	DCHC MPO GIS/Database/Web	Date: 12/13/2003 Date Last Updated: 06/05/2014
		Standard of Procedure Number: 7
Objective: Documenting General QA/QC Process **Inputs: All GIS Data (Shapefile(s), Geodatabases, DRGs, rasters and any other spatial data metadata information)** **Outputs: QA/QCed GIS Data** **Comment: This standard documents the minimum QA/QC checks required to be performed by DCHC MPO personnel to have high quality GIS Data.**		

General QA/QC Checks

1. Data suppliers (data originators/producers, the person/entity we get the data from) select someone who is familiar with the quality of the source data to perform the QC check.
2. Reviewers check the layer for appropriate file format (shapefile, Geodatabase, and other formats for the final product it should be geodatabase only)
3. Reviewers check the data/layer name from the point of:
   a. The naming standard.
   b. Meaningfulness (can a layperson understand its meaning or content).
4. Reviewers check the coordinate system to ensure it meets the standard (NAD 83, State Plane, North Carolina, FIPS 3200 Feet, for elevation data vertical datum: NAVD88)
5. Reviewers check table field names.
   a. Meaningfulness and understandability (Does the name make sense? Can a first time user understand the meaning of the data contained within?).
   b. No spelling errors.
6. Reviewers query to database to check:
   a. Unique occurrence of fields (attributes). Duplicate fields should be removed. Fields containing no values should be removed.
   b. Meaningfulness of the attributes (Are any attributes confusing? need to change the field name?)
7. Compare the source data with the processed data layer (the final layer added to DCHC MPO geodatabase/SDE). Do this with all source maps.
8. Align (overlay) the data with the Geodatabase layer (final geodatabase layer) and look for exceptions or records that do not match
9. Display the Area field from smallest to largest if the feature class is a polygon and check the records with the smallest areas to identify "sliver" polygons - i.e. small polygons created from poor digitizing or data entry techniques.

10. Check the data with topology rules applicable for the data to make sure that data is topologically accurate/consistent. Correct data should have clean topology.
11. Reviewers check that metadata is complete and accurate. (Make sure DCHC MPO required fields do exist and are in the right place. During the migration to SDE, ESRI GIS generated fields (area, perimeter, shape, OID etc.) can cause the fields to slide, causing definitions to be matched with the wrong field. This needs to be corrected using metadata export/import tools to reorganize the metadata so that fields and their descriptions match.)
12. Reviewers check that a maintenance process document is completed and that the file is updated/stored.
13. Reviewers note any document correction and instruct the layer's suppliers or maintainer to correct the noted deficiencies.
14. Reviewers recheck the data once corrections have been made
15. Reviewers record the number of rechecks needed to pass on the signed compliance form. [Do we have such a form?]
16. Immediately following the passing of a QC process or test, the two individuals reviewing that process or test shall sign the QC compliance form and then forward that form to the GIS Manager (or designee). Data is then loaded to the production server on demand from the data supplier or maintainer.