers

These layers have specific acceptable values for the fields as outlined below. Note that only the TIMBERTYPE_TMP layer has recommended topology rules.

GPS_HUB	[BCTS GPS HUBS]	POINT
---------	-----------------	-------

Notes:

- This layer is to be used to store GPS hubs to mark boundaries in the field at the layout stage to assist field staff and loggers. Used as a navigational tool.

Topology Rules:

- (None)

Attributes:

Attribute	Data Type	Field Properties	Description	Example																		
HUB_ID	TEXT	10	Hub number or identification. This information includes permanent reference points commonly identified by blaze and metal tag. When inputting kilometre markers, use this field to identify the corresponding km value.	'FC12'																		
HUB_TYPE	TEXT	10	Hub Type must be one of the following codes. Use the domain drop down values: <table><tr><th>CODE</th><th>DESCRIPTION</th></tr><tr><td>BLK_BDRY</td><td>Block Boundary</td></tr><tr><td>WTP_BDRY</td><td>WTP Boundary</td></tr><tr><td>WTRA_BDRY</td><td>WTRA Boundary</td></tr><tr><td>ROAD</td><td>Road</td></tr><tr><td>FC</td><td>Falling Corner</td></tr><tr><td>KMM</td><td>KM Marker</td></tr><tr><td>STN</td><td>Station</td></tr><tr><td>RT</td><td>Reference Tree</td></tr></table>	CODE	DESCRIPTION	BLK_BDRY	Block Boundary	WTP_BDRY	WTP Boundary	WTRA_BDRY	WTRA Boundary	ROAD	Road	FC	Falling Corner	KMM	KM Marker	STN	Station	RT	Reference Tree	'BLK_BDRY'
CODE	DESCRIPTION																					
BLK_BDRY	Block Boundary																					
WTP_BDRY	WTP Boundary																					
WTRA_BDRY	WTRA Boundary																					
ROAD	Road																					
FC	Falling Corner																					
KMM	KM Marker																					
STN	Station																					
RT	Reference Tree																					
COMMENTS	TEXT	254	Any applicable comments	'Revised 2021-03-22'																		
SUPPRESS	TEXT	3	BCTS staff only – keep defaults	'No'																		
LICENSE	TEXT	6	Timber sale license formatted	'A57005'																		
CUT_PERMIT	TEXT	6	Where applicable	'1'																		
MARK	TEXT	10	Where applicable	'1'																		
BLOCK	TEXT	20	Block number	'2'																		
ROTATION	SHORT	5	0 – 360 rotation of display symbol (i.e., for a reach break, 0 indicates a reach break symbol lying across an east-west stream, 90 indicates a reach break symbol lying across a north-south stream)	270																		
CUTB_SEQ_NBR	DOUBLE	38	Block sequence number	160025322																		
ORG_UNIT_CODE	TEXT	6	TKA or TKO or TOC	'TKA'																		

LAYOUT_POINT	[BCTS LAYOUT POINT FEATURES]	POINT
--------------	------------------------------	-------

Notes:

- Major culverts, gates, bridges and cattle guards must be entered into tabular structures in LRM. Please talk to your Contract Coordinator.

- Data Entry Requirements for Block Centroids:
 - When digitizing the block centroid point for a cutblock, the *Mean Center Tool* or *XTools Shape to Centroid Tool* are the best methods for determining the block center. Do not simply select the block and digitize the point where the crosshairs appear for the selected feature. This is the center of the extent of the feature and not the center of the feature itself. For many blocks depending on the block shape these methods probably produce very similar results, but sometimes they can be very different and result in the block center being a few hundred meters off where it should be. This can be an issue for submitting appraisals as they calculate the haul distance from the block using this point.
- BCTS uses rotation angles to rotate symbols from certain point layer features so that the symbols show up perpendicular to the line feature. The only feature that requires rotation is a reach break.
- All point symbols requiring rotation will be drawn with a vertical orientation (North-South) as a default. It is suggested you use the Rotation Button on the Editing Tool Bar to complete rotations:



Topology Rules:

- (None)

Attributes:

Attributes:

Attribute	Data Type	Field Properties	Description	Example																																																			
FEATURE_TYPE	TEXT	10	Feature including any of the following:	'RO'																																																			
			CODE		DESCRIPTION	CHR	Archaeological Feature	BS	Backspar	BC	Block Centre	CBN	Cabin	CWD	Coarse Woody Debris	CLT	Coastal Legacy Tree	CJ	Common Junction	CF	Cultural Feature	CMT	Culturally Modified Tree	CMT_PST	Culturally Modified Tree Post Dated 1846	CMT_PRE	Culturally Modified Tree Pre Dated 1846	DC	Culvert - Drain	MC	Culvert - Minor	DSC	Designated Stream Crossing	EP	Ecology Plots	FSB	Fish Barriers	GC	Geographic Centre	IS	Intermediate Support (*added winter 2021*)	LC	Landing - Cable	EL	Landing - Existing	EGL	Landing - Existing Ground	LG	Landing - Ground	PL	Landing - Permanent	PGL	Landing - Proposed Ground	RW	Landing - ROW
			CODE		DESCRIPTION																																																		
			CHR		Archaeological Feature																																																		
			BS		Backspar																																																		
			BC		Block Centre																																																		
			CBN		Cabin																																																		
			CWD		Coarse Woody Debris																																																		
			CLT		Coastal Legacy Tree																																																		
			CJ		Common Junction																																																		
			CF		Cultural Feature																																																		
			CMT		Culturally Modified Tree																																																		
			CMT_PST		Culturally Modified Tree Post Dated 1846																																																		
			CMT_PRE		Culturally Modified Tree Pre Dated 1846																																																		
			DC		Culvert - Drain																																																		
			MC		Culvert - Minor																																																		
			DSC		Designated Stream Crossing																																																		
			EP		Ecology Plots																																																		
			FSB		Fish Barriers																																																		
			GC		Geographic Centre																																																		
			IS		Intermediate Support (*added winter 2021*)																																																		
			LC		Landing - Cable																																																		
			EL		Landing - Existing																																																		
			EGL		Landing - Existing Ground																																																		
			LG		Landing - Ground																																																		
			PL		Landing - Permanent																																																		
			PGL		Landing - Proposed Ground																																																		
RW	Landing - ROW																																																						

			TL	Landing - Temporary	
			LT	Leave trees	
			ICAC	Licence/Isolated Cutting Authority Centre	
			MS	Mine Shafts	
			MCP	Mining Claim Post	
			MSMA	MSMA Treated Tree	
			OTHER	Other Features	
			PIPEX	Pipeline Crossing	
			POC	Point of Commencement	
			POT	Point of Termination	
			DSX	Proposed Designated Skid Crossing	
			SKBR	Proposed Skid Bridge	
			RB	Reach Break	
			RT	Reference Tree	
			RD_BAR	Road Barrier	
			RO	Rock Outcrops	
			RQ	Rock Quarry	
			CAVE	SAR Cave	
			DEN	SAR Den	
			ML	SAR Mineral Lick	
			NEST	SAR Nest	
			POND	SAR Pond	
			RPC	SAR Rare Plant Community	
			WT	SAR Wildlife Tree	
			SLUMP	Slump or Slide Area	
			SF	Snow Fill	
			SSP	Steep Slope Point	
			ST	Stub Tree	
			THT	Tail Hold Tree	
			TS	Tower Settings	
			W	Wildlife Feature	
			WIND	Windfall/Windthrow	
COMMENTS	TEXT	254	Any applicable comments for GIS technician on above features. For reach breaks include reach number (e.g., R1, R2, R10.2, etc.) Enter R0 for reach breaks if entire stream is not sampled.		'R10.2'
SUPPRESS	TEXT	3	BCTS staff only – keep defaults		'No'
LICENSE	TEXT	6	Timber sale license formatted		'A57005'
CUT_PERMIT	TEXT	6	Where applicable		'1'
MARK	TEXT	10	Where applicable		'1'
BLOCK	TEXT	20	Block number		'2'
ROTATION	SHORT INTEGER	5	0 – 360 rotation of display symbol (i.e., for a reach break, 0 indicates a reach break symbol lying across an east-west stream, 90 indicates a reach break symbol lying across a north-south stream)		270
LABEL	TEXT	25			LABEL

SOURCE_DATE	DATE	MM/DD/YYYY	Date of feature type discovery	10/15/2012
CUTB_SEQ_NBR	DOUBLE	38	Block sequence number	160025322
ORG_UNIT_CODE	TEXT	6	TKA, TKO, or TOC	'TKO'
POINT_ID	LONG INTEGER	10	Leave as null	'Null'

LAYOUT_LINE	[BCTS LAYOUT LINE FEATURES]	LINE
--------------------	------------------------------------	-------------

Notes:

- Any Road Type (i.e., Temporary Access Structures, Road Permits, Proposed Permanent and Proposed Temporary Roads) must be entered on the Roads Layer in LRM.
- Any trails used for BCTS harvesting that are outside the block boundaries must be put on the Roads Layer in LRM.
- Digitize all line features in the direction of travel: Slope breaks, embankments, and ridge lines reflect the correct direction of the feature. Cliffs are to be digitized with higher ground to the right.
- Slope Break Arrows and Slope Percent are entered in the Cruise Line layer.

Topology Rules:

- (None)

Attributes:

Attribute	Data Type	Field Properties	Description	Example
FEATURE_TYPE	TEXT	10	Do not use any feature types except those listed below:	'DFL'
			CODE	
			DESCRIPTION	
			BSKDT	
			Bladed Skid Trail	
			SKDT	
			Non-Bladed Skid Trail	
			SKDA	
			Skid Direction Arrow	
			WLT	
			Wildlife Trail	
			DFL	
			Deflection Line	
			CHR	
			Cultural/Heritage Feature	
			RCT	
			Recreational Trail	
			FNC	
			Fence Line	
			RDG	
			Ridge	
			RP	
			Road Permit	
			RRSD	
			Restricted Side Decking	
			STBBDY	
			Stubbed Boundary	
			SLB	
			Slope Break	
			OTT	
			Other Tenured Trails	
			EMB	
			Embankment	
			BS	
			Back spar trails	
			FT	
			Forwarding trails	
			YD	
			Yarding Direction	
			CLIFF	
			Cliff	
			GULLY	
			Gully	
			DRAW	
			Draw	
			EPBST	
			Existing Permanent Bladed Skid Trail	
			PPBST	
			Proposed Permanent Bladed Skid Trail	
			PTBST	
			Proposed Temporary Bladed Skid Trail	

			PL	Pipeline	
			SL	Seismic Line	
			TM	Trim Mask	
			TEMP_T	Temporary Trail	
			PERM_T	Permanent Trail	
			PLAN_T	Planned Trail	
			ET	Existing Trail	
			CT	Cat Trail	
			ST	Skid Trail	
			SLD	Slide	
			SEEP	Seepage	
			AR	Access Route	
			AVT	Avalanche Track	
			BLF	Bluff	
			HSL	Harvest Splitline	
			PR	Pruning	
			PWRL	Powerline	
			RR	Road - Referral	
			SLD	Slide Track	
			STG	Steep Road Grade	
COMMENTS	TEXT	254	Any applicable comments for GIS technician or above features	'Proposed only'	
SUPPRESS	TEXT	3	BCTS staff only – keep defaults	'No'	
LICENSE	TEXT	6	Timber sale license formatted	'A57005'	
CUT_PERMIT	TEXT	6	Where applicable	'2'	
MARK	TEXT	10	Where applicable	'1'	
BLOCK	TEXT	20	Block number	'1'	
LABEL	TEXT	25	Optional	'Future DFL'	
SOURCE_DATE	DATE	MM/DD/YYYY	Optional	02/17/2010	
CUTB_SEQ_NBR	DOUBLE	38	Block sequence number	160025322	
ORG_UNIT_CODE	TEXT	6	TKA or TKO or TOC	'TOC'	

LAYOUT_POLYGON	[BCTS LAYOUT POLYGON FEATURES]	POLYGON
-----------------------	---------------------------------------	----------------

Notes:

- This layer is not linked in LRM, (non-managed layer) so information must be filled out in the attribute tables and submitted separately.
- In the event MFZ, RMZ, RRZ and / or SMA are located outside of the block boundary, they are to be included in this layer. If MFZ, RMZ, RRZ, and / or SMA are within the block, these are to be included in the RIPARIAN_ZONE_SHAPE.
- All landings are to be entered in Layout_Point.

Topology Rules:

- (None)

Attributes:

Attribute	Data	Field	Description	Example
-----------	------	-------	-------------	---------

	Type	Properties																												
FEATURE_TYPE	TEXT	10	Feature including any of the following:	'EGL'																										
			<table><tr><th>CODE</th><th>DESCRIPTION</th></tr><tr><td>AOC</td><td>Area of Concern (Must add comments)</td></tr><tr><td>CHR</td><td>Cultural/Heritage Features (Must include age in comments)</td></tr><tr><td>ROW</td><td>Right of Way</td></tr><tr><td>SMA</td><td>Special Management Area (Must put type of SMA in comments)</td></tr><tr><td>CLF</td><td>SAR Cliff</td></tr><tr><td>R_ECO</td><td>SAR Rare Ecosystems</td></tr><tr><td>FOR</td><td>SAR Forested</td></tr><tr><td>MFZ</td><td>Machine Free Zone</td></tr><tr><td>RMZ</td><td>Riparian Management Zone</td></tr><tr><td>RRZ</td><td>Riparian Reserve Zone</td></tr><tr><td>SA35</td><td>Slope Area (>35%)</td></tr><tr><td>ICAA</td><td>Interior Cutting Authority Area</td></tr></table>		CODE	DESCRIPTION	AOC	Area of Concern (Must add comments)	CHR	Cultural/Heritage Features (Must include age in comments)	ROW	Right of Way	SMA	Special Management Area (Must put type of SMA in comments)	CLF	SAR Cliff	R_ECO	SAR Rare Ecosystems	FOR	SAR Forested	MFZ	Machine Free Zone	RMZ	Riparian Management Zone	RRZ	Riparian Reserve Zone	SA35	Slope Area (>35%)	ICAA	Interior Cutting Authority Area
			CODE		DESCRIPTION																									
			AOC		Area of Concern (Must add comments)																									
			CHR		Cultural/Heritage Features (Must include age in comments)																									
			ROW		Right of Way																									
			SMA		Special Management Area (Must put type of SMA in comments)																									
			CLF		SAR Cliff																									
			R_ECO		SAR Rare Ecosystems																									
			FOR		SAR Forested																									
			MFZ		Machine Free Zone																									
			RMZ		Riparian Management Zone																									
			RRZ		Riparian Reserve Zone																									
SA35	Slope Area (>35%)																													
ICAA	Interior Cutting Authority Area																													
COMMENTS	TEXT	254	Any applicable comments on above features.	'Slope > 35%'																										
SUPPRESS	TEXT	3	BCTS staff only – keep defaults	'No'																										
LICENSE	TEXT	6	Timber sale license formatted	'A57005'																										
CUT_PERMIT	TEXT	6	Where applicable	'1'																										
MARK	TEXT	10	Where applicable	'1'																										
BLOCK	TEXT	20	Block number	'2'																										
LABEL	TEXT	25	Optional	'45%'																										
SOURCE_DATE	DATE		Optional	2017/05/22																										
CUTB_SEQ_NBR	DOUBLE	38	Block sequence number	160025322																										
ORG_UNIT_CODE	TEXT	6	TKA or TKO or TOC	'TKA'																										

OPERATING_AREA	[BCTS OPERATING AREA]	POLYGON
-----------------------	------------------------------	----------------

Notes:

- BCTS staff use only.

SPECIALTREEREG	[BCTS SPECIAL TREES]	POINT
-----------------------	-----------------------------	--------------

Notes:

- The purpose of this layer will be to store and track current and future spatial data to meet operational, regulation and legislation requirements as identified under the Special Tree Protection Regulation and BCTS Coastal Legacy Trees Best Management Practices.
- Refer to the [BCTS Special Tree Layer Guide](#) for populating the attributes for this layer.

Topology Rules:

- (None)

Attributes:

Attribute	Data Type	Field Properties	Description	Example
-----------	-----------	------------------	-------------	---------

TREE_DESIG	TEXT	8	Tree Designation: Feature including any of the following: <table><tr><th>CODE</th><th>DESCRIPTION</th></tr><tr><td>CLT</td><td>Coastal Legacy Tree</td></tr><tr><td>STPR</td><td>Special tree Protection Regulation</td></tr><tr><td>CLT/STPR</td><td>Both CL and STPR</td></tr></table>	CODE	DESCRIPTION	CLT	Coastal Legacy Tree	STPR	Special tree Protection Regulation	CLT/STPR	Both CL and STPR	'STPR'																		
CODE	DESCRIPTION																													
CLT	Coastal Legacy Tree																													
STPR	Special tree Protection Regulation																													
CLT/STPR	Both CL and STPR																													
TREE_NUM	LONG		Tree Number	'20162'																										
FN_VALUE	TEXT	3	First Nation Value: Feature including any of the following: <table><tr><th>CODE</th><th>DESCRIPTION</th></tr><tr><td>Yes</td><td>Yes</td></tr><tr><td>No</td><td>No</td></tr><tr><td>UR</td><td>Under Review</td></tr></table>	CODE	DESCRIPTION	Yes	Yes	No	No	UR	Under Review	'Yes'																		
CODE	DESCRIPTION																													
Yes	Yes																													
No	No																													
UR	Under Review																													
SPECIES	TEXT	3	Species: Feature including any of the following: <table><tr><th>CODE</th><th>DESCRIPTION</th></tr><tr><td>Ra</td><td>Arbutus</td></tr><tr><td>Yc</td><td>Cedar, Yellow</td></tr><tr><td>Act</td><td>Cottonwood, Black</td></tr><tr><td>Fdc</td><td>Douglas Fir, Coastal</td></tr><tr><td>Fdi</td><td>Douglas Fir, Interior</td></tr><tr><td>Bg</td><td>Fir, Grand</td></tr><tr><td>Mb</td><td>Maple, Bigleaf</td></tr><tr><td>Qg</td><td>Oak, Garry</td></tr><tr><td>Py</td><td>Pine, Ponderosa</td></tr><tr><td>Cw</td><td>Redcedar, Western</td></tr><tr><td>Ss</td><td>Spruce, Sitka</td></tr><tr><td>Tw</td><td>Yew, Pacific (Western Yew)</td></tr></table>	CODE	DESCRIPTION	Ra	Arbutus	Yc	Cedar, Yellow	Act	Cottonwood, Black	Fdc	Douglas Fir, Coastal	Fdi	Douglas Fir, Interior	Bg	Fir, Grand	Mb	Maple, Bigleaf	Qg	Oak, Garry	Py	Pine, Ponderosa	Cw	Redcedar, Western	Ss	Spruce, Sitka	Tw	Yew, Pacific (Western Yew)	'Cw'
CODE	DESCRIPTION																													
Ra	Arbutus																													
Yc	Cedar, Yellow																													
Act	Cottonwood, Black																													
Fdc	Douglas Fir, Coastal																													
Fdi	Douglas Fir, Interior																													
Bg	Fir, Grand																													
Mb	Maple, Bigleaf																													
Qg	Oak, Garry																													
Py	Pine, Ponderosa																													
Cw	Redcedar, Western																													
Ss	Spruce, Sitka																													
Tw	Yew, Pacific (Western Yew)																													
GENETICS	TEXT	8	Genetics: Feature including any of the following: <table><tr><th>CODE</th><th>DESCRIPTION</th></tr><tr><td>Average</td><td>Average form</td></tr><tr><td>Poor</td><td>Poor form</td></tr><tr><td>Superior</td><td>Superior form</td></tr></table>	CODE	DESCRIPTION	Average	Average form	Poor	Poor form	Superior	Superior form	'Average'																		
CODE	DESCRIPTION																													
Average	Average form																													
Poor	Poor form																													
Superior	Superior form																													
STATE	TEXT	10	Observation State: Feature including any of the following: <table><tr><th>CODE</th><th>DESCRIPTION</th></tr><tr><td>Down</td><td>Down</td></tr><tr><td>Harvested</td><td>Harvested</td></tr><tr><td>Standing</td><td>Standing</td></tr></table>	CODE	DESCRIPTION	Down	Down	Harvested	Harvested	Standing	Standing	'Standing'																		
CODE	DESCRIPTION																													
Down	Down																													
Harvested	Harvested																													
Standing	Standing																													

DBM_CM	DOUBLE	8	DBH (cm)	'343.8'										
HEIGHT_M	DOUBLE	8	Height (m)	'40'										
CROWNSPREAD	DOUBLE	8	Crown Spread	'17'										
FIELD_NUM	TEXT	50	Field Number											
STPR_LOC	TEXT	20	STPR Location: Feature including any of the following: <table><tr><th>CODE</th><th>DESCRIPTION</th></tr><tr><td>NA</td><td>No Applicable (CLT)</td></tr><tr><td>In</td><td>In Coastal BEC</td></tr><tr><td>Out</td><td>Outside Coastal BEC</td></tr><tr><td>Anywhere</td><td>Anywhere</td></tr></table>	CODE	DESCRIPTION	NA	No Applicable (CLT)	In	In Coastal BEC	Out	Outside Coastal BEC	Anywhere	Anywhere	'NA'
CODE	DESCRIPTION													
NA	No Applicable (CLT)													
In	In Coastal BEC													
Out	Outside Coastal BEC													
Anywhere	Anywhere													
BA	SHORT	5	Business Area: Feature including any of the following: <table><tr><th>CODE</th><th>DESCRIPTION</th></tr><tr><td>13</td><td>TKA</td></tr><tr><td>14</td><td>TOC</td></tr><tr><td>15</td><td>TKO</td></tr></table>	CODE	DESCRIPTION	13	TKA	14	TOC	15	TKO	'14'		
CODE	DESCRIPTION													
13	TKA													
14	TOC													
15	TKO													
OP_AREA	TEXT	50	Operating Area: Feature including any from the 3 Business Areas: <table><tr><th>CODE</th><th>DESCRIPTION</th></tr><tr><td>VARIOUS</td><td>VARIOUS (TKA)</td></tr><tr><td>VARIOUS</td><td>VARIOUS (TKO)</td></tr><tr><td>VARIOUS</td><td>VARIOUS (TOC)</td></tr></table>	CODE	DESCRIPTION	VARIOUS	VARIOUS (TKA)	VARIOUS	VARIOUS (TKO)	VARIOUS	VARIOUS (TOC)	'Bulldog'		
CODE	DESCRIPTION													
VARIOUS	VARIOUS (TKA)													
VARIOUS	VARIOUS (TKO)													
VARIOUS	VARIOUS (TOC)													
CUTB_SEQ_NBR	LONG		Block sequence number	160025322										
LICENCE	TEXT	6	Timber Sale Licence	'A77005'										
CUT_PERMIT	TEXT	6	Where applicable	'2'										
MARK	TEXT	10	Where applicable	'1'										
BLOCKID	TEXT	20	Block ID	'1'										
LATITUDE	DOUBLE	8	Latitude	'50.622122'										
LONGITUDE	DOUBLE	8	Longitude	'-117.050591'										
MGMT_ZONE	LONG		Management Zone	'G'										
RES_ZONE	LONG		Reserve Zone											
SUPPRESS	TEXT	3	BCTS staff only – keep defaults	'No'										
OBS_DATE	DATE		Observation Date	'2/25/2022'										
SUBMISSION_FTA	TEXT	50	FTA Submission: Yes or No	'Yes'										
SUBMISSION_DATE	DATE		Submission Date	'2/25/2022'										
MAPNOTATION_ID	TEXT	30	FOREST_FILE_IDE											
EXEMPT_REQ	TEXT	15	Exemption Request: Feature including any of the following: <table><tr><th>CODE</th><th>DESCRIPTION</th></tr><tr><td>NA</td><td>Not Applicable</td></tr><tr><td>Submitted</td><td>Submitted</td></tr><tr><td>Approved</td><td>Approved</td></tr></table>	CODE	DESCRIPTION	NA	Not Applicable	Submitted	Submitted	Approved	Approved	'Not Applicable'		
CODE	DESCRIPTION													
NA	Not Applicable													
Submitted	Submitted													
Approved	Approved													

			Merge Policy	Not Approved		
COMMENTS	TEXT	254	Any applicable comments			

CRUISE_PLOT	[BCTS CRUISE PLOTS]	POINT
--------------------	----------------------------	--------------

Notes:

- (None)

Topology Rules:

- (None)

Attributes:

Attribute	Data Type	Field Properties	Description	Example																
PLOT_ID	TEXT	10	Plot number	'2'																
TYPE	TEXT	10	Cruise plot type as follows: <table><tr><th>CODE</th><th>DESCRIPTION</th></tr><tr><td>C</td><td>Count Plot</td></tr><tr><td>M</td><td>Measure Plot</td></tr><tr><td>POC</td><td>Point of Commencement</td></tr><tr><td>DP</td><td>Dropped Plot</td></tr><tr><td>SPP</td><td>SP Plot</td></tr><tr><td>POT</td><td>Point of Termination</td></tr><tr><td>TIE</td><td>Tie Point</td></tr></table>	CODE	DESCRIPTION	C	Count Plot	M	Measure Plot	POC	Point of Commencement	DP	Dropped Plot	SPP	SP Plot	POT	Point of Termination	TIE	Tie Point	'SPP'
CODE	DESCRIPTION																			
C	Count Plot																			
M	Measure Plot																			
POC	Point of Commencement																			
DP	Dropped Plot																			
SPP	SP Plot																			
POT	Point of Termination																			
TIE	Tie Point																			
COMMENTS	TEXT	254	Any applicable comments	'Revised'																
SUPPRESS	TEXT	3	BCTS staff only – keep defaults	'No'																
LICENSE	TEXT	6	Timber sale license formatted	'A57005'																
CUT_PERMIT	TEXT	6	Where applicable	'2'																
MARK	TEXT	10	Where applicable	'1'																
BLOCK	TEXT	20	Block number	'1'																
CUTB_SEQ_NBR	DOUBLE	38	Block sequence number	160025322																
ORG_UNIT_CODE	TEXT	6	TKA or TKO or TOC	'TKO'																

CRUISE_LINE	[BCTS CRUISE LINE FEATURES]	LINE
--------------------	------------------------------------	-------------

Notes:

- All lines must be drafted in the direction the line is layout or cruised.
- All slope direction lines must be digitized downhill and slope % recorded correspondingly.

Topology Rules:

- (None)

Attributes:

Attributes:

Attribute	Data Type	Field Properties	Description	Example										
LINE_ID	TEXT	10	Strip line number or identification or slope arrow % value.	'20-45'										
TYPE	TEXT	10	Strip line type as follows: <table><tr><th>CODE</th><th>DESCRIPTION</th></tr><tr><td>SA</td><td>Slope Arrow</td></tr><tr><td>SL</td><td>Strip Line</td></tr><tr><td>TL</td><td>Tie Line</td></tr><tr><td>BL</td><td>Base Line</td></tr></table>	CODE	DESCRIPTION	SA	Slope Arrow	SL	Strip Line	TL	Tie Line	BL	Base Line	'BL'
CODE	DESCRIPTION													
SA	Slope Arrow													
SL	Strip Line													
TL	Tie Line													
BL	Base Line													

			SLD	Strip Line Direction Arrow. (Draw strip line with directional arrow at end).	
COMMENTS	TEXT	254		Any applicable comments	'Revised'
SUPPRESS	TEXT	3		BCTS staff only – keep defaults	'No'
LICENSE	TEXT	6		Timber sale license formatted	'A57005'
CUT_PERMIT	TEXT	6		Where applicable	'2'
MARK	TEXT	10		Where applicable	'1'
BLOCK	TEXT	20		Block number	'1'
SLOPE	SHORT	5		Slope percent for slope arrows (Type = SA)	22
CUTB_SEQ_NBR	DOUBLE	38		Block sequence number	160025322
ORG_UNIT_CODE	TEXT	6		TKA or TKO or TOC	'TOC'

TIMBERTYPE_TMP [BCTS CRUISE – TIMBER TYPE] POLYGON

Notes:

- This layer is intended to store the timber type information that we collect for cruise maps.
- The only information that this layer should contain are timber types, no WTRAs. **Note: Only merchantable timber is included.**

Recommended Topology Rules:

- Must not overlap
- Must be covered by feature class of BLOCK

Attributes:

Attribute	Data Type	Field Properties	Description	Example
TYPE_ID	TEXT	10	Roman numeral id numbers	'VI'
SPECIES	TEXT	20	Species composition	'PI (Sx)'
AGE_CLS	TEXT	10	Age class	'8'
PLOTS	TEXT	50	Not required for contractor purposes	'9'
COMMENTS	TEXT	256	Any applicable comments	'Amendment'
SUPPRESS	TEXT	3	BCTS staff only – keep defaults	'No'
LICENSE	TEXT	6	Timber sale license formatted	'A57005'
CUT_PERMIT	TEXT	6	Where applicable	2
MARK	TEXT	10	Where applicable	1
BLOCK	TEXT	20	Block number	1
CUTB_SEQ_NBR	DOUBLE	38	Block sequence number	160025322
SHAPE_AREA_1			Do not use.	
ORG_UNIT_CODE	TEXT	6	TKA or TKO or TOC	'TKA'

STREAM [BCTS STREAMS CLASS] LINE

Notes:

- This layer has been populated with the TRIM streams. Copy and paste all gps streams into this layer. Any portions of gps'd streams that are replacing TRIM should be tied into the TRIM streams on this layer and the existing TRIM portion should be deleted. If the gps'd stream portion is not already in TRIM, then add.
- The BCTS provincial map templates use the primary survey attributes for display (e.g., CLASS, CLASS_YEAR). In the event a stream is surveyed more than once, ensure the data you wish to have shown is within the primary attributes; move data you wish to be saved to the corresponding attribute denoted with a '2' (e.g., CLASS2, CLASS_YEAR2).

Topology Rules:

- (None)

Attributes:

Attribute	Data	Field	Description	Example
-----------	------	-------	-------------	---------

	Type	Properties																																
NAME	TEXT	10	Stream name = stream class and stream number	'S3-1'																														
REACH_ID	TEXT	10	Reach number. If entire stream is not sampled, enter R0 for reach breaks. Reach breaks should only be numbered if entire stream is sampled.	'R2'																														
CLASS	TEXT	10	Stream Class, one of the following: <table><tr><th>CLASS</th><th>DESCRIPTION</th></tr><tr><td>S1</td><td>S1</td></tr><tr><td>S2</td><td>S2</td></tr><tr><td>S3</td><td>S3</td></tr><tr><td>S4</td><td>S4</td></tr><tr><td>S5</td><td>S5</td></tr><tr><td>S6</td><td>S6</td></tr><tr><td>NCD</td><td>NCD</td></tr><tr><td>NVC</td><td>NVC</td></tr><tr><td>S1-A</td><td>S1-A</td></tr><tr><td>S1-B</td><td>S1-B</td></tr><tr><td>S6-A</td><td>S6-A</td></tr><tr><td>S6-B</td><td>S6-B</td></tr><tr><td>FSF</td><td>Fisheries Sensitive Feature</td></tr><tr><td>FSZ</td><td>Fisheries Sensitive Zone</td></tr></table>	CLASS	DESCRIPTION	S1	S1	S2	S2	S3	S3	S4	S4	S5	S5	S6	S6	NCD	NCD	NVC	NVC	S1-A	S1-A	S1-B	S1-B	S6-A	S6-A	S6-B	S6-B	FSF	Fisheries Sensitive Feature	FSZ	Fisheries Sensitive Zone	'S5'
CLASS	DESCRIPTION																																	
S1	S1																																	
S2	S2																																	
S3	S3																																	
S4	S4																																	
S5	S5																																	
S6	S6																																	
NCD	NCD																																	
NVC	NVC																																	
S1-A	S1-A																																	
S1-B	S1-B																																	
S6-A	S6-A																																	
S6-B	S6-B																																	
FSF	Fisheries Sensitive Feature																																	
FSZ	Fisheries Sensitive Zone																																	
CLASS_YEAR	DATE	DD/MM/YYYY	Year the stream was classed	'10/15/2020'																														
SURVEYOR	TEXT	10	Qualifications of the person classifying the stream. One of the following: <table><tr><th>CODE</th><th>DESCRIPTION</th></tr><tr><td>TCH</td><td>Resource Technician</td></tr><tr><td>RFT</td><td>Registered Professional Technician</td></tr><tr><td>RPF</td><td>Registered Professional Forester</td></tr><tr><td>RPB</td><td>Registered Professional Biologist</td></tr></table>	CODE	DESCRIPTION	TCH	Resource Technician	RFT	Registered Professional Technician	RPF	Registered Professional Forester	RPB	Registered Professional Biologist	'TCH'																				
CODE	DESCRIPTION																																	
TCH	Resource Technician																																	
RFT	Registered Professional Technician																																	
RPF	Registered Professional Forester																																	
RPB	Registered Professional Biologist																																	
METHOD	TEXT	10	Spatial data collection method, one of the following: <table><tr><th>CODE</th><th>DESCRIPTION</th></tr><tr><td>GPS</td><td>GPS 3d Differentially Corrected</td></tr><tr><td>ORTHO</td><td>Digitized from Orthophoto</td></tr><tr><td>TRIM</td><td>Acquired from TRIM2</td></tr></table>	CODE	DESCRIPTION	GPS	GPS 3d Differentially Corrected	ORTHO	Digitized from Orthophoto	TRIM	Acquired from TRIM2	'ORTHO'																						
CODE	DESCRIPTION																																	
GPS	GPS 3d Differentially Corrected																																	
ORTHO	Digitized from Orthophoto																																	
TRIM	Acquired from TRIM2																																	
GRADE_PERCENT	SHORT INTEGER	5	Average stream gradient %	5																														
SPECIES	TEXT	20	Fish species if identified in survey	'RB,KOKANEE'																														
CONTRACTOR	TEXT	50	Contractor under contract to collect and survey stream data	'Rila Consulting'																														
CLASS2	TEXT	10	Stream Class, one of the following: <table><tr><th>CLASS</th><th>DESCRIPTION</th></tr></table>	CLASS	DESCRIPTION	'S5'																												
CLASS	DESCRIPTION																																	

			<table><tr><td>S1</td><td>S1</td></tr><tr><td>S2</td><td>S2</td></tr><tr><td>S3</td><td>S3</td></tr><tr><td>S4</td><td>S4</td></tr><tr><td>S5</td><td>S5</td></tr><tr><td>S6</td><td>S6</td></tr><tr><td>NCD</td><td>NCD</td></tr><tr><td>NVC</td><td>NVC</td></tr><tr><td>S1-A</td><td>S1-A</td></tr><tr><td>S1-B</td><td>S1-B</td></tr></table>	S1	S1	S2	S2	S3	S3	S4	S4	S5	S5	S6	S6	NCD	NCD	NVC	NVC	S1-A	S1-A	S1-B	S1-B	
S1	S1																							
S2	S2																							
S3	S3																							
S4	S4																							
S5	S5																							
S6	S6																							
NCD	NCD																							
NVC	NVC																							
S1-A	S1-A																							
S1-B	S1-B																							
CLASS_YEAR2	DATE	DD/MM/YYYY	Year the stream was classed	'10/15/1997'																				
SURVEYOR2	TEXT	10	<div>Qualifications of the person classifying the stream. One of the following:</div> <table><tr><th>CODE</th><th>DESCRIPTION</th></tr><tr><td>TCH</td><td>Resource Technician</td></tr><tr><td>RFT</td><td>Registered Professional Technician</td></tr><tr><td>RPF</td><td>Registered Professional Forester</td></tr><tr><td>RPB</td><td>Registered Professional Biologist</td></tr></table>	CODE	DESCRIPTION	TCH	Resource Technician	RFT	Registered Professional Technician	RPF	Registered Professional Forester	RPB	Registered Professional Biologist	'TCH'										
CODE	DESCRIPTION																							
TCH	Resource Technician																							
RFT	Registered Professional Technician																							
RPF	Registered Professional Forester																							
RPB	Registered Professional Biologist																							
METHOD2	TEXT	10	<div>Spatial data collection method, one of the following:</div> <table><tr><th>CODE</th><th>DESCRIPTION</th></tr><tr><td>GPS</td><td>GPS 3d Differentially Corrected</td></tr><tr><td>ORTHO</td><td>Digitized from Orthophoto</td></tr><tr><td>TRIM</td><td>Acquired from TRIM2</td></tr></table>	CODE	DESCRIPTION	GPS	GPS 3d Differentially Corrected	ORTHO	Digitized from Orthophoto	TRIM	Acquired from TRIM2	'ORTHO'												
CODE	DESCRIPTION																							
GPS	GPS 3d Differentially Corrected																							
ORTHO	Digitized from Orthophoto																							
TRIM	Acquired from TRIM2																							
GRADE_PERCENT2	SHORT INTEGER	5	Average stream gradient %	5																				
SPECIES2	TEXT	20	Fish species if identified in survey	'RB,KOKANEE'																				
CONTRACTOR2	TEXT	50	Contractor under contract to collect and survey stream data	'Rila Consulting'																				
COMMENTS	TEXT	254	Any applicable comments	'Digitized from SP Map'																				
SUPPRESS	TEXT	3	BCTS staff only – keep defaults	'No'																				
OWNERSHIP	TEXT	30	<div>Origin of data steward, one of the following:</div> <table><tr><th>OWNERSHIP</th></tr><tr><td>BCTS</td></tr><tr><td>LIBC</td></tr><tr><td>CANFOR</td></tr><tr><td>UNKNOWN</td></tr><tr><td>WEST FRASER</td></tr></table>	OWNERSHIP	BCTS	LIBC	CANFOR	UNKNOWN	WEST FRASER	'BCTS'														
OWNERSHIP																								
BCTS																								
LIBC																								
CANFOR																								
UNKNOWN																								
WEST FRASER																								
LICENSE	TEXT	6	Timber sale license formatted	'A57005'																				
CUT_PERMIT	TEXT	6	Where applicable	'1'																				

MARK	TEXT	10	Where applicable	'1'
BLOCK	TEXT	20	Block number	'2'
SOURCE_CD	TEXT	50		
SOURCE_DATE	DATE	DD/MM/YYYY		
SOURCE2_CD	TEXT	50		
SOURCE2_DATE	DATE	DD/MM/YYYY		
WIDTH_M	DOUBLE	38	Stream average width in meters for reach	1.5
WIDTH_M2	DOUBLE	38		
CUTB_SEQ_NBR	DOUBLE	38	Block sequence number	160025322
ORG_UNIT_CODE	TEXT	6	TKA or TKO or TOC	'TKO'

WATERBODY	[BCTS WATERBODY]	POLYGON
------------------	-------------------------	----------------

Notes:

- This layer stores waterbody polygon features that change; it includes storing of data that may be reassessed in the field by qualified professionals. The tabular waterbody information is standardized to automate labelling within the map templates.
- The BCTS provincial map templates use the primary survey attributes for display (e.g., CLASS, CLASS_YEAR). In the event a waterbody or water feature is surveyed more than once, ensure the data you wish to have shown is within the primary attributes; move data you wish to be saved to the corresponding attribute denoted with a '2' (e.g., CLASS2, CLASS_YEAR2).

Topology Rules:

- (None)

Attributes:

Attribute	Data Type	Field Properties	Description	Example														
TYPE	TEXT	10	Water feature type. One of the following: <table><tr><th>CODE</th><th>DESCRIPTION</th></tr><tr><td>FEN</td><td>FEN</td></tr><tr><td>WETLAND</td><td>Wetland</td></tr><tr><td>LAKE</td><td>Lake</td></tr><tr><td>RIVER</td><td>River</td></tr><tr><td>FSF</td><td>Fisheries Sensitive Feature</td></tr><tr><td>FSZ</td><td>Fisheries Sensitive Zone</td></tr></table>	CODE	DESCRIPTION	FEN	FEN	WETLAND	Wetland	LAKE	Lake	RIVER	River	FSF	Fisheries Sensitive Feature	FSZ	Fisheries Sensitive Zone	'FEN'
CODE	DESCRIPTION																	
FEN	FEN																	
WETLAND	Wetland																	
LAKE	Lake																	
RIVER	River																	
FSF	Fisheries Sensitive Feature																	
FSZ	Fisheries Sensitive Zone																	
CLASS	TEXT	10	Water feature class, one of the following: <table><tr><th>CLASS</th></tr><tr><td>W1</td></tr><tr><td>W2</td></tr><tr><td>W3</td></tr><tr><td>W4</td></tr><tr><td>W5</td></tr><tr><td>L1</td></tr><tr><td>L2</td></tr><tr><td>L3</td></tr><tr><td>NCW</td></tr><tr><td>NCL</td></tr></table>	CLASS	W1	W2	W3	W4	W5	L1	L2	L3	NCW	NCL	'L2'			
CLASS																		
W1																		
W2																		
W3																		
W4																		
W5																		
L1																		
L2																		
L3																		
NCW																		
NCL																		

			<table><tr><td>L4</td></tr><tr><td>S1</td></tr><tr><td>S2</td></tr><tr><td>S3</td></tr><tr><td>L1-A</td></tr><tr><td>L1-B</td></tr></table>	L4	S1	S2	S3	L1-A	L1-B												
L4																					
S1																					
S2																					
S3																					
L1-A																					
L1-B																					
CLASS_YEAR	DATE	MM/DD/YYYY	Year the feature was classed	10/15/2020																	
SURVEYOR	TEXT	10	<div>Qualifications of the person classifying the stream. One of the following:</div> <table><tr><th>CODE</th><th>DESCRIPTION</th></tr><tr><td>TCH</td><td>Resource Technician</td></tr><tr><td>RFT</td><td>Registered Professional Technician</td></tr><tr><td>RPF</td><td>Registered Professional Forester</td></tr><tr><td>RPB</td><td>Registered Professional Biologist</td></tr></table>	CODE	DESCRIPTION	TCH	Resource Technician	RFT	Registered Professional Technician	RPF	Registered Professional Forester	RPB	Registered Professional Biologist	'TCH'							
CODE	DESCRIPTION																				
TCH	Resource Technician																				
RFT	Registered Professional Technician																				
RPF	Registered Professional Forester																				
RPB	Registered Professional Biologist																				
METHOD	TEXT	10	<div>Spatial data collection method, one of the following:</div> <table><tr><th>CODE</th><th>DESCRIPTION</th></tr><tr><td>GPS</td><td>GPS 3d Differentially Corrected</td></tr><tr><td>ORTHO</td><td>Digitized from Orthophoto</td></tr><tr><td>TRIM</td><td>Acquired from TRIM2</td></tr></table>	CODE	DESCRIPTION	GPS	GPS 3d Differentially Corrected	ORTHO	Digitized from Orthophoto	TRIM	Acquired from TRIM2	'ORTHO'									
CODE	DESCRIPTION																				
GPS	GPS 3d Differentially Corrected																				
ORTHO	Digitized from Orthophoto																				
TRIM	Acquired from TRIM2																				
CONTRACTOR	TEXT	50	Contractor under contract to collect and survey stream data	'Rila Consulting'																	
CLASS2	TEXT	10	<div>Note: this attribute is reserved for a secondary survey if applicable and is not labelled on maps. Water feature class, one of the following:</div> <table><tr><th>CLASS</th></tr><tr><td>W1</td></tr><tr><td>W2</td></tr><tr><td>W3</td></tr><tr><td>W4</td></tr><tr><td>W5</td></tr><tr><td>L1</td></tr><tr><td>L2</td></tr><tr><td>L3</td></tr><tr><td>NCW</td></tr><tr><td>NCL</td></tr><tr><td>L4</td></tr><tr><td>S1</td></tr><tr><td>S2</td></tr><tr><td>S3</td></tr><tr><td>L1-A</td></tr><tr><td>L1-B</td></tr></table>	CLASS	W1	W2	W3	W4	W5	L1	L2	L3	NCW	NCL	L4	S1	S2	S3	L1-A	L1-B	'L2'
CLASS																					
W1																					
W2																					
W3																					
W4																					
W5																					
L1																					
L2																					
L3																					
NCW																					
NCL																					
L4																					
S1																					
S2																					
S3																					
L1-A																					
L1-B																					

CLASS_YEAR2	DATE	MM/DD/YYYY	Note: this attribute is reserved for a secondary survey if applicable and is not labelled on maps. Year the feature was classed.	10/15/1997										
SURVEYOR2	TEXT	10	Note: this attribute is reserved for a secondary survey if applicable. Qualifications of the person classifying the stream. One of the following: <table><tr><th>CODE</th><th>DESCRIPTION</th></tr><tr><td>TCH</td><td>Resource Technician</td></tr><tr><td>RFT</td><td>Registered Professional Technician</td></tr><tr><td>RPF</td><td>Registered Professional Forester</td></tr><tr><td>RPB</td><td>Registered Professional Biologist</td></tr></table>	CODE	DESCRIPTION	TCH	Resource Technician	RFT	Registered Professional Technician	RPF	Registered Professional Forester	RPB	Registered Professional Biologist	'TCH'
CODE	DESCRIPTION													
TCH	Resource Technician													
RFT	Registered Professional Technician													
RPF	Registered Professional Forester													
RPB	Registered Professional Biologist													
METHOD2	TEXT	10	Note: this attribute is reserved for a secondary survey if applicable. Spatial data collection method, one of the following: <table><tr><th>CODE</th><th>DESCRIPTION</th></tr><tr><td>GPS</td><td>GPS 3d Differentially Corrected</td></tr><tr><td>ORTHO</td><td>Digitized from Orthophoto</td></tr><tr><td>TRIM</td><td>Acquired from TRIM2</td></tr></table>	CODE	DESCRIPTION	GPS	GPS 3d Differentially Corrected	ORTHO	Digitized from Orthophoto	TRIM	Acquired from TRIM2	'ORTHO'		
CODE	DESCRIPTION													
GPS	GPS 3d Differentially Corrected													
ORTHO	Digitized from Orthophoto													
TRIM	Acquired from TRIM2													
CONTRACTOR2	TEXT	50	Note: this attribute is reserved for a secondary survey if applicable. Contractor under contract to collect and survey stream data	'Rila Consulting'										
COMMENTS	TEXT	254	Any applicable comments	'Throne Lake'										
SUPPRESS	TEXT	3	BCTS staff only – keep defaults	'No'										
OWNERSHIP	TEXT	10	Origin of data steward, one of the following: <table><tr><th>OWNERSHIP</th></tr><tr><td>BCTS</td></tr><tr><td>LIBC</td></tr><tr><td>CANFOR</td></tr><tr><td>UNKNOWN</td></tr><tr><td>WEST FRASER</td></tr></table>	OWNERSHIP	BCTS	LIBC	CANFOR	UNKNOWN	WEST FRASER	'BCTS'				
OWNERSHIP														
BCTS														
LIBC														
CANFOR														
UNKNOWN														
WEST FRASER														
LICENSE	TEXT	6	Timber sale license formatted	'A57005'										
CUT_PERMIT	TEXT	6	Where applicable	'1'										
MARK	TEXT	10	Where applicable	'1'										
BLOCK	TEXT	20	Block number	'2'										
SOURCE	TEXT	50	Note: not used.											
SOURCE_DATE	DATE	DD/MM/YYYY	Note: not used.											
DATA_METHOD	TEXT	10	Note: not used.											
SOURCE2	TEXT	50	Note: not used.											
SOURCE2_DATE	DATE	DD/MM/YYYY	Note: not used.											

WATERCLASS	TEXT	10	CLASS		
			R1		
			R2		
			R3		
			R4		
			R5		
			R6		
			NCD		
NAME	TEXT	10	Water feature name as identified by Site Plan and capital letters		'W3-2'
REACH_ID	TEXT	10			
SUBCLASS	TEXT	10	SubClass		
			A		
			B		
			C		
			D		
			E		
			A_M		
CUTB_SEQ_NBR	DOUBLE	38	Block sequence number		160025322
ORG_UNIT_CODE	TEXT	6	TKA or TKO or TOC		'TOC'

OGSR_TSL_DEFERRAL_IMPACT [BCTS Old Growth TSL Deferral Impact] POLYGON

Notes:

The purpose of this layer will be:

- Tracking the impact of Old Growth on existing development
- Used as input for mapping and corporate reporting purposes

Topology Rules:

- (None)

Attributes:

Attribute	Data Type	Field Properties	Description	Example
OPERATING AREA	TEXT	50	BCTS operating area name	'Spanish'
BA CODE	TEXT	3	Three letter TSO code	'TKA'
LICENCE	TEXT	6	Unique licence identifier	'A78987'
BLOCK ID	TEXT	20	Unique block identifier	'BA234'
ORIGINAL BLOCK AREA	DOUBLE	38	Original block area	'35.5'
ORIGINAL BLOCK VOLUME	DOUBLE	38	Original block volume	'20,008'
TAP DEFERRAL AREA	DOUBLE	38	Area of TAP overlap	'17.4'
TAP DEFERRAL VOLUME	DOUBLE	38	Volume within TAP overlap	'9,806'
DEFERRAL BLOCK AREA	DOUBLE	38	Area of block deferred for OG	'15.5'
DEFERRAL BLOCK VOLUME	DOUBLE	38	Volume in deferred area	'8,735'
TOTAL DEFERRAL AREA	DOUBLE	38	Total deferred areas including OG and operational	'22.2'
LICN_SEQ_NBR	DOUBLE	38	Licence sequence number	160202694
CUTB_SEQ_NBR	DOUBLE	38	Block sequence number	160372604
BLOCK DEFERRAL CATEGORY	TEXT	20	Type of deferral	'Voluntary'

OGSR_BCTS_FIELD_VERIFICATION [BCTS Old Growth Field Verification] POLYGON

Notes:

The purpose of this layer will be:

- Tracking approved data submissions from BA Field Verification process (i.e.: Adds / Deletes / Maintain)
- Tracking submissions to Provincial repository for Old Growth areas
- Used as input for mapping and corporate reporting purposes

Topology Rules:

- (None)

Attributes:

Attribute	Data Type	Field Properties	Description	Example
OPERATING AREA	TEXT	50	BCTS operating area name	'Spanish'
ASSESSMENT POLYGON ID	SHORT	5	Unique assessment identifier	'570'
ESF SUBMISSION ID	SHORT	5	ESF submission reference number	'1'
REGION	TEXT	3	Resource region code	
DISTRICT	TEXT	3	Natural resource district code	
FOREST FILE ID	TEXT	10		
CUTTING PERMIT	TEXT	3		'1'
HARVEST AUTHORITY ID	TEXT	30		
CLIENT NAME	TEXT	91		
CLIENT NUMBER	TEXT	8		
BCTS_IND	TEXT	1	YES or NO	'Y'
ORIGINAL BIGTREED INDICATOR	TEXT	1	TAP verified YES or NO	'Y'
ORIGINAL ANCIENT INDICATOR	TEXT	1	TAP verified YES or NO	'Y'
ORIGINAL REMNANT INDICATOR	TEXT	1	TAP verified YES or NO	'Y'
MEASURED BIGTREED INDICATOR	TEXT	1	Field verified YES or NO	'Y'
MEASURED ANCIENT INDICATOR	TEXT	1	Field verified YES or NO	'Y'
MEASURED REMNANT INDICATOR	TEXT	1	Field verified YES or NO	'Y'
DEFERRAL ADJUSTMENT RESULT	TEXT	10	Final deferral result	'Deletion'
FIELD ASSESSMENT DATE	DATE	DATE	Date of completed field assessment	
ASSESSMENT METHODOLOGY	TEXT	50	Methodology used to field verify OG status	
OPERATING AREA	TEXT	50	BCTS operating area name	'Spanish'
BA CODE	TEXT	3	Three letter TSO code	'TKA'
LICENCE	TEXT	6	Unique licence identifier	'A78987'
BLOCK ID	TEXT	20	Unique block identifier	'BA234'
LICN_SEQ_NBR	DOUBLE	38	Licence sequence number	160202694
CUTB_SEQ_NBR	DOUBLE	38	Block sequence number	160372604
DEFERRAL OVERLAP AREA	DOUBLE	38	Area of TAP overlap	'17.4'
ORIGINAL BLOCK AREA	DOUBLE	38	Original block area	'35.5'
SUBMITTED BY	TEXT	20	Submitter of deferral	
PROVINCIAL SUBMISSION STATUS	TEXT	20		
PROVINCIAL SUBMISSION DATE	DATE	DATE	Date of submission	

LRM Spatial Data Loading Process

The spatial data loading process requires the contractor to load all spatial data in the provided geodatabase, follow the provided naming convention and run topology rules on all the data. You can then run topology on your spatial and use the link feature in LRM to add this spatial. For all data within the supplied geodatabase, ensure that all fields are populated in the event BCTS staff need to reference the data.

1. Save a copy of the SIGG_TSL_DATA.gdb to the Contractor Workspace of the Business Area you are working for.
2. \\bctsdta.bcgov\data\txx_root\Contractor Workspace. You will have to switch the gdb from read-only when you have saved it to your folder (once the gdb is downloaded and extracted from the zipped folder, in Windows Explorer, right-click and open properties and then deselect read only).
3. Add your shapes to the appropriate layers in this gdb, then run the topology that is set up in the TSL_Layers dataset of the gdb. See the next section on topology rules.
4. Bring your gdb feature class into LRM and use the 'Link' tool to link the shape to the correct tabular record (<https://gww.nrs.gov.bc.ca/flnrord/book/bcts-training/land-resource-manager-lrm/gis>).
5. When archiving, use a separate geodatabase for each TSL.

Topology Rules

Topology Rules allow us to apply topological logic to our GIS layers to help us clean up and manage errors within our spatial database. These rules ensure data integrity.

Validation has already been run against the data with a cluster tolerance of 0.03 meters. This will have already cleaned up many small slivers and self intersections due to double digitizing.

In some cases, you will have a valid exception to a rule within your database. When this happens, you can mark this error as an exception using the Fix Topology Error Tool or in the Topology Error Inspector Window.

Contractors are required to fill out the GIS Data Entry Checklist spreadsheet to be submitted at substantial completion of each phase of development. All spatial data must be topologically clean going into LRM. An error in one layer multiplies every time it is copied. This includes when editing spatial polygons in Map View.

To view the topology rules, please refer to [Appendix A: Topology Rules for Non-managed and Managed Layers](#).

Topology Mandatory Practice – Cutblocks (Gaps, Slivers and Snapping to Existing Adjacent Features)

Unless a true anomaly exists in the field, multiphase GIS are to ensure spatial data is topologically correct, in that gaps or slivers do not exist between adjacent features. Snap to existing adjacent features unless otherwise directed by your Contract Coordinator. If the existing cutblock data is inaccurate, notify the Contract Coordinator or BCTS GIS.

Overlapping Blocks/Confirming Existing Road Locations

When inputting spatial information, it is the responsibility of the Multiphase contractor to identify when there is a spatial overlap with any other features using the FTEN and RESULTS layers. The following are the steps that should be followed when you identify an overlap:

1. Utilize imagery to identify which block boundary is accurate (take screen capture)
2. Use GPS data collected in the field
3. Review FTEN/RESULTS
4. Notify contract coordinator and GIS staff of the overlap and they will provide you with a decision on how to deal with the issue. If the GPS is correct utilizing the imagery, then BCTS GIS will resolve the overlap with existing LRM blocks, if the overlap is with other FTEN/RESULTS blocks then the contract coordinator will provide method of resolution.

GIS Data Entry Checklist

To access the Data Entry Checklist on the SIGG SharePoint site, [visit this link](#).

Phase of Development	TSL/Road Name	Work Completed	Date Uploaded (Date)	Topology Check By Contractor (Date)	Topology Check By BCTS (Date)	Attributes for Spatial Layers Checked (yes/no)	Comments
☐ Phase 1 ☐ Phase 2 ☐ Phase 3		☐ Cut Block ☐ Standard Unit ☐ Roads ☐ Harvest Unit ☐ Layout Layers ☐ Cruise Layers ☐ Other	2022-02-16	2022-02-16	2022-02-16	☐ Yes ☐ No	
Please separate submissions							

BCTS GIS Spatial Review

When BCTS GIS review the Data Entry Checklist (see above) that is submitted after [completion of a phase of development](#), they:

- 1) Review the work that has been indicated as complete in the Checklist.
- 2) Look for SEQ_NBR – this ensures that the spatial layer is linked to the tabular record in LRM.
- 3) Look for areas that would indicate self-intersect errors (this will cause issues with submissions to RESULTS)
- 4) Look for tiny slivers that can occur when clipping (e.g., clipping a road out of a main SU). It is up to you as the GIS professional to bring these areas of note to your prescribing forester and make suggestions on how to deal with them. As well they can be brought to the attention of the Operations Tech or the Practices Forester.

NOTES:

- a.) All managed layer spatial that is entered must have an associated tabular record and be linked to it.
- b.) It is required that multi-phase GIS confirm final road and block boundary locations with Contract Coordinators prior to uploading data into LRM.

Templates

Contractors are required to produce all final Multiphase TSL package maps by utilizing LRM data and LRM mapping templates as per [Standard TSL Map Templates and Naming Conventions](#)

Final TSL map package must be easily reproduced by BCTS staff at any time if needed.

If there is a need for template updates, contractors will review the need with the BA GIS staff who can then initiate template update via [Map Template Change Request](#) form. Please refer to the [LRM Reference Materials](#) on the Intranet page to generate a map from a template.

Specifically, see “Map Manager” Map View Basics.

Template Tags

For the text tags to populate in the various provincial Blocks and Roads templates, the following tabular records must be entered:

BLOCKS MODULE	SILVICULTURE MODULE	ROADS MODULE
Cutblock	Ecology Unit	Road
• Location	• Area	• Field Team (Dropdown)
• File ID (if applicable)	• Elevation Avg. (m)	BioGeo Zone
• Inventory Zone (Dropdown)	• Zone	• From
• Landscape Unit (Dropdown)	• Subzone	• To
• Mapsheet ID	• Variant	• BioGeo Zone
• Operating Area (Dropdown)	Ecology Unit – Site Series	• Site Series
• Opening Number (if applicable)	• Site Series	• Soil Moisture Type
Cutblock – Details	Riparian Zone	Construction
• Access Instructions	• Width (m)	• From
• State (Dropdown)	• Harv Indx (Dropdown)	• To
Block Allocation		Construction – Cost Survey Interior – Road
• Merch Area		Road:
Harvest Method		• Start Station
• Total Merch Area (ha)		• End station
		• Road Type
		• Slide Slope %
		Material Type:
		• Any/All
		Additional Stabilization:
		• Type
		• Length (Km)
		Cut Block URI/UBI (If Applicable)
		• From
		• To
		Deactivation (if Applicable)
		• Access (Dropdown)
		• To
		• From
		Mapsheet
		• Mapsheet ID

Operating Area
• Operating Area (Dropdown)

Spatial Dataset Naming Standards

All spatial data collected for BCTS should be documented and submitted as contract deliverables that will be stored on the Datashare. The Datashare is the contractor workspace that is assigned to you upon start of your contract (for more information, refer to [Folder Structure on \(BCTS Data / Data Drive / F Drive\)](#)).

- Geodatabase default name: SIGG_TSL_Contractor_Year
 - Example: SIGG_A95552_Cabin_2022

Datasets Created by Contractors

In rare cases, there may be data that does not fit within LRM layers. In these rare cases, please speak with your Contract Coordinator.

PDF and Mapping Script Standards

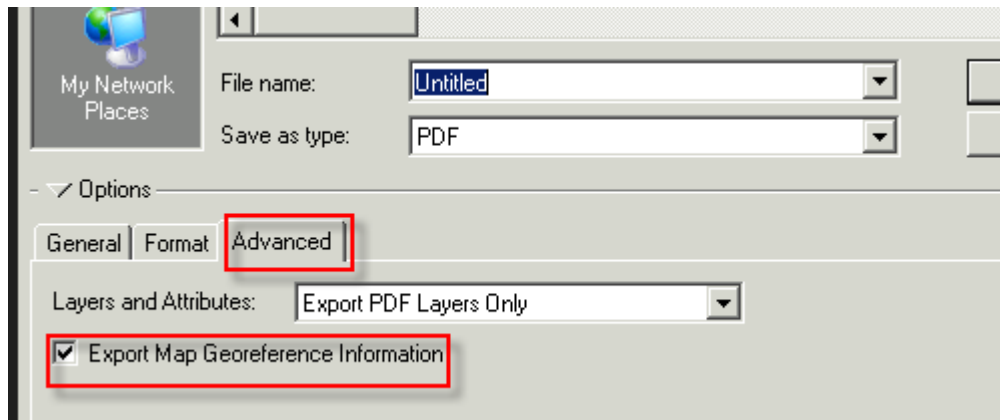
It's extremely important to be aware that if a map from LRM/Arcmap is exported to pdf, and then edited in an outside pdf editing software (Adobe Pro, Foxit, EasePDF, etc.), these actions may cause the georeferencing to shift. We have had issues in the past with contractors accidentally shifting the georeferencing in these programs when adding signatures to site plan maps which caused the wrong area to be logged. Ensure you are checking the georeferencing of the map if any outside editing takes place.

Standard TSL Map Templates and Naming Conventions

- Characters 1-6 – TSL number
- Characters 7-8 – Resource function
- the # at the end of naming conventions represents the block number
- Any maps produced for BAs additional to the core provincial BCTS templates listed in i1 to i7 below are to follow an incremental naming convention (e.g., 000000_i7_LiDAR_Slope_Bl#)

MAPS	
000000_i1_map_OverviewLocation	Overview Location Map
000000_i2_map_DetailedLocation	Detailed Location Map
000000_i3_map_SP_Bl#	Site Plan Map - Block #
000000_i4_map_HP_Bl#	Harvest Plan Map - Block #
000000_i5_map_Cruise_Bl#	Cruise Map – Block #
000000_i6_map_Road_Const	Road Construction Map
000000_i7_map_	Additional maps if required

NOTE: All PDF files should store the Map Georeference Information (see screen capture below).



All *other* map deliverables will adhere to the following format and be no longer than 50 characters in length and in PDF format.

A12345_FNConsult_30K_legal_10242006.pdf

- Characters 1-6 – TSL number
- Characters 7-15 – thematic content (example: FNConsult)
- Characters 16-18 – scale
- Characters 19-23 – paper size
- Characters 24 – 31 – date (mmddyyyy)

Appendices

Appendix A: Topology Rules for Non-managed and Managed Layers

Managed Layers							
Layer Name LRM / [BCTS]	Topology Rules						
	Must not overlap	Must be covered by feature class of BLOCK	New shapes to be snapped to existing shapes where operationally feasible to share a single common boundary	Must not have pseudo-nodes	Must not self-overlap	Must not self-intersect	Must be singlepart
BLOCK_HARV_METHOD_SHAPE [HU – HARVEST METHOD SHAPE]	☒	☒					
BLOCK_HARV_SEASON_SHAPE [HU – CRITICAL SEASON SHAPE]	☒	☒					
BLOCK_HARV_STRATEGY_SHAPE [HU – HARVEST STRATEGY SHAPE]	☒	☒					
CUT_BLOCK_SHAPE [CUTBLOCK SHAPE]	☒		☒				
CUT_PERMIT_SHAPE [CUTTING PERMIT SHAPE]	☒		☒				
DEplete_SHAPE [BLOCK DEPLETION SHAPE]	☒	☒					
ECOLOGY_UNIT_SHAPE [ECOLOGY UNIT SHAPE]	☒	☒					
HARVEST_UNIT_SHAPE [HARVEST UNIT SHAPE]	☒	☒					
LICENSE_SHAPE [LICENSE SHAPE]	☒	☒					
NON_MERCH_SHAPE [BLOCK STRATIFICATION BLOCK SHAPE]	☒	☒					
PLANTING_UNIT_SHAPE [PLANTING UNIT SHAPE]		☒					
RIPARIAN_ZONE_SHAPE [RIPARIAN ZONE SHAPE]	☒	☒					
ROAD_SHAPE [ROAD]	☒			☒	☒	☒	☒
SILV_ACTIVITY_SHAPE [BRUSHING SHAPE, FERTILIZATION/NON REPORTABLE SHAPE, SEEDLING PROTECTION SHAPE, SITE PREPARATION SHAPE]		☒					
SILV_DISTURBANCE_SHAPE [SILV DISTURBANCE SHAPE]	☒	☒					
STOCKING_STRATA_SHAPE [STOCKING STATUS STRATA SHAPE]	☒	☒					
SILV_STRATUM_HIST_SHAPE [SURVEY UNIT SHAPE]		☒					
SU_SHAPE [STANDARD UNIT SHAPE]	☒	☒					
Non-managed Layers							
Layer Name LRM / [BCTS]	Topology Rules						
	Must not overlap	Must be covered by feature class of BLOCK	New shapes snapped to existing shapes where operationally feasible to share a single common boundary	Must not have pseudo-nodes	Must not self-overlap	Must not self-intersect	Must be singlepart
GPS_HUB [BCTS GPS HUBS]							
LAYOUT_POINT [BCTS LAYOUT POINT FEATURES]							
LAYOUT_LINE [BCTS LAYOUT LINE FEATURES]							
LAYOUT_POLYGON [BCTS LAYOUT POLYGON FEATURES]							
OPERATING_AREA [BCTS]							

OPERATING AREA]							
SPECIALTREEREG [BCTS SPECIAL TREES]							
CRUISE_PLOT [BCTS CRUISE PLOTS]							
CRUISE_LINE [BCTS CRUISE LINE FEATURES]							
TIMBERTYPE_TMP [BCTS CRUISE – TIMBER TYPE]	☒	☒					
STREAM [BCTS STREAMS CLASS]							
WATERBODY [BCTS WATERBODY]							

Appendix B: Referenced and Related Materials

1. [LRM Reference Materials](#)
2. [SIGG BA Road Naming Conventions](#) (refer to the road naming convention folder on the SharePoint site)
3. [SIGG Data Entry Checklist](#)
4. [BCTS Datashare Best Practices](#)

Appendix C: Multi-phase GIS Data Loading Process

