INSTRUCTIONS FOR SUBMITTING A DIGITAL BOUNDARY FOR FOR STATE COASTAL ZONE CONSISTENCY (CZC) DETERMINATIONS

SCDHEC-OCRM strongly encourages the submission of an AutoCAD .DWG file or ESRI shapefile showing the project boundary for all Coastal Zone Consistency (CZC) applications associated with requests for coverage under the NPDES General Permit for Stormwater Discharges from Construction Activities. The .DWG files or ESRI Shapefiles should be prepared and submitted using the protocols indicated below.

The requirements for a boundary submission in AutoCAD .DWG format are as follows:

(1) The AutoCAD .DWG file should contain a closed polyline showing the limits of disturbed area or project boundary. In some instances, multiple closed polylines are acceptable if the individual project involves separate, noncontiguous areas of disturbance, which are of a relatively significant distance apart, or separated by permanent features such as a paved road or waterbody.

(2) The polyline should be closed to its point of beginning, so that it forms a polygon when imported into GIS. List the properties of the boundary polygon before sending the file for review to ensure the polygon is closed to its point of beginning. Closing the project boundary using object osnap and selecting the POB endpoint DOES NOT CLOSE the polygon. To close the polygon completely, right click and select close when drawing the last line of the project boundary.

(3) The closed polyline should be properly oriented North and properly scaled. This should not be an issue if all vertices are associated with verified state plane coordinates. See #5, below.

(4) The "Named UCS" should be set to "World." GIS software automatically interprets .DWGs to be in the "World" UCS. When the .DWG is created, the supporting coordinate information that may have been used by add-on software packages to manage the coordinate geometry in AutoCAD is not transferred as part of the file. The result of which is that though the boundary may appear to be in state plane on your system, it is not when imported into our system. Often when this occurs, the Named UCS will appear as "Unnamed" when viewed in our system.

(5) MOST IMPORTANT – THE POLYLINE SHOULD BE CREATED IN OR ADJUSTED TO MATCH THE S.C. STATE PLANE COORDINATE SYSTEM (NAD 1983 – INTERNATIONAL FEET). EACH VERTEX SHOULD BE ASSOCIATED WITH A VERIFIED STATE PLANE COORDINATE. GENERALLY SPEAKING, THE "X" OR EASTING IS A 7-DIGIT NUMBER (NOT COUNTING DECIMAL PLACES) BETWEEN 1913700.00 – 2743157.00 AND THE "Y" OR NORTHING IS A 5 OR 6-DIGIT NUMBER (NOT COUNTING DECIMAL PLACES) BETWEEN 79142.00 – 902504.00. REGARDING THE NORTHING, IN PARTICULAR, IT IS MOST COMMONLY A 6-DIGIT NUMBER. IT IS ONLY A 5-DIGIT NUMBER IN THE MOST SOUTHERN PORTIONS OF BEAUFORT AND JASPER COUNTIES.

(6) The .DWG should contain annotation for at least one boundary vertex (preferably a property corner) listing the Easting (X) and Northing (Y) of that vertex. The presence of this annotation enables SCDHEC-OCRM to provide better assistance/guidance in correcting certain common mistakes.

(7) The .DWG should be saved as version 2004 or earlier. 2007 versions are readable by our GIS software, however, in the event there is a problem with the boundary, SCDHEC-OCRM prefers to provide an explanation using an AutoCAD screen capture and, at present, we are using AutoCAD 2004 software to do this.

Graphic representations of .DWG boundary submission requirements are shown in the "AUTOCAD BOUNDARY DETAILS" section of this document.

The requirements for a boundary submission in ESRI Shapefile format are as follows:

(1) An ESRI Shapefile is actually made up of several distinct files (.dbf, .prj, .sbn, .sbx, .shp, .shp.xml and .shx). Components of your Shapefile may vary, but to be readable by our GIS software a .dbf, .shp and .shx are REQUIRED, and unless the projected coordinate system of the Shapefile is NAD83, South Carolina StatePlane (FIPS

3900) International Feet, a .prj (projection) file is also required. For example, if a Shapefile is named "OCRM_BOUND," then the email or CD/DVD should (at minimum) contain:

OCRM_BOUND.dbf
OCRM_BOUND.shp
OCRM_BOUND.shx
(and preferably) OCRM_BOUND.prj

One somewhat common issue when Shapefiles are sent by those unfamiliar with its components is the .shp.xml file is sent instead of the .shp. This typically occurs when the "Hide extensions for known file types" setting is active on Folder Option > View tab in Windows. Because .xml is typically a "known file type," the .xml extension is hidden and the user just sees the .shp and assumes it's the correct file to send. To be safe, we recommend sending all components of the Shapefile, whether a required component or not.

(2) The Shapefile should be a Polygon geometry type, containing a polygon feature (or multiple polygon features when appropriate) showing the limits of disturbance or project boundary.

Accompanying the .DWG or Shapefile (**ITEM #1**) should be a completed Digital Boundary Details form (**ITEM #2**). The Digital Boundary Details Form is attached for your reference. Failure to include a completed Digital Boundary Details form may cause your boundary not to be processed. The form can be submitted as a MS Word document or Adobe PDF document, or the information outlined in the form can be included in the body of the email.

Items #1 & #2 should be attached to an email and sent to OCRMDIGBOUND@dhec.sc.gov.

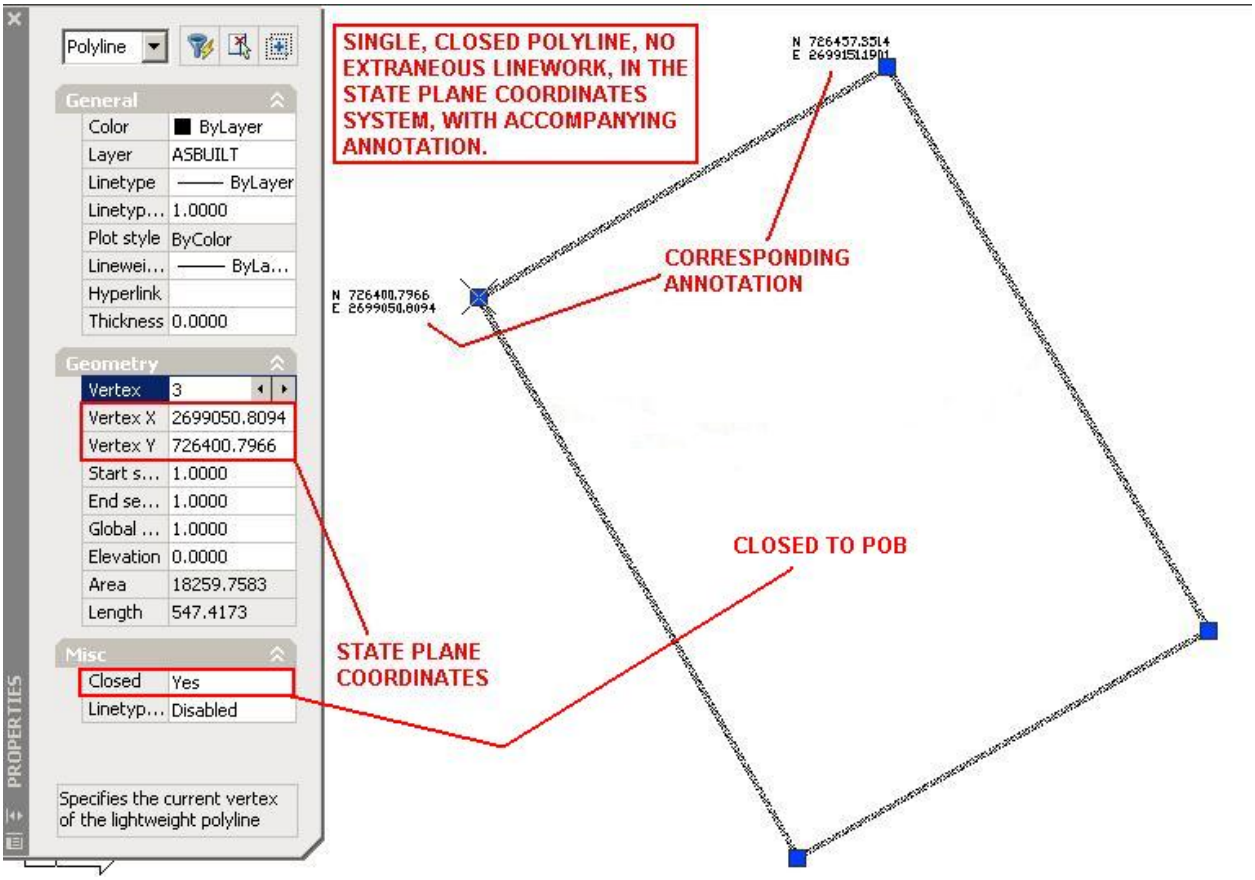
CD/DVD's will be accepted in lieu of the email, but are not preferred. **NO FLOPPY DISKS WILL BE ACCEPTED**.

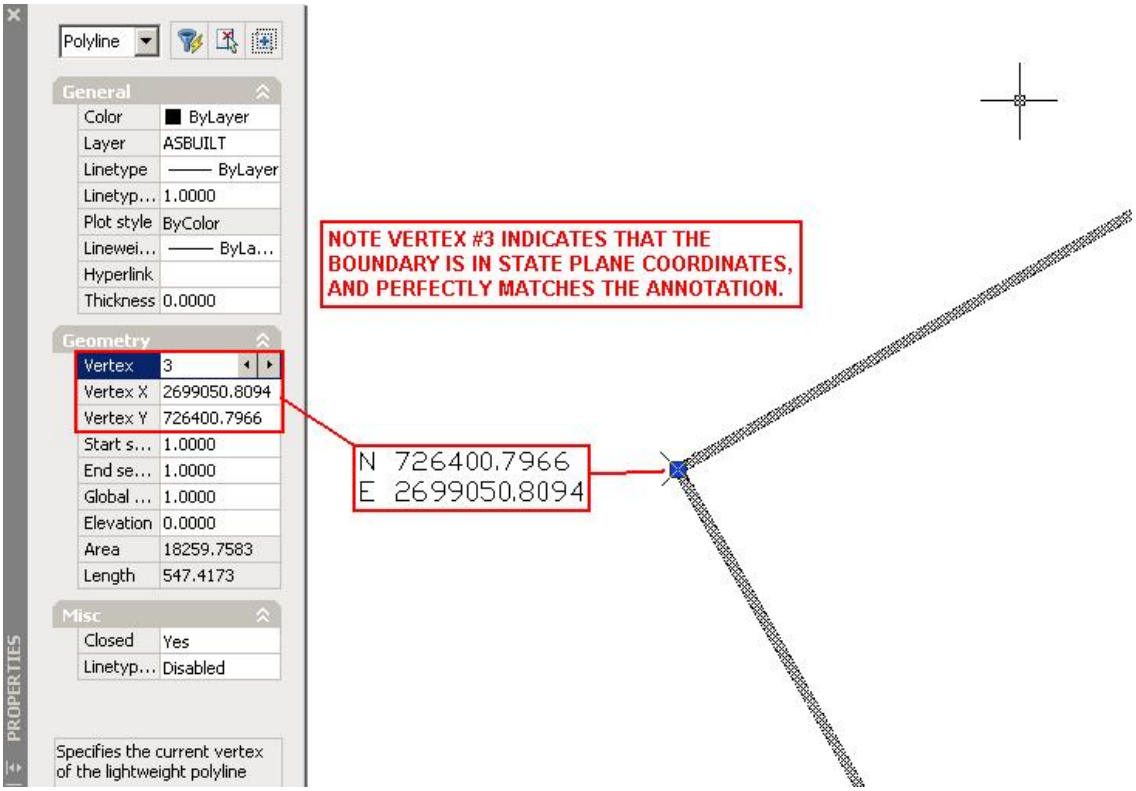
For reference and file preparation purposes, SCDHEC-OCRM has made available for download an AutoCAD .DWG containing coastal zone county boundaries in the S.C. state plane coordinate system. These are generalized county boundaries and should only be used for reference and file preparation. The .DWG can be downloaded from the SCDHEC-OCRM website: http://www.scdhec.gov/environment/ocrm/czc.htm.

For any data submission issues or questions, please contact Josh Boulware at boulwajb@dhec.sc.gov. For your convenience, these instructions, along with the Digital Boundary Details form, will be posted at: http://www.scdhec.gov/environment/ocrm/czc.htm . OCRM suggests that you periodically check for new versions of digital boundary instructions, as contact information and procedures may change.

AUTOCAD BOUNDARY DETAILS

Below is an example of a preferred boundary submission.

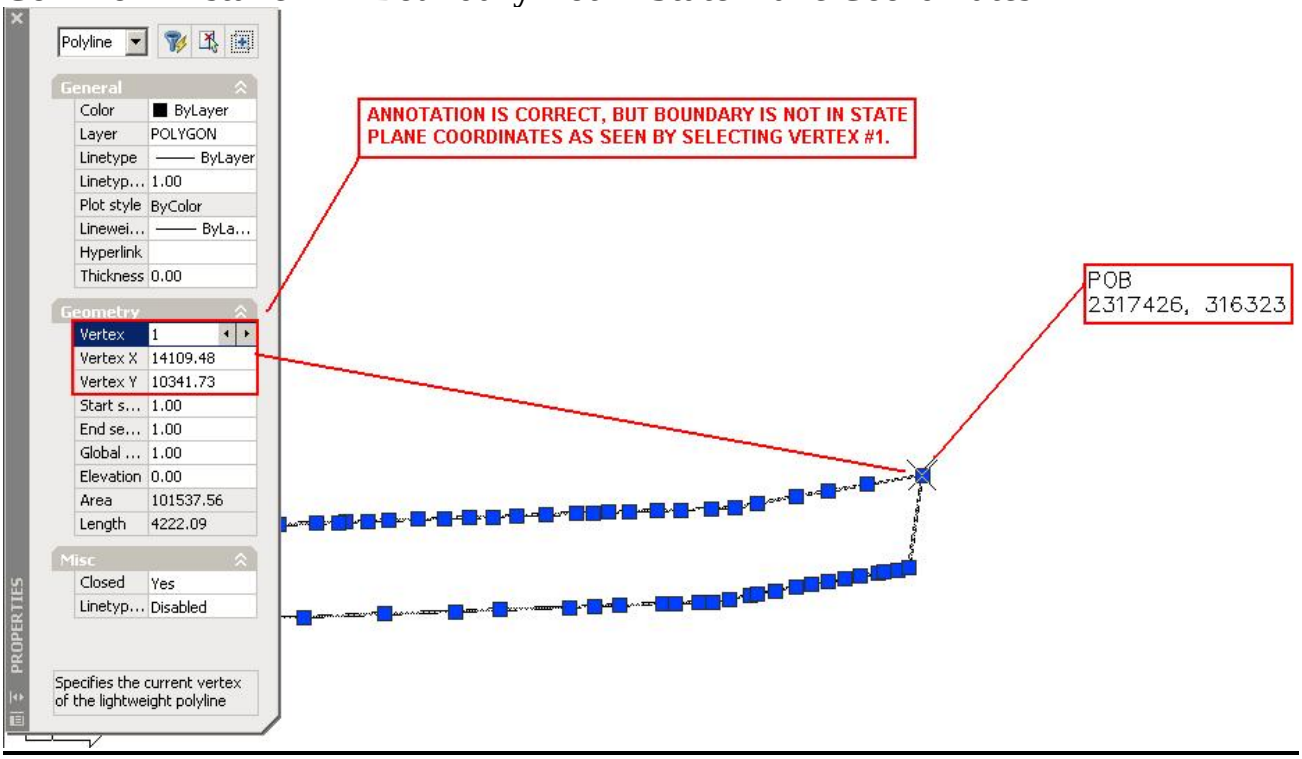




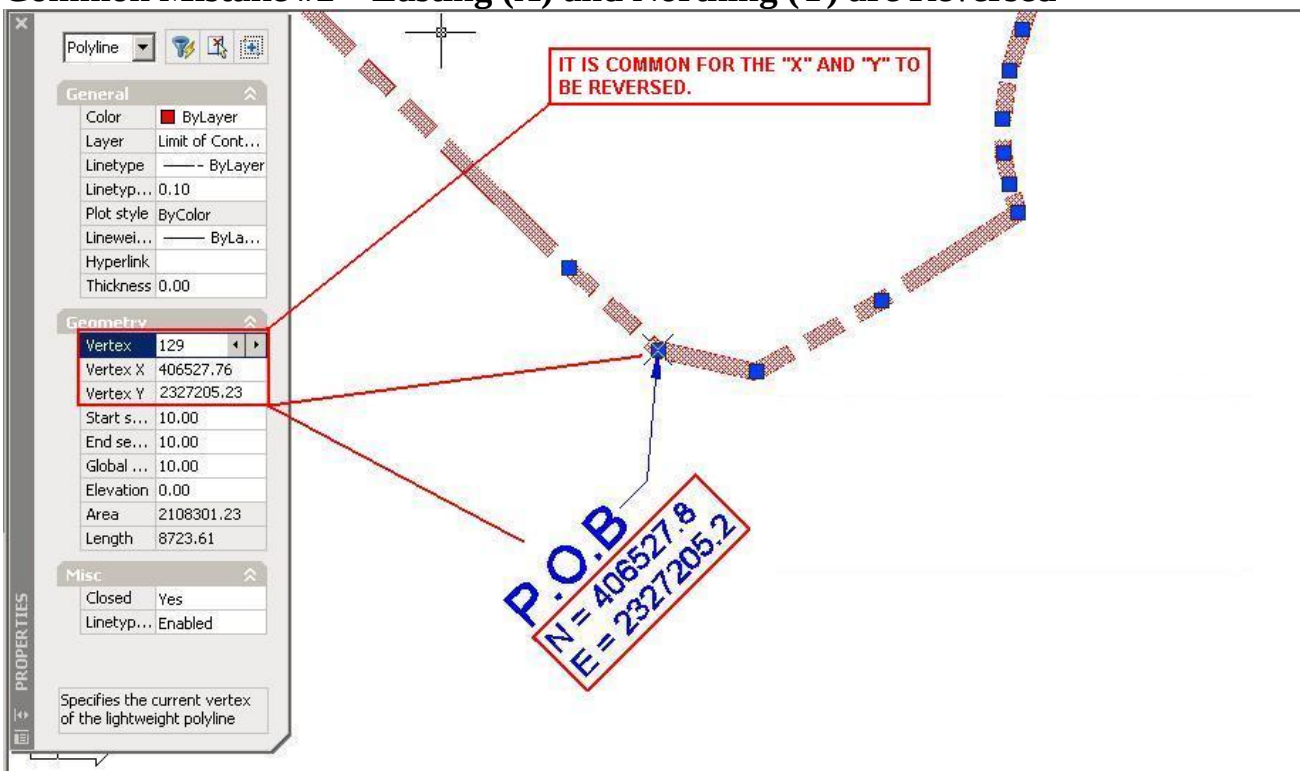
(Updated June 5, 2012)

Below are common mistakes to avoid.

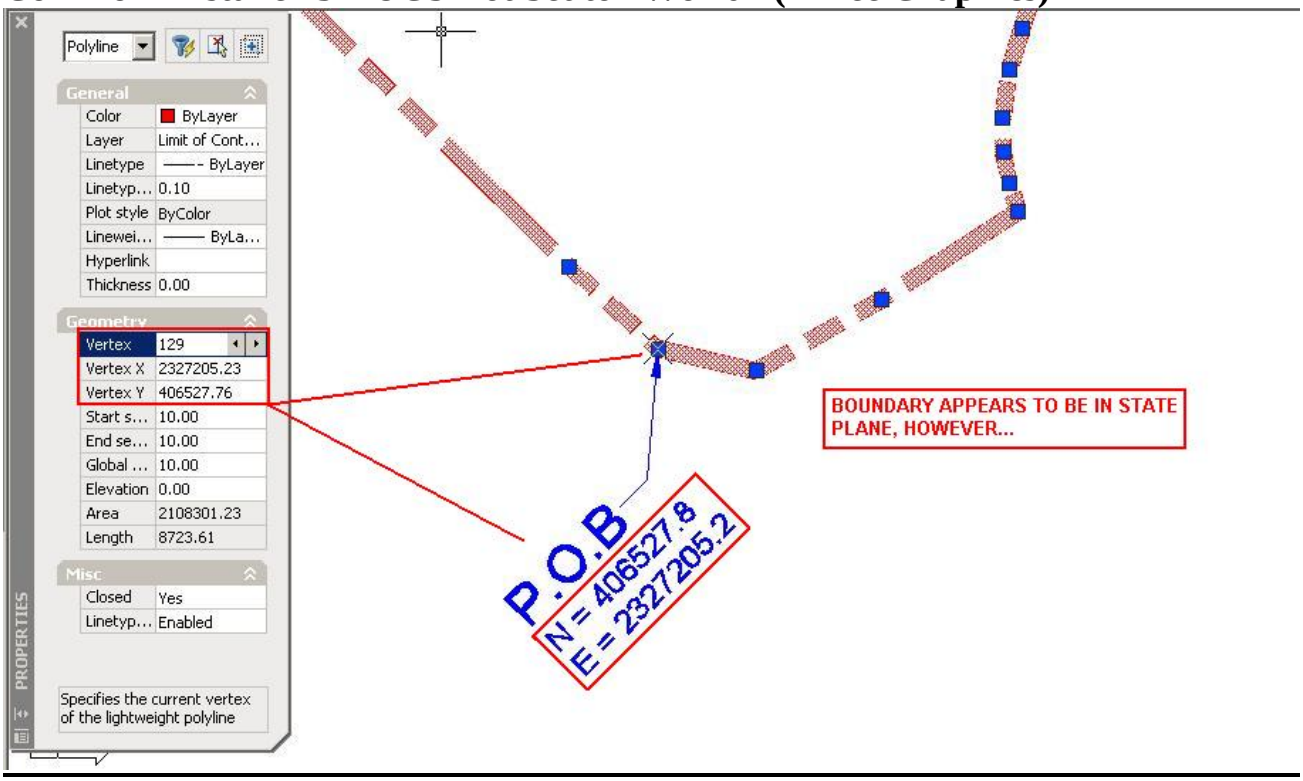
Common Mistake #1 – Boundary Not in State Plane Coordinates

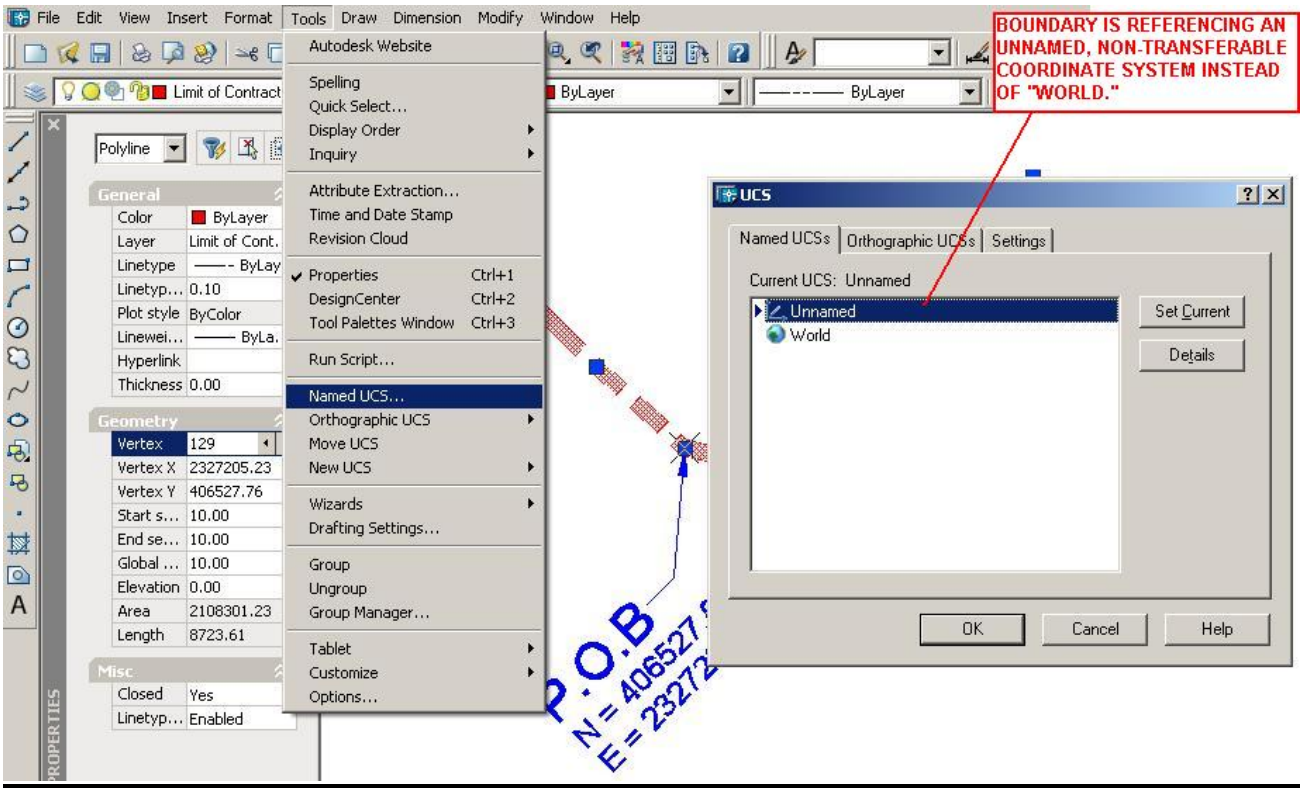


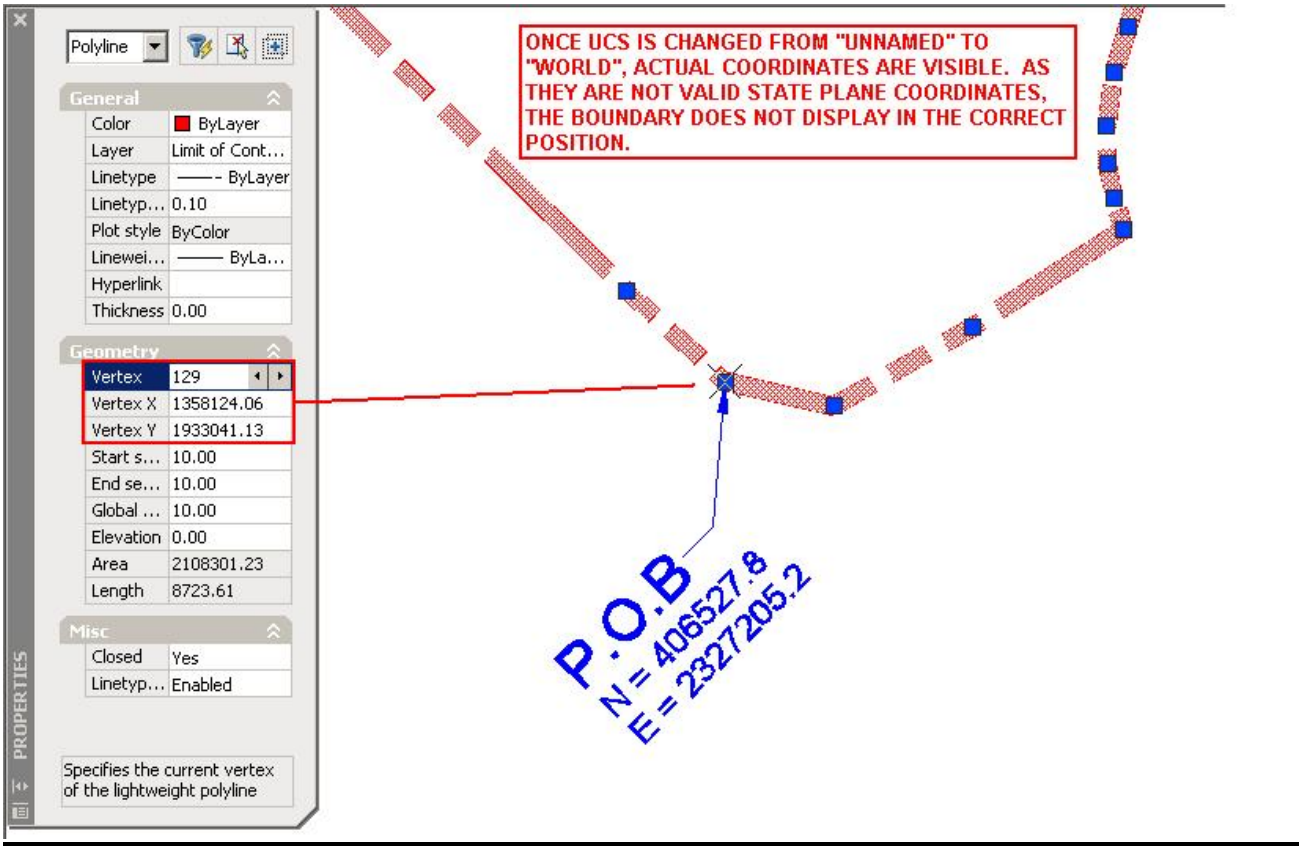
Common Mistake #2 – Easting (X) and Northing (Y) are Reversed



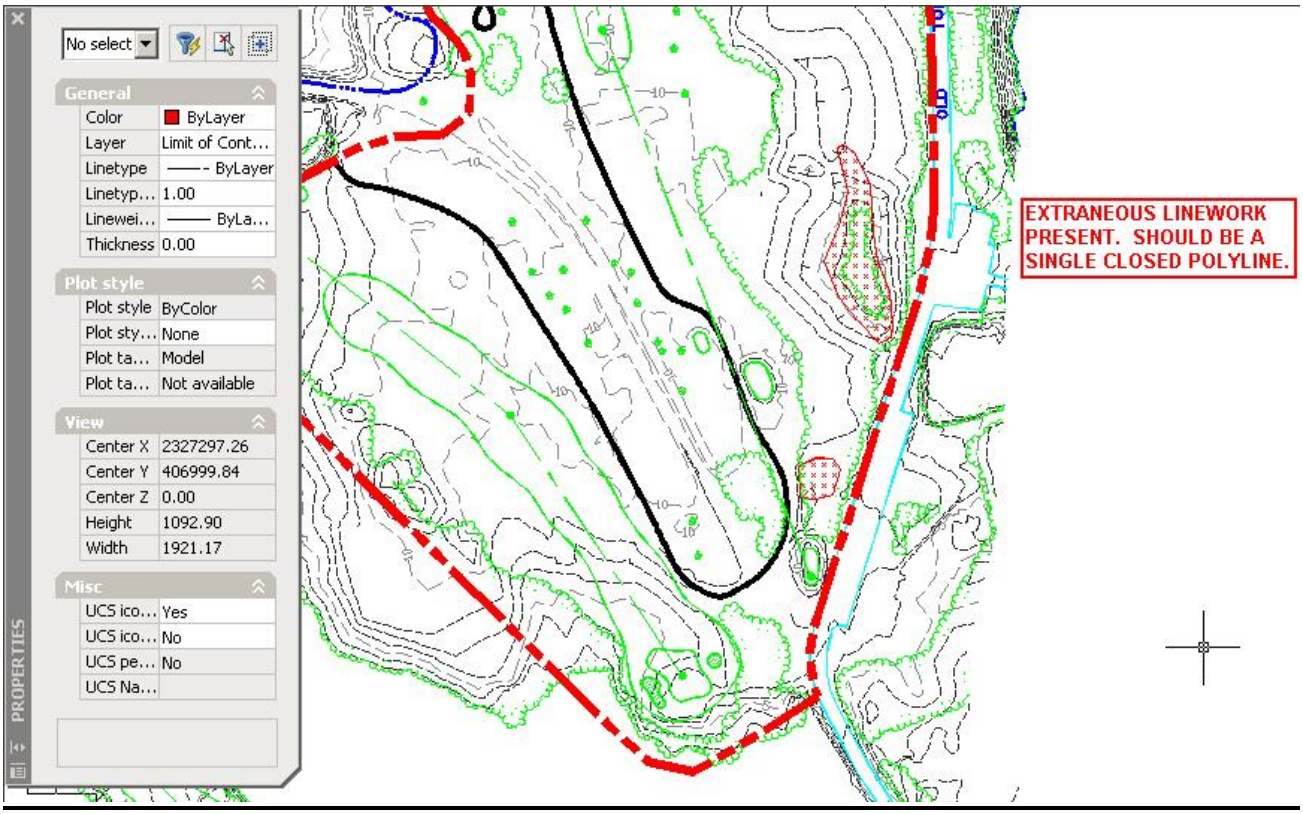
Common Mistake #3 – UCS Not Set to "World" (Three Graphics)



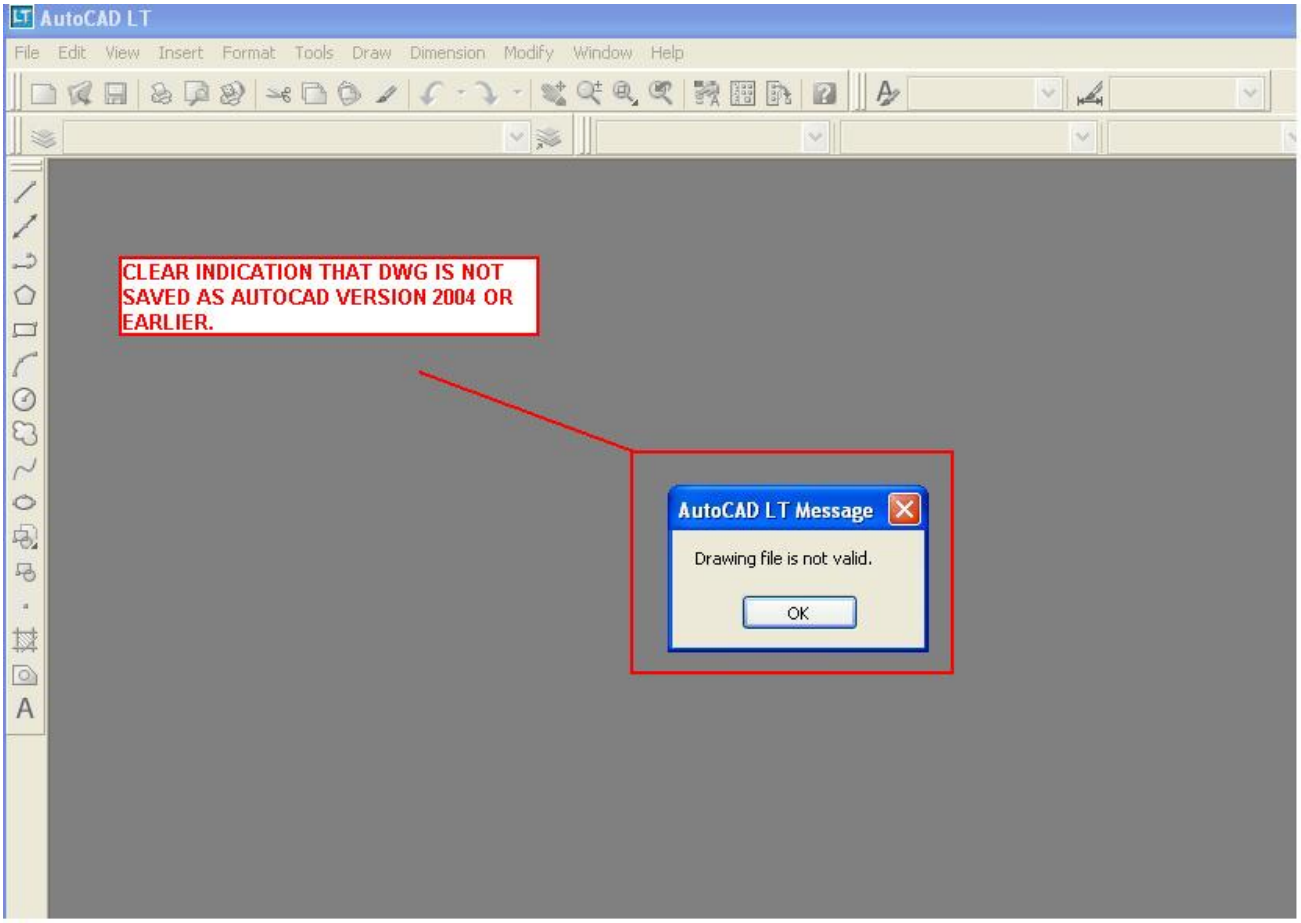




Common Mistake #4 – Extraneous Linework Included



Common Mistake #5 – .DWG Not Save as AutoCAD 2004 or Earlier Version



DIGITAL BOUNDARY DETAILS

1) PLEASE PROVIDE THE INFORMATION REQUESTED BELOW IN **UPPERCASE** LETTERING.
2) PROJECT NAME **MUST** CORRESPOND TO PROJECT NAME LISTED ON THE CZC APPLICATION.
3) PLEASE AVOID USING SPECIAL CHARACTERS SUCH AS "@" IN THE PROJECT NAME WHENEVER POSSIBLE, UNLESS THIS CREATES A CONFLICT WITH #2.

DATE:

PROJECT NAME:

COUNTY:

PARENT PARCEL/TMS#:

PREPARED BY (FIRM NAME):

ENGINEER OF RECORD (WITH EMAIL):