Surveyor General Branch
Beyond Boundaries

CLEVER Help
(Canada Lands e-Validation of Electronic Returns)

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sgb.nrcan.gc.ca

Canada

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Welcome to CLEVER

The Canada Lands e-Validation of Electronic Returns

CLEVER is a web application validating the electronic returns against the Appendix E of the National Standards for the Survey of Canada Lands. It does not check for everything, but it tries to identify issues with the conformity of the digital spatial file.

CLEVER requires you to provide some basic information using a web form. The web form is similar to this one…

Upload

* Your Email (required)	Enter email
* CAD File (required)	Choose File No file chosen (Max. 50.00MB, of type: dwg,dxf)
* SGB Project Number (required)	e.g. 201701001 ✖ (9 digit SGB Project Number.)
* Survey Document Type (required)	Supply a valid Project Number. ▾ (A valid SGB Project Number must be supplied before you can choose a Survey Document Type.)
* Digital Spatial File Specifications (required)	National Standards for the Survey of Canada Lands (1.5) ▾
	Reset Submit

You will need to provide…

Your email, your CAD file to be processed, the SGB Project Number, the Survey Document Type and finally, the Digital Spatial File Specification. Once you have provided all this information, the "submit" button will be available. When all the information is ready, submit your form.

Once you have submitted your info, you will immediately receive an "acknowledgment" email from the CLEVER application providing you with a reference number. Then, in the next 2 hours, you should receive a second email with the report of the processing of your CAD file. If you do not get the report email, please check your "Spam" email folder. If the email is not found in your spam folder and your still do not have it, please contact us via email at nrcan.clss-satc.rncan@canada.ca and provide us with the reference number issued previously.

Who has access to CLEVER?

Internal staff of the Surveyor General Branch have access via the NRCan intranet. The ACLS surveyors via the MyCLSS web site have access to it. Ultimately, we would like to have it open to the public, but for security reasons, we cannot at this point.

What are the tests in CLEVER?

There are currently 20 tests that CLEVER uses.

Test Number	Test Name
66	AUTOCAD FILE FORMAT
13	AUTOCAD FILE VERSION
65	FILENAME MUST START WITH PROJECT NUMBER
1	MANDATORY LAYERS
67	MINIMUMN NUMBER OF FEATURES
68	MUST BE OF THE FOLLOWING AUTOCAD OBJECTS TYPES…
14	MUST NOT HAVE DUPLICATES
15	TIES MUST BE CONNECTED
70	MUST NOT OVERLAP
71	MUST NOT INTERSECT
72	MUST NOT HAVE DANGLES
74	MUST NOT SELF OVERLAP
75	MUST NOT SELF INTERSECT
76	GEO-REFERENCED CONTROL POINTS (GCP) MUST BE CONNECTED
77	MUST FORM CLOSED POLYGONS
78	AVOID TO CREATE SMALL POLYGONS ...
79	AVOID TO CREATE SMALL LINES
80	MUST OR MUST NOT HAVE ELEVATION VALUE
81	ELEVATION MUST BE AN ELLIPSOID ELEVATION
82	ABSOLUTE POSITIONING MUST MATCH SGB DATASET LOCATION

See Appendix A for more details.

How the CLEVER report is organized?

The first part is the information you have provided to CLEVER.

Client provided information:

Item:	Value:	
CAD Filename	201614137SF.dwg	Your CAD file
SGB Project Number	201614137	SGB Project Number
Canada Lands Number	06221	SGB Canada Lands Number
Survey Document Type	Plan of Survey of Parcel (50)	SGB Survey Document Type
Digital Return Specification	Digital Specfication 1.0	SGB Digital Return Specification Version
Your reference number	2018285289	Your e-Validation Reference Number

The second part is the summary result of the tests.

Results Summary:

Test number   **Test Name**   **Test Result**

No.	Test Name	Result
66	AUTOCAD FILE FORMAT	SUCCESS
13	AUTOCAD FILE VERSION	SUCCESS
65	FILENAME MUST START WITH PROJECT NUMBER	FAIL
1	MANDATORY LAYERS	SUCCESS
67	MINIMUMN NUMBER OF FEATURES	SUCCESS
68	MUST BE OF THE FOLLOWING AUTOCAD OBJECTS TYPES…	SUCCESS
14	MUST NOT HAVE DUPLICATES	SUCCESS
15	TIES MUST BE CONNECTED	FAIL
70	MUST NOT OVERLAP	FAIL
71	MUST NOT INTERSECT	FAIL
72	MUST NOT HAVE DANGLES	FAIL
74	MUST NOT SELF OVERLAP	SUCCESS
75	MUST NOT SELF INTERSECT	SUCCESS
76	GEO-REFERENCED CONTROL POINTS (GCP) MUST BE CONNECTED	SUCCESS
77	MUST FORM CLOSED POLYGONS	FAIL
78	AVOID TO CREATE SMALL POLYGONS ...	SUCCESS
79	AVOID TO CREATE SMALL LINES	SUCCESS
80	MUST OR MUST NOT HAVE ELEVATION VALUE	FAIL
81	ELEVATION MUST BE AN ELLIPSOID ELEVATION	WARNING
82	ABSOLUTE POSITIONING MUST MATCH SGB DATASET LOCATION	WARNING

The third part is the detailed results of each test.

CAD filename, format and version ——— Test Category   Test Result

Test Number   Test Name

No.	Test Name	Description	Result
66	AUTOCAD FILE FORMAT	Submitted AutoCAD file format must be DWG or DXF according to the National Standards for the Survey of Canada Lands. Appendix E: Digital Spatial File Specifications, section 5.	SUCCESS
		201614137SF.dwg	

No.	Test Name	Description	Result
13	AUTOCAD FILE VERSION	Submitted AutoCAD file version must be one of the SGB approved AutoCAD version according to the National Standards for the Survey of Canada Lands. Appendix E: Digital Spatial File Specifications, section 5.	SUCCESS
		AC1024	

No.	Test Name	Description	Result
65	FILENAME MUST START WITH PROJECT NUMBER	Submitted AutoCAD file name must comform with the National Standards for the Survey of Canada Lands. Appendix E: Digital Spatial File Specifications, section 5.	FAIL
		201614137SF.dwg	
	Provided	Expected	
	201614137SF.dwg	The filename should be the following format '[Project number][SF][Sequential number].[DXF|DWG]' i.e. 201514005SF.DWG	

The redline file

The redline file is an AutoCAD file that is created by CLEVER.

If a test is not successful, CLEVER will create an AutoCAD file with your electronic validation number as the CAD file name. CLEVER will add a layer with the test number that is part of the layer name. The test number becomes very important. It is used to identify test errors in the redline file. The created layers will contain either points, lines or polygons identifying the position of the errors found. Here is an example…
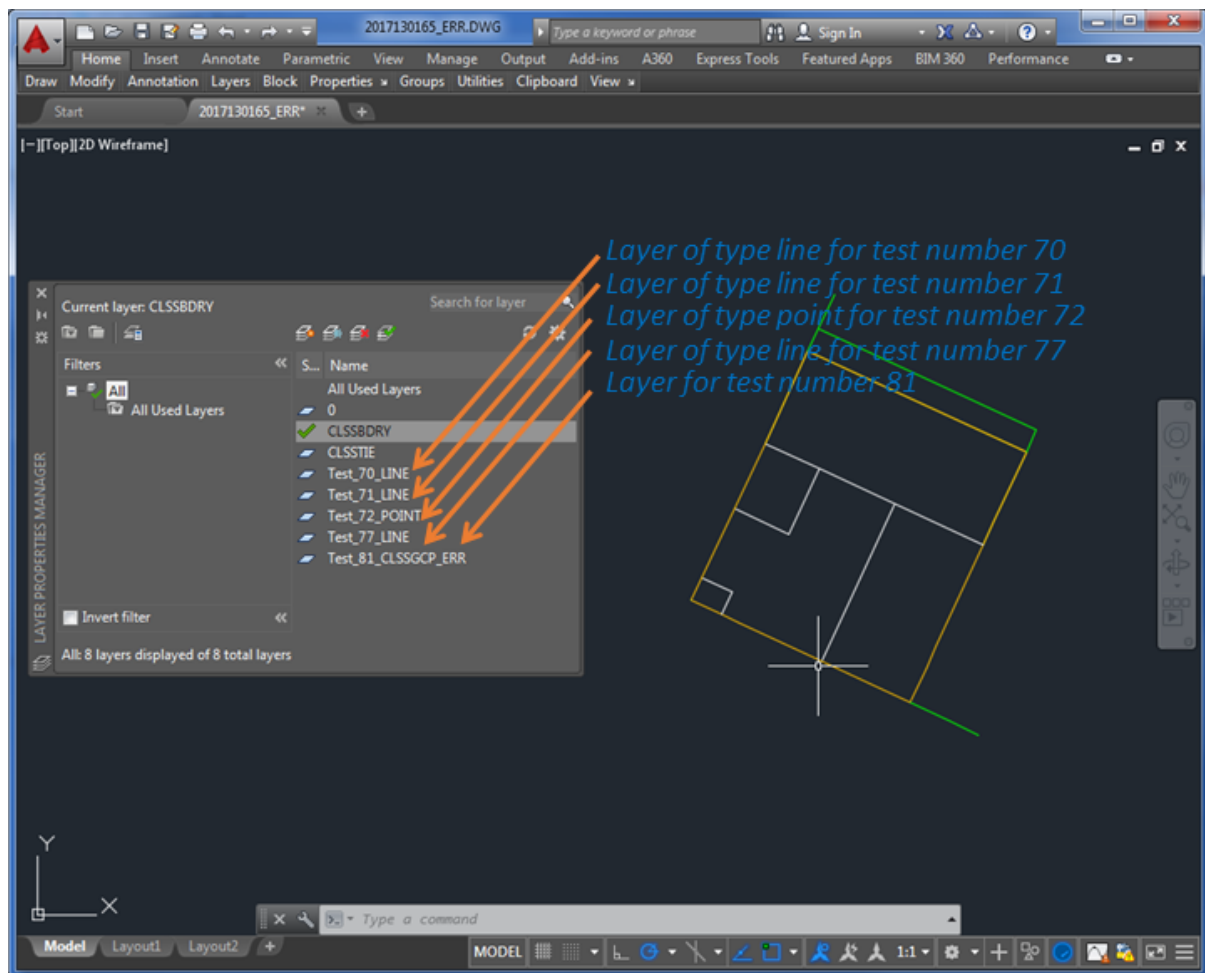
The previous example shows that the original CAD file failed for tests 70, 71, 72, 77 and 81 and that the validation process created a CAD file for the e-validation reference number 2017130165. Important Note: Not all tests will generate an error layer in the CAD file.

Reading the report for the e-validation reference number 2017130165…

No.	Test Name	Description	Result
70	MUST NOT OVERLAP	Layer must not overlap according to the National Standards for the Survey of Canada Lands. Appendix E: Digital Spatial File Specifications, section 23.b.	FAIL
	Found	Expected	
	CLSSBDRY(errors)		FAIL

No.	Test Name	Description	Result
71	MUST NOT INTERSECT	Layer must not intersect according to the National Standards for the Survey of Canada Lands. Appendix E: Digital Spatial File Specifications, section 23.c.	FAIL
	Found	Expected	
	CLSSBDRY(errors)		FAIL

No.	Test Name	Description	Result
72	MUST NOT HAVE DANGLES	Layer must not have dangles according to the National Standards for the Survey of Canada Lands. Appendix E: Digital Spatial File Specifications, section 23.d.	FAIL
	Found	Expected	
	CLSSBDRY(errors)		FAIL

No.	Test Name	Description	Result
74	MUST NOT SELF OVERLAP	Layer must not self overlap according to the National Standards for the Survey of Canada Lands. Appendix E: Digital	SUCCESS

In addition, reading the CAD error file 2017130165_ERR.DWG, we find that the errors are...
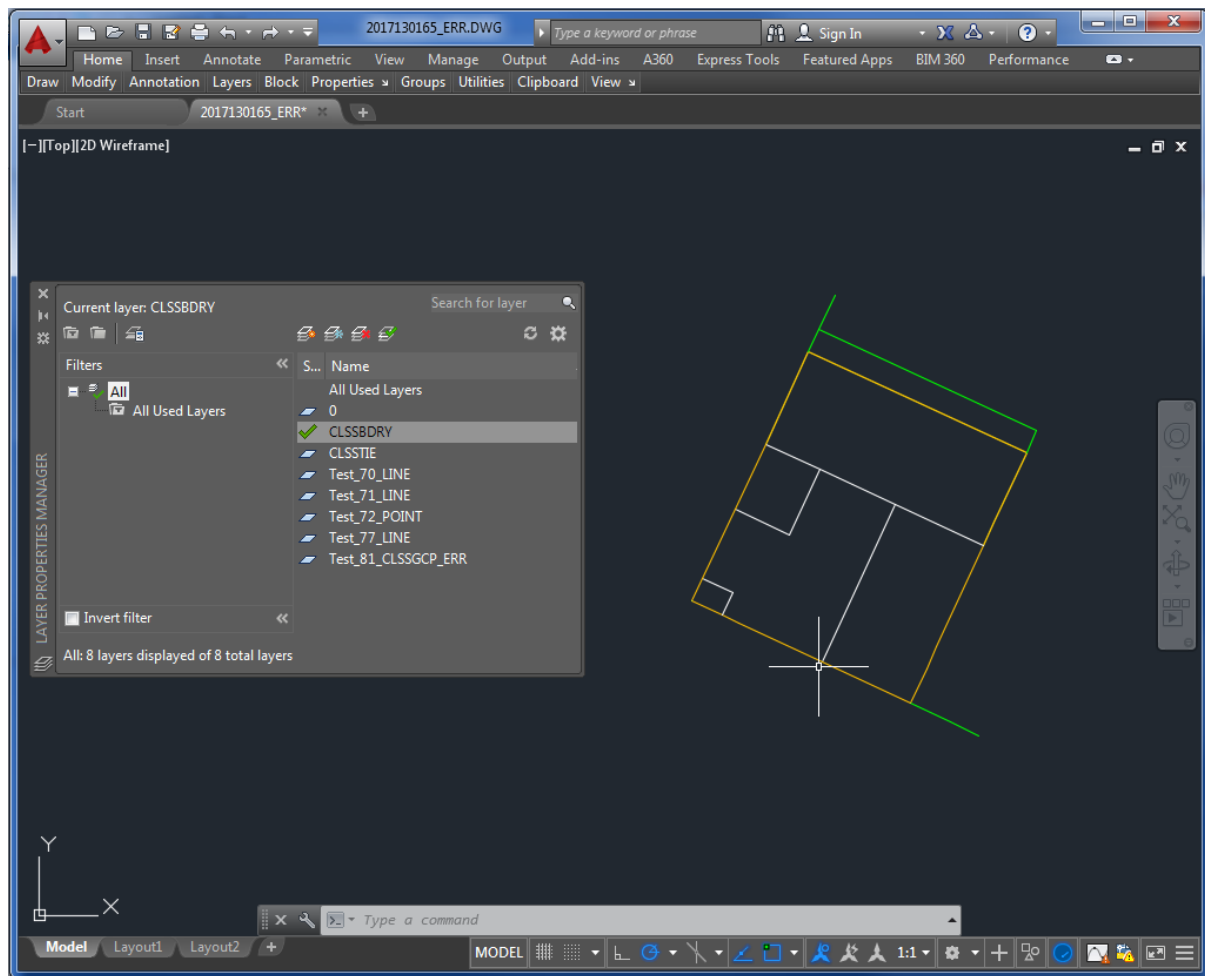
Looking at the layers in the redline file, we can see that TEST_70_LINE is present and refers to the "MUST NOT OVERLAP" test. If you select the lines on that layer, it will guide you to the error(s).

The layer TEST_71_LINE refers to the "MUST NOT INTERSECT". Often, both tests 70 and 71 are detecting the same errors as lines overlaps and intersects at the same time.

The layer TEST_72_POINT refers to "MUST NOT HAVE DANGLES".

The layer TEST_81_CLSSGCP_ERR refers to "ELEVATION MUST BE AN ELLIPSOID ELEVATION". Often, there is confusion between Ellipsoid Heights and Orthometric Heights. This layer will show GCP points where these errors might occur.

No.	Test Name	Description	Result
80	MUST OR MUST NOT HAVE ELEVATION VALUE	Layer must or must not have elevation value according to the National Standards for the Survey of Canada Lands. Appendix E: Digital Spatial File Specifications, section 12.	FAIL
	Found	Expected	
	CLSSBDRY(elevation must be zero)		FAIL
	CLSSTIE(elevation must be zero)		FAIL
	CLSSGCP(OK)		SUCCESS

| No.	Test Name	Description	Result
81	ELEVATION MUST BE AN ELLIPSOID ELEVATION	Point elevation must be an ellipsoid elevation according to the National Standards for the Survey of Canada Lands. Appendix E: Digital Spatial File Specifications, section 19.	WARNING
	Found	Expected	
	CLSSGCP(elevation must be the ellipsoid height)		WARNING

In this example, the test 80 has failed for "MUST OR MUST NOT HAVE ELEVATION VALUE" and do not have a CAD layer created for it. If we look at the "Found" column in the report, it is identifying CLSSBDRY and CLSSTIE layers to have failed, meaning that some elevations were set to a value other than zero for these layers. You should reset all values on these layers to zero. If lines are not set to zero for the elevation, spatially they do not connect, even if their end points have the same x and y coordinates. Additionally, the length of the 3D lines will be longer than if the lines were 2D lines and therefore will cause issues.

If you turn on only the layer "Test_70_LINE", we see this line shown in yellow in the figure below.
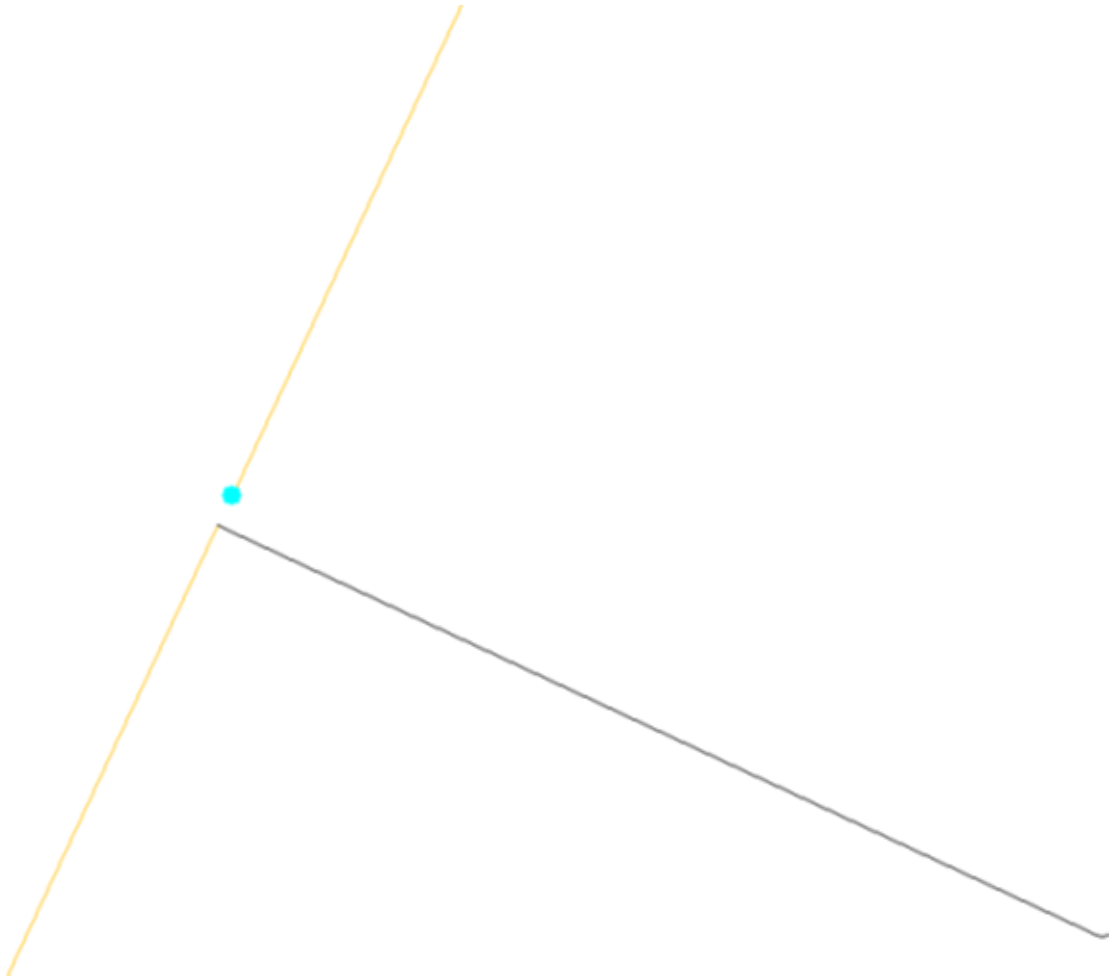
If you open your original CAD file, and copy and paste the elements of "Test_70_LINE", you will be able to identify what the issue is.

In this case, the bottom line shown here has an "overshoot".
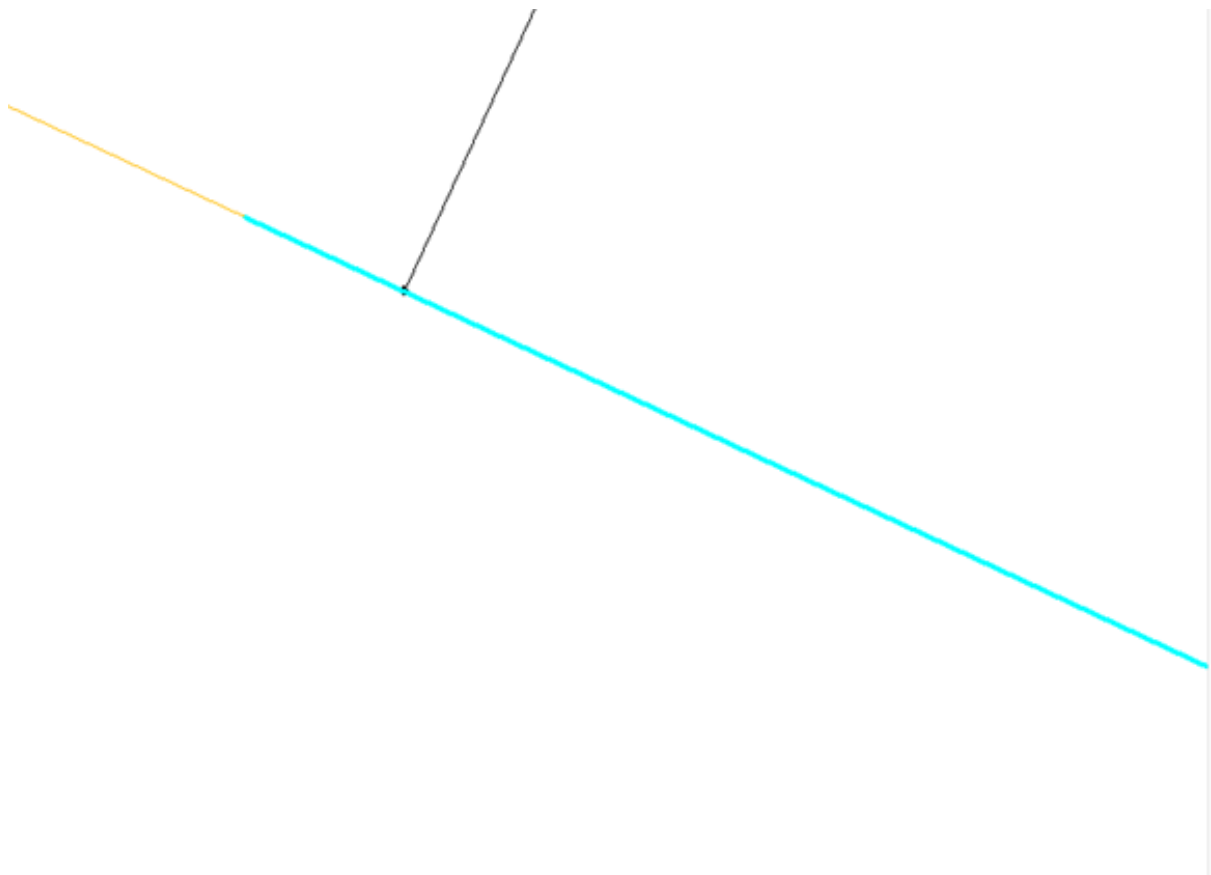
You need to correct this and truncate this line to the intersection of the other two lines.

If we look at the layer "TEST_72_POINT", and zoom close enough, we find this…
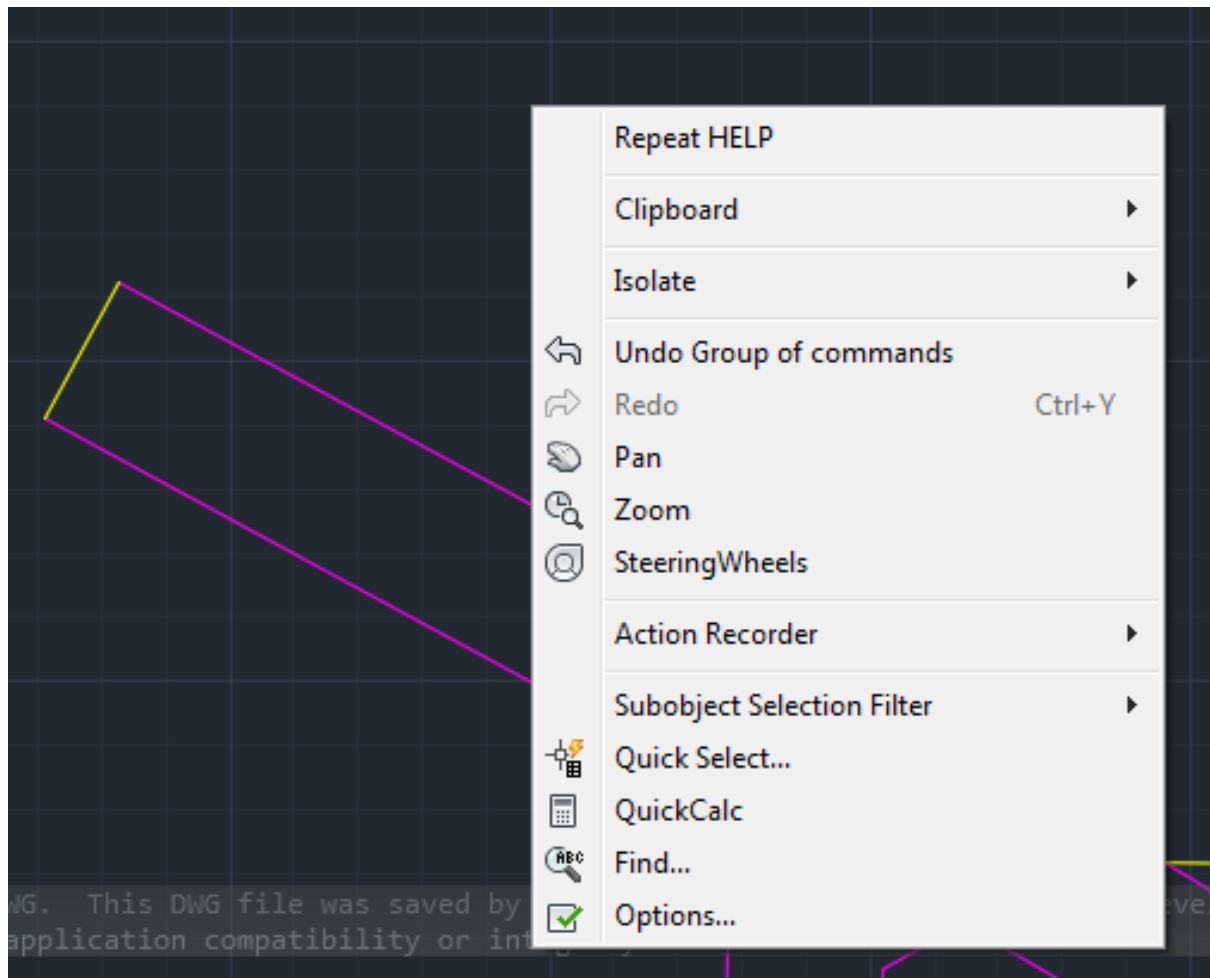
The upper line has an "undershoot" and is not connected to the lower line. You will need to extend the line to the intersection of the other two lines.

How to find entities in AutoCAD

Here are the steps...

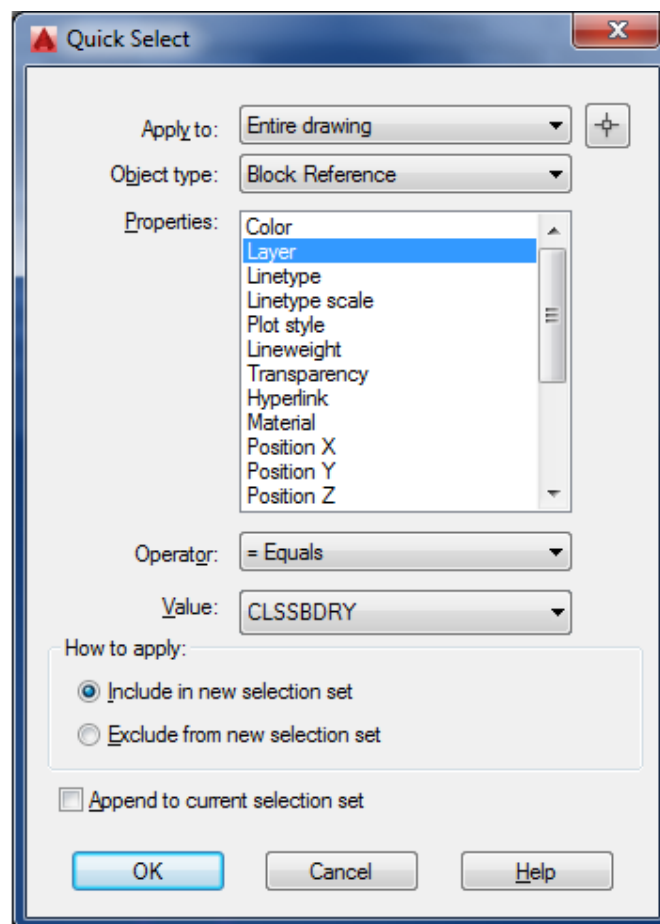Right-click anywhere in the drawing and this menu will show up…

Select "Quick Select…" and choose the appropriate parameters…

If you are looking for a "BLOCK REFERENCE" or a "SPLINE" or a "LWPOLYLINE", set the appropriate Object Type.

Select the Properties value such as 'Layer'.

Select the Operator such as '= Equals'

Select the Value such as 'CLSSBDRY'

Click OK.

The entities are selected in your drawing...

Changing layer or deleting an AutoCAD selection?

The selected entities can be deleted by pressing the "DELETE" button.

To change the layer of the selected entities, right-click and select the "Quick Properties" or "Properties" and change the layer value.
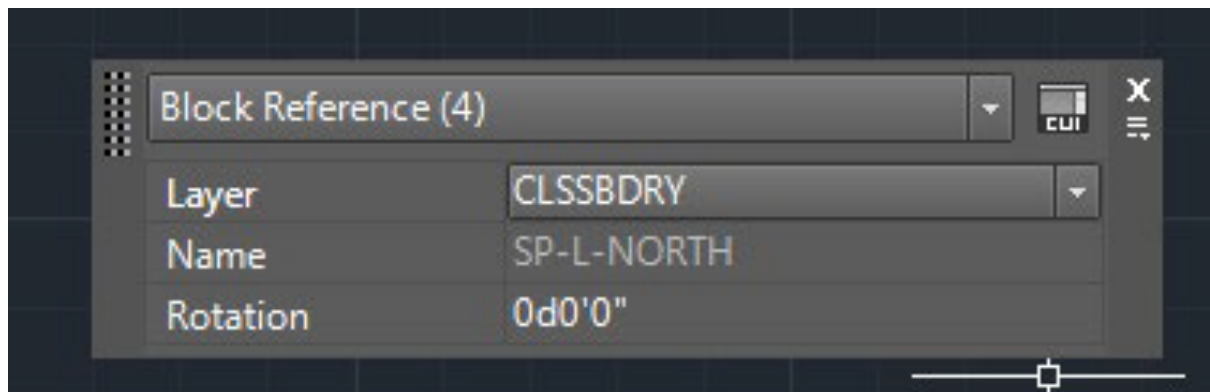
Change the layer to a layer that is not use in the Appendix E of the National Standards for the Survey of Canada Lands.

Common errors

Test 68 – MUST BE OF THE FOLLOWING AUTOCAD OBJECTS TYPES…

Example of LWPOLYLINE

No.	Test Name		Description	Result
68	MUST BE OF TYPE...		Layer must be of specific types according to the National Standards for the Survey of Canada Lands. Appendix E: Digital Spatial File Specifications, section 23.f.	FAIL
	Found or invalid		Expected	
	CLSSBDRY:LINE		CLSSBDRY:ARC,LINE	SUCCESS
	CLSSTIE:LINE		CLSSTIE:ARC,LINE	SUCCESS
	CLSSTIE:LWPOLYLINE(invalid)		CLSSTIE:ARC,LINE	FAIL
	CLSSGCP:PROXY(invalid)		CLSSGCP:POINT	FAIL

The layer CLSSBDRY cannot have LWPOLYLINE entities. This type of line is reserved for the "Natural Features" and should only be on the layer CLSSBDRYNAT. These features should be moved to CLSSBDRYNAT or if that is not the case and they need to be split instead, you should use the EXPLODE command in AutoCAD.

Example of PROXY entities

No.	Test Name		Description	Result
68	MUST BE OF TYPE...		Layer must be of specific types according to the National Standards for the Survey of Canada Lands. Appendix E: Digital Spatial File Specifications, section 23.f.	FAIL
	Found or invalid		Expected	
	CLSSBDRY:LINE		CLSSTIE:ARC,LINE	SUCCESS
	CLSSGCP:PROXY(invalid)		CLSSGCP:POINT	FAIL
	CLSSGCP:POINT		CLSSGCP:POINT	SUCCESS
	CLSSTIE:LINE		CLSSTIE:ARC,LINE	SUCCESS

Proxy objects are created by third party ARX extension and AutoCAD is unable to read them unless your have the custom ARX application or the appropriate Object Enabler loaded. AutoCAD replaces the objects by "PROXY".

You do not see them as "PROXY", but anybody that does not have this custom ARX application will see these objects as "PROXY".

Here is an example of a proxy objects…


```
Command: LIST
1 found
                ACAD_PROXY_ENTITY  Layer: "CLSSGCP"
                        Space: Model space
                Handle = b1d01
                DXF name:           AECC_COGO_POINT
                Class name:         AeccDbCogoPoint
                Application name: AeccLand100
                Product Desc: AutoCAD Civil 3D
                Company: Autodesk,Inc.
                WEB Address: www.autodesk.com
>_ ▾ Type a command
```
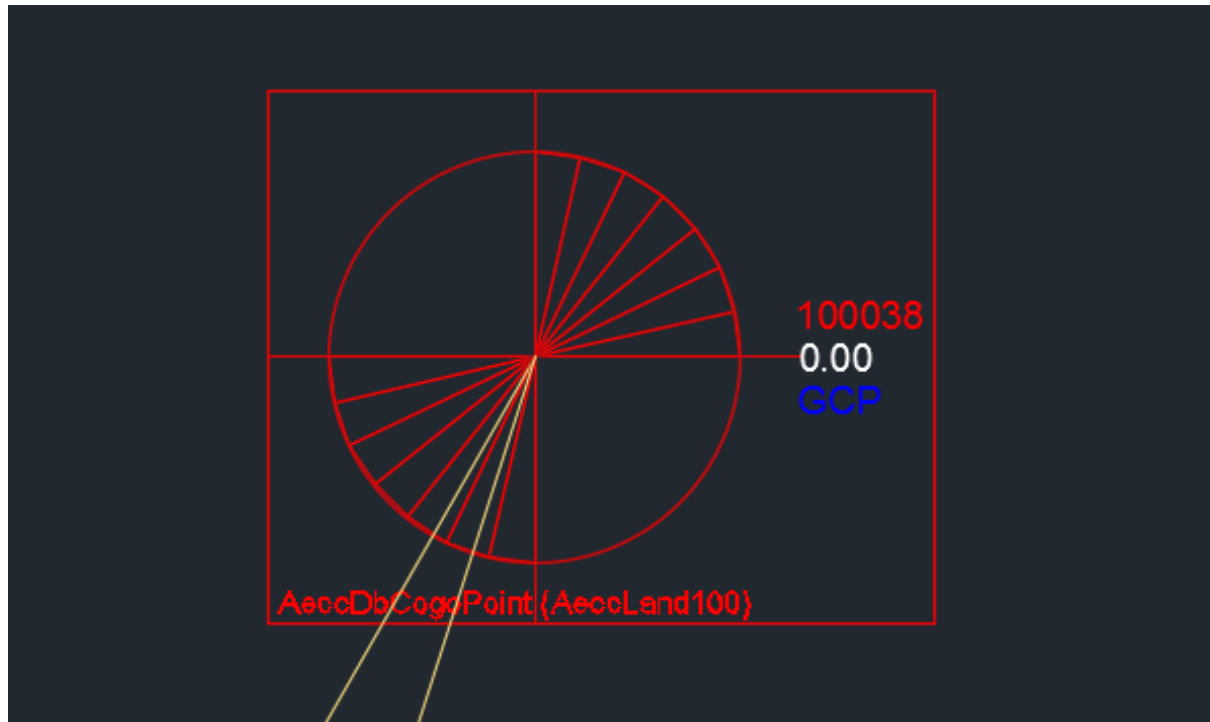
The "AutoCAD Civil 3D" created this object.

Someone without "AutoCAD Civil 3D ", when AutoCAD is displaying the bounding box, will be shown this…

AeccDbCogoPoint {AeccLand100}
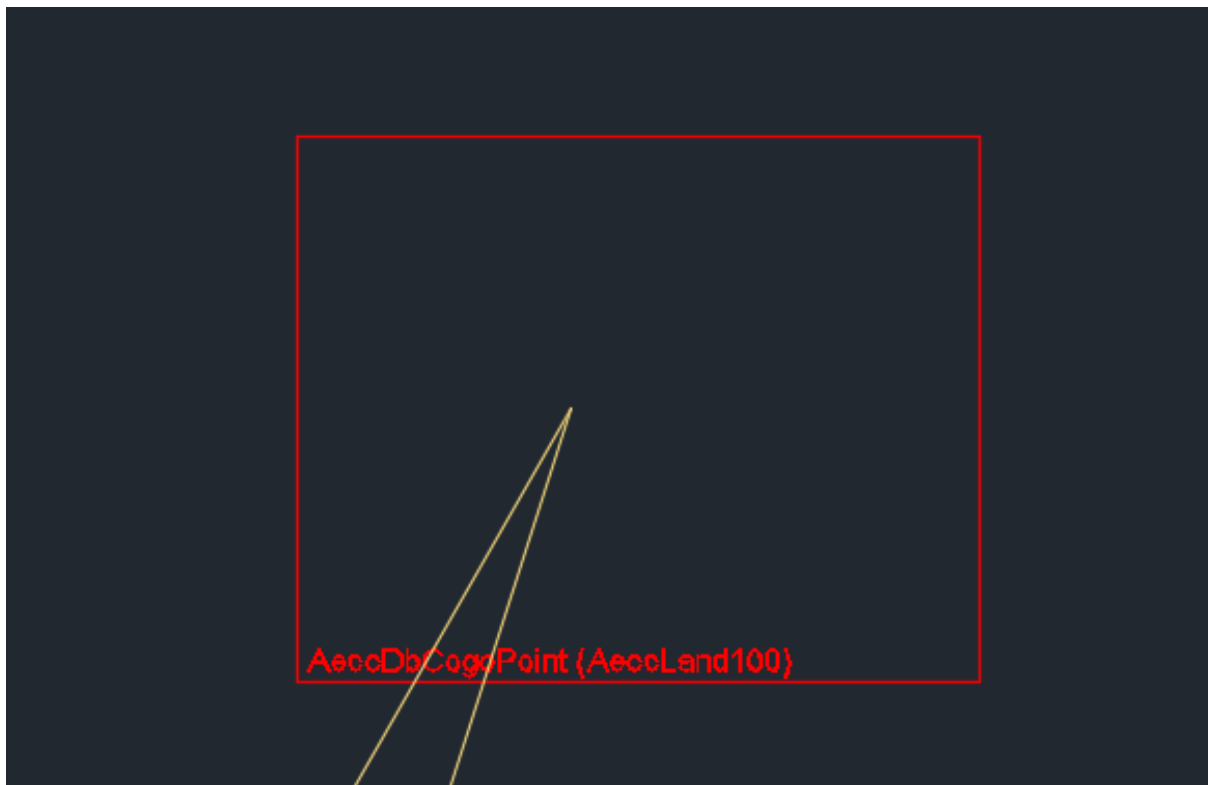
If we "EXPLODE" it, we get this…

Obviously, it is a symbol of a CLSSGCP that was used in AutoCAD Civil 3D, and was great for producing the survey plan, but it is not what is expected for the digital spatial file as it is no longer a "POINT".

In your AutoCAD environment, this entity is not a PROXY, it is an AeccDBCogoPoint.

The solution here is not to EXPLODE the PROXY entity, but to make sure you create a simple 3D point at this location with the proper ellipsoid height as the Z value and then remove this PROXY entity from the CLSSGCP layer. Use the POINT or DDPTYPE command in AutoCAD to create your point on CLSSGCP.

For producing the survey plan, your PROXY objects should be moved on another layer that is not a "reserved" layer name specified in the National Standards for the Survey of Canada Lands.

See Appendix B for more information.

Example of INSERT (or BLOCK REFERENCE)

An INSERT or BLOCK REFERENCE is the combination of simple objects into one element in AutoCAD. Often, in order to represent the GCP's on the plan, two lines are combined to make a cross symbol for the production of the plan. It is true that for the production of the plan this symbol is acceptable, but for the digital return file this type of entity is not allowed.

The GCP's must be of type 3D POINT in AutoCAD and not combined elements.

```
  Scale uniformly: No
  Allow exploding: Yes
Command: LIST
Select objects:
Command:
Command:
LIST
1 found
                    BLOCK REFERENCE   Layer: "CLSSGCP"
                           Space: Model space
                     Handle = cbb
      Block Name: "*U9"
               at point, X=491113.312  Y=6732560.359  Z=  816.222
   X scale factor:      1.000
   Y scale factor:      1.000
   rotation angle: 90d0'0"
   Z scale factor:      1.000
  Scale uniformly: No
  Allow exploding: Yes
```

Example of SPLINE
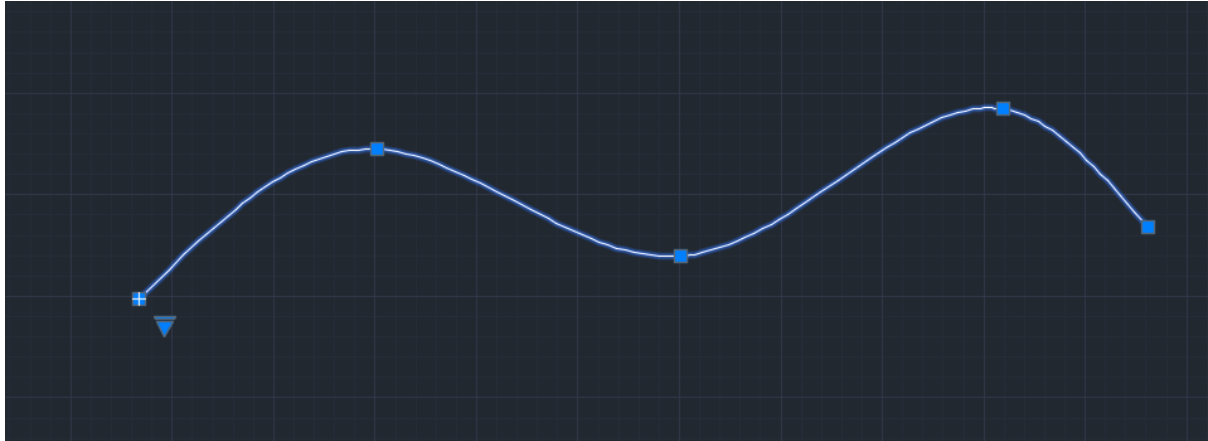
SPLINE entity found on 'CLSS' layers need to be converted to ARC, LINE or POLYLINE.

No.	Test Name		Description	Result
68	MUST BE OF THE FOLLOWING AUTOCAD OBJECTS TYPES…		Layer must be of specific types according to the National Standards for the Survey of Canada Lands. Appendix E: Digital Spatial File Specifications, section 23.f.	FAIL
	Found or invalid		Expected	
	SATCLIM:LINE		SATCLIM:ARC,LINE	SUCCESS
	SATCSEC:SPLINE(invalid)		SATCSEC:ARC,LINE	FAIL
	SATCSEC:LINE		SATCSEC:ARC,LINE	SUCCESS
	SATCRAT:LINE		SATCRAT:ARC,LINE	SUCCESS
	SATCPCG:POINT		SATCPCG:POINT	SUCCESS

Using the FLATTEN command in AutoCAD will convert the SPLINE into POLYLINES. To convert POLYLINES into LINES use the EXPLODE command in AutoCAD.

You can also look at the SPLINEDIT command in AutoCAD to convert SPLINE into POLYLINES.

Test 14 – MUST NOT HAVE DUPLICATES

If this test 14 reports a "FAIL", it is most likely because there are duplicates in the AutoCAD file.

You can remove the duplicate lines or points by using the OVERKILL command in AutoCAD.

This AutoCAD command should be run only on the expected layers CLSSBDRY, CLSSDBRYNAT, CLSSSEC, CLSSECNAT, CLSSTIE and/or CLSSGCP.

In AutoCAD, first turn ON only one layer at a time to run this command, and then select all the elements (i.e. lines or points) on that layer and type OVERKILL. The following form will appear.
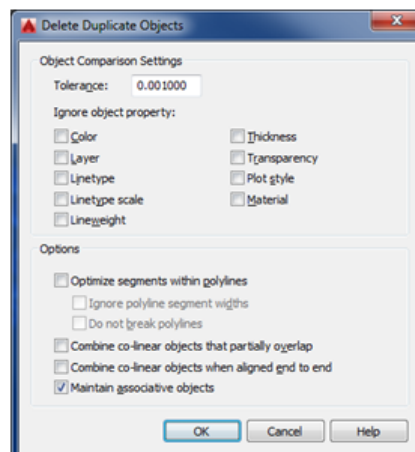
Make sure you have the first three Options toggles turned OFF

(i.e Optimize segments with polylines, Combine co-linear objects that partially overlap, and finally Combine co-linear objects when aligned end to end).

Appendix A

Test Number: 1

Test Name: MANDATORY LAYERS

This test will check if the AutoCAD file contains the mandatory layers specified for the survey document type.

Survey Document Type	Mandatory layer(s)
As built plan (18)	CLSSBDRY or CLSSBDRYNAT
As built plan (18)	CLSSGCP
Field notes of Survey of (in plan form) (46)	CLSSBDRY or CLSSBDRYNAT
Field notes of Survey of (in plan form) (46)	CLSSGCP
Field notes of Survey of (in plan form) (47)	CLSSBDRY or CLSSBDRYNAT
Field notes of Survey of (in plan form) (48)	CLSSBDRY or CLSSBDRYNAT
Field notes of Survey of (in plan form) (48)	CLSSGCP
Field notes of Survey of (in plan form) (48)	CLSSTIE
Field notes of Survey of (in plan form) (50)	CLSSBDRY or CLSSBDRYNAT
Field notes of Survey of (in plan form) (50)	CLSSGCP
Field notes of Survey of (in plan form) (51)	CLSSBDRY or CLSSBDRYNAT
Field notes of Survey of (in plan form) (51)	CLSSGCP
Field notes of Survey of (in plan form) (52)	CLSSBDRY or CLSSBDRYNAT
Field notes of Survey of (in plan form) (54)	CLSSBDRY or CLSSBDRYNAT
Field notes of Survey of (in plan form) (54)	CLSSGCP

Survey Document Type	Mandatory layer(s)
Field notes of Survey of (in plan form) (55)	CLSSBDRY or CLSSBDRYNAT
Field notes of Survey of (in plan form) (58)	CLSSBDRY or CLSSBDRYNAT
Field notes of Survey of (in plan form) (58)	CLSSCONDO
Field notes of Survey of (in plan form) (58)	CLSSGCP
Field notes of Survey of (in plan form) (59)	CLSSBDRY or CLSSBDRYNAT
Field notes of Survey of (in plan form) (59)	CLSSCONDO
Field notes of Survey of (in plan form) (59)	CLSSGCP
Field notes of Survey of (in plan form) (60)	CLSSBDRY or CLSSBDRYNAT
Field notes of Survey of (in plan form) (60)	CLSSGCP
Field notes of Survey of (in plan form) (61)	CLSSBDRY or CLSSBDRYNAT
Field notes of Survey of (in plan form) (61)	CLSSGCP
LS56 (Restoration or Replacement of a Monument) (68)	CLSSBDRY or CLSSBDRYNAT
LS56 (Restoration or Replacement of a Monument) (68)	CLSSGCP
LS56 (Restoration or Replacement of a Monument) (69)	CLSSBDRY or CLSSBDRYNAT
LS56 (Restoration or Replacement of a Monument) (69)	CLSSGCP
LS56 (Restoration or Replacement of a Monument) (70)	CLSSBDRY or CLSSBDRYNAT
LS56 (Restoration or Replacement of a Monument) (70)	CLSSGCP
LS56 (Restoration or Replacement of a Monument) (71)	CLSSBDRY or CLSSBDRYNAT
LS56 (Restoration or Replacement of a Monument) (71)	CLSSGCP
LS56 (Restoration or Replacement of a Monument) (73)	CLSSBDRY or CLSSBDRYNAT
LS56 (Restoration or Replacement of a Monument) (73)	CLSSGCP
LS56 (Restoration or Replacement of a Monument) (74)	CLSSBDRY or CLSSBDRYNAT

Survey Document Type	Mandatory layer(s)
LS56 (Restoration or Replacement of a Monument) (74)	CLSSGCP
LS56 (Restoration or Replacement of a Monument) (75)	CLSSBDRY or CLSSBDRYNAT

Test Number: 13

Test Name: AUTOCAD FILE VERSION

This test will check that the AutoCAD file is an accepted CAD file version tested against the digital specification selected.

CadVersion	Version Name
AC1015	AutoCAD 2000/2000i/2002
AC1018	AutoCAD 2004/2005/2006
AC1021	AutoCAD 2007/2008/2009
AC1024	AutoCAD 2010

Test Number: 14

Test Name: MUST NOT HAVE DUPLICATES

This test will check that the AutoCAD file has no duplicate entities on a single layer.

Test Number: 65

Test Name: FILENAME MUST START WITH PROJECT NUMBER

This test will check that the beginning of the AutoCAD filename is matching a valid SGB project number.

The digital spatial file name must be composed of the following elements:

a.the project number issued by the Surveyor General Branch, followed by the letters "SF";

b.if required, a sequential number "1, 2, 3 ..." to distinguish multiple digital spatial files submitted for one project; and

c.the file format extension (.DWG or .DXF).

Example:

[Project number][SF][Sequential number].[DXF |DWG]

200814003SF1.DWG

Test Number: 66

Test Name: AUTOCAD FILE FORMAT

This test will check that the file is an AutoCAD file DXF or DWG.

Test Number: 67

Test Name: MINIMUMN NUMBER OF FEATURES

This test will check that the minimum number of features are present in the layer.

Layer Name	Minimum number of features
CLSSBDRY	1
CLSSBDRYNAT	1
CLSSGCP	2

Test Number: 68

Test Name: MUST BE OF THE FOLLOWING AUTOCAD OBJECTS
                    TYPES…

This test will check that the features on a layer found in the AutoCAD file are of the accepted type of feature for that layer (i.e. ARC, LINE, POLYLINE, etc.)

Layer Name	Valid Feature Types
CLSSBDRY	ARC, LINE
CLSSBDRYNAT	2DPOLYLINE, ARC, LINE, LWPOLYLINE
CLSSCONDO	2DPOLYLINE, LWPOLYLINE
CLSSGCP	POINT
CLSSSEC	ARC, LINE
CLSSSECNAT	2DPOLYLINE, ARC, LINE, LWPOLYLINE
CLSSTIE	ARC, LINE

Test Number: 70

Test Name: MUST NOT OVERLAP

This test will check that the lines or points do not overlap.

Test Number: 71

Test Name: MUST NOT INTERSECT

This test will check that lines on a layer do not intersect.

Test Number: 72

Test Name: MUST NOT HAVE DANGLES

This test will check that lines on a layer do not have dangles.

Test Number: 74

Test Name: MUST NOT SELF OVERLAP

This test will check that lines on a layer do not self-overlap.

Test Number: 75

Test Name: MUST NOT SELF INTERSECT

This test will check that lines on a layer do not self-intersect.

Test Number: 76

Test Name: GEO-REFERENCED CONTROL POINTS (GCP) MUST BE
                 CONNECTED

This test will check that control points (GCP) are connected.

Test Number: 77

Test Name: MUST FORM CLOSED POLYGONS

This test will check that the lines are forming closed polygons. In this test, layers
CLSSBRDY and CLSSBRDYNAT are combined during the test to create a new
CLSSBDRY layer, which is used to create polygons and test if they form closed
polygons.

Test Number: 78

Test Name: AVOID TO CREATE SMALL POLYGONS ...

This test will check that the lines are forming closed polygons and the resulting polygon areas are bigger that a tolerance.   The current tolerance value is 1.0 m.

Test Number: 79

Test Name: AVOID TO CREATE SMALL LINES

This test will check that the lines are bigger that a tolerance.   The current tolerance value is 0.1 m.

Test Number: 80

Test Name: MUST OR MUST NOT HAVE ELEVATION VALUE

This test will check if the layer must or must not have an elevation. Only the CLSSGCP must have an elevation, no other layer should have an elevation.

Test Number: 81

Test Name: ELEVATION MUST BE AN ELLIPSOID ELEVATION

This test will check if the point on the CLSSGCP layer has an ellipsoid elevation. If the CLSSGCP layer is present and is a 3D layer, then the points on that layer must have an elevation and that elevation should be an Ellipsoid Height. This test uses the position of the points and the elevation web services from NRCan and GPS-H web service from Canadian Geodetic Surveys to analyse the given Z values for those points. The test determines if the given Z value is closer to the Orthometric Height or the Ellipsoid Height from the services.

Test Number: 82

Test Name: ABSOLUTE POSITIONING MUST MATCH SGB DATASET LOCATION

This test will look at the SGB project number and the project envelope to see if the AutoCAD file data falls inside the project area. If no project envelope is available, it will use the Canada Lands extent to see if the data falls inside that area.

Appendix B

Make your CAD file readable by all

Important Note:

You must be the "Creator" of the AutoCAD file to perform the following operations, as PROXY objects are only visible to the person who has created the file.

How to ensure proxy/AEC objects are readable by all clients for an AutoCAD DWG file?

1) You can use the AECTOACAD or EXPORTTOAUTOCAD commands in AutoCAD to explode objects.

2) You can convert your file to an AutoCAD file format "with Exploded AEC Objects".

Method 1:

Open your file in AutoCAD and in the COMMAND line, type AECTOACAD or EXPORTTOAUTOCAD

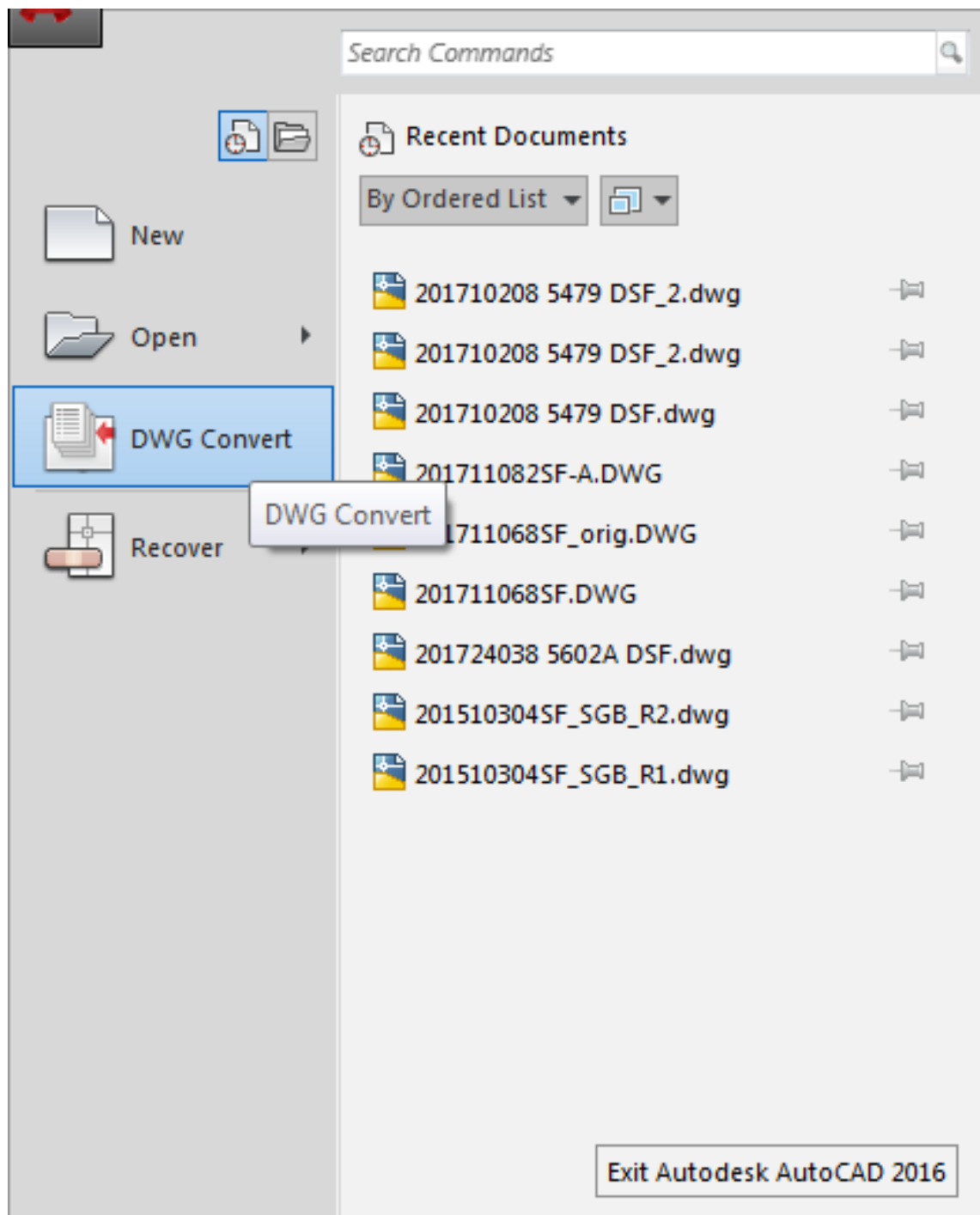Respond to the prompted questions, especially the "Maintain" parameter should be "Yes". For help, read the following…
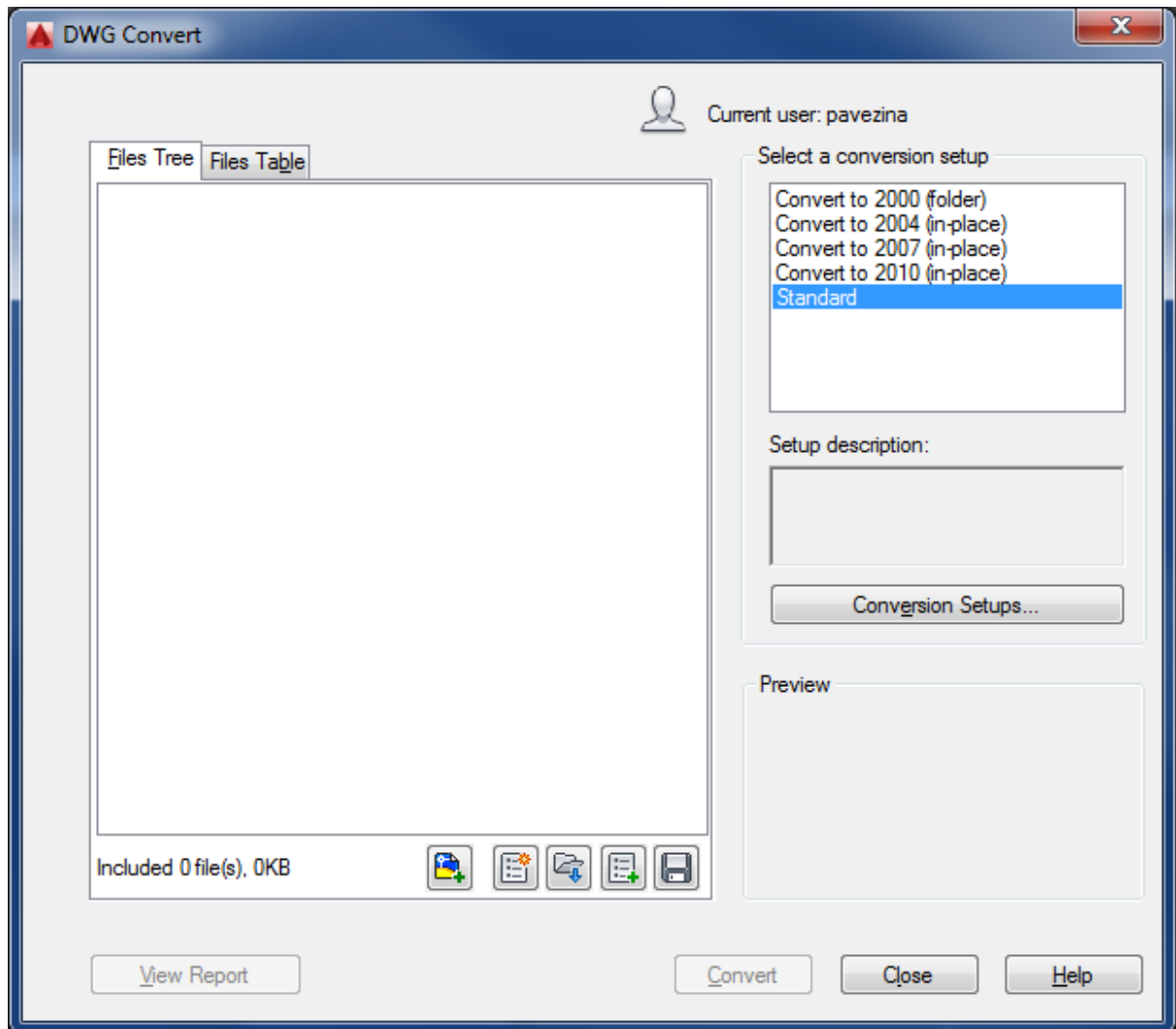
EXPORTTOAUTOCAD

Method 2:

Convert your file…

Open AutoCAD and do not open any file.

Click on the "A" logo in the upper left corner. You should see something like this…

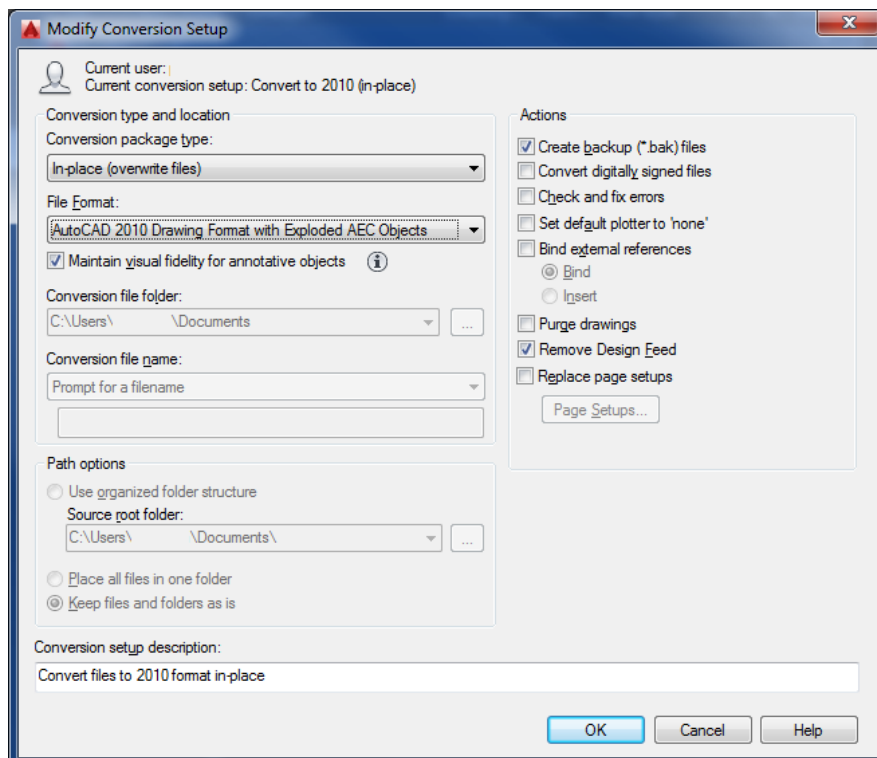Click on the "DWG Convert" menu to open the following form.

Add your file using the drawing icon with the plus (the first one), you can select the "Convert to 2010 (in-place)" conversion setup. Open the setup using the button "Conversion Setups".

Again, select the "Convert to 2010 (in-place)" and click "Modify" the parameters properties…
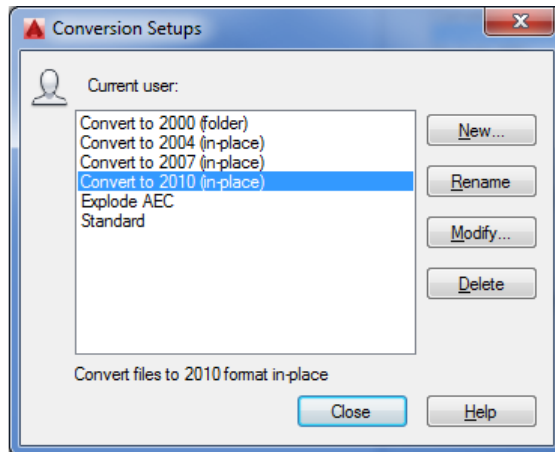
Your parameters should look like this…

Select the "AutoCAD 2010 Drawing Format with Exploded AEC Objects"

Make sure that the toggle "Create backup (*.bak) files" is ON.

Click "OK" to close the form.

Click "Close" to close the "Conversion Setups" form.

Click "Convert"

This will rename the original file .bak instead of .dwg. The .dwg will be a new file with all exploded AEC objects inside.

Done!