Creating Multi-Page IAP Maps Using CAL FIRE Tools & Data Driven Pages Work Flow Process

1. Once the FIMT tools have been used to create incident feature classes, use the **Change Layout** tool on the *Layout* toolbar or **Change layout template** on the *FIMT Layout* toolbar to load one of the side bar IAP map templates (with either graphic or regular legend).
2. Use either Dynamic Text or edit the map title text box to add the incident information into the text box. At a minimum, you need to use Dynamic Text for the Page Number so the page number will reflect the actual page number for each map page. To do this, enter the following on the page number line in the Title Block: **Page <dyn type="page" property="number"/>**. This and other Dynamic Text elements can be copied from the Dynamic Text instructions document and pasted into the appropriate layout elements.
3. Update all other layout elements (legend, time stamp, etc) as necessary with current incident information.
4. Use the ***CAL FIRE Tools*** tool to create the grid index layer which will contain the map page polygons.
    a. **You must be in the *Layout View* in order to use this tool.** Stay in the *Layout View* for the rest of this exercise.
    b. Use the Zoom tools on the *Tools* tool bar to zoom to the desired extent you want covered by the IAP map pages.
    c. If you don't have a non FIMT file geodatabase (GDB) in the root of the *incident_data* folder to store the grid index layer, a new GDB to store the grid index layer can be created using GSTOP file naming conventions for its name. The 2013 GSTOP recommends placing non-FIMT feature classes in a separate GDB. For the American Incident, this GDB should be named "*2013_American_CATNF1562_MP_Grid_Index.gdb*".
    d. On the CAL FIRE Tools toolbar, select **Map Production Tools→Create Grid Index** to open the *Create Grid Index* dialog box.
    e. In the *Create Grid Index* dialog box, set the *Output Feature Class Location* by browsing to the *incident_data* folder and selecting the Grid Index GDB.
    f. In the *Output Feature Class Name* box, enter the name of the grid index layer using GSTOP standards. Remember that GDB feature class names cannot start with a number or special character – GSTOP draft convention is to place **i_** at the beginning of the name (*i_20130819_0100_American_CATNF1562_MP_Grid_Index_10_pg_11x17_land_pol_u10nad83*).
    g. If you only want the map page polygons to be created where incident features exist on the map, choose the ***FireLine*** and ***FirePoint*** feature classes for the *Input Features*. These layers will generally cover the entire incident area, and if not, add other *Input Features* if necessary. Be careful if features in the identified layers are far from the actual fire area, because pages will be created wherever features exist.
    h. Set the *Map Scale* to **24000**.
    i. If you want adjacent map pages to overlap each other, set the percent overlap (5% is the default).
    j. Choose the **OK** button to create the grid index layer and add it to the map.
5. Modify the map page features in the new *Grid Index* layer to the desired arrangement for the multi-page IAP and modify page numbers if necessary.

a. Change the symbology of the *Grid Index* layer to outline in order to see the map features.
b. Make the *Grid Index Feature* the only selectable layer.
c. Right click on the *Grid Index Feature* and choose **Edit Features→Start Editing**
d. Edit the map page polygons to ensure that each Division is covered appropriately or arrange pages as desired or directed by SITL.
e. Adjacent map pages should always overlap, so arrange pages so there is enough overlap.
f. Open either the ***Attributes*** dialog or the ***Table*** and resize and/or move so that you can see both the entire *Grid Index* layer in the map and the attributes.
g. Select each page feature and make sure the desired page number is assigned in the *PageNumber* field. This is an important step to ensure the pages are ordered properly.
h. *Save Edits* and *Stop Editing*

6. Adjust ICS annotation features if necessary.
    a. Start editing the FIMT GDB using the ***Edit Incident*** tool.
    b. Where Divisions and Branches cross onto multiple map pages, copy and paste the Division/Branch annotation features and then move the pasted annotation features to appropriate locations on the adjacent pages.
    c. Some point features that are near the edge of pages may need labels on both pages.
    d. Move or adjust other annotation features if necessary.
7. Data Driven Pages (DDP) in the CAL FIRE Tools will be used to create the multi-page maps using the current map layout. After setting up the Data Driven Pages, you will use the DDP toolbar to navigate to the map pages.
    a. Switch to *Layout View* if not currently there.
    b. Set the map scale to 1:24,000.
    c. Select **Map Production Tools→Setup Data Driven Pages** from the *CAL FIRE Tools* toolbar to open the *Setup Data Driven Pages* dialog box and turn on the *Data Driven Pages* toolbar if it isn't already displayed. Use the following instructions to setup the DDPs in the *Setup Data Driven Pages* dialog box.
    d. In the ***Definition*** tab of the dialog box:
        i. Check the checkbox beside **Enable Data Driven Pages** to enable the options in the dialog box.
        ii. Choose the appropriate **Data Frame** from the *Data Frame* list.
        iii. Choose the **Grid Index** Layer from the *Layer* list.
        iv. Select the **PageNumber** field from the *Name Field* list.
        v. If not the default, select the **PageNumber** field from the *Sort Field* list.
        vi. Keep default selections in all other options in this tab.
    e. Switch to the ***Extent*** tab and select one of the options listed below:
        i. <u>If using the ***Center and maintain current scale*** option, make sure to set the data frame scale to 24,000 before opening the DDP Setup dialog</u>.
        ii. Since the map scale was set to the desired scale when the grid index polygons were created, you can also use the Best Fit option and set the Size to 100%. If you use the default 125% setting, an incorrect scale will be used for the maps and the grid polygons will not match the data frame size in the layout.
    f. Select the **OK** button to setup DDP.
8. If you wish to add a page index in the side bar area of the layout to display the map pages and highlight the current page, you can use the ***Vicinity Map*** tool in the *CAL FIRE Tools* to create the index. This tool adds a new data frame, loads the selected reference layer and includes an

extent indicator. For multi-page IAP maps, you will place the *Grid Index* layer in the vicinity map data frame.

a. Select **Map Production Tools→Vicinity Map** from the *CAL FIRE Tools* toolbar to start the tool.
b. The cursor icon will change to a plus sign (+) when you move it onto the map. Click on the map at the location where you would like to place the page index to open the *Vicinity Map Layer* window. The location you click will be the lower left corner of the *Vicinity Map* layout element after it's added to the map.
c. In the *Vicinity Map Layer* window, browse to the folder where the *Grid Index* layer is stored, select it so its name appears in the *Name* box and then select the **Select Layer** button to open the *Vicinity Map Properties* dialog box.
d. In the *Vicinity Map Properties* dialog box, select the second option for the ***Vicinity Map Frame***, and the first option for the ***Vicinity Map Extent***.
e. Adjust the size and location of the index map element as necessary.
f. You may need to zoom back out to the extent of the grid layer in the index map after resizing it. Right-click on the *Grid Index* layer in the Vicinity Map data frame and select **Zoom to Layer** to center the layer in the vicinity map. Sometimes you may need to manually center the features using the **Zoom In** and **Zoom Out** tools.

9. Proof each map page using the arrows on the *Data Drive Pages* toolbar to navigate from page to page.
    a. Make changes to annotation, map page locations or any other features on the maps.
    b. If map pages are added or removed, you must run the DDP Setup again to incorporate the changes into DDP.
    c. Make sure the Page Numbers reflect the actual page displayed.
10. To export the multi-page maps to PDF, select **File→Export Map** as you would with any other map.
    a. Navigate to *products\{date folder}*
    b. Name the output PDF file following GSTOP standards: *{map type}_{page size}_{page orientation}_{date}_{time}_{incident name}_{Unit ID + Local Incident ID}_{Operational period}.pdf*.
    c. Use standard settings used for IAP maps, except under ***Options*** choose the **Pages** tab.
    d. Check the radio button next to **All** to export all pages.
    e. The option you select in the ***Export Pages As*** box depend on whether you want to export all map pages to a single PDF or one PDF for each map page.
        i. Select **Single PDF File** if you want all pages exported to a single file.
        ii. Select **Multiple PDF Files (page index)** if you want to export to one map page per PDF file. Using this option, you must change the last element in the file name from *MPall* to ***MP***. This will indicate that not all map pages are in the PDF file.

IMPORTANT: Make sure the IAP Map data frame is active and NOT the Vicinity Map data frame and then Save and close the IAP MXD.

11. Create the Page Grid Index Map using the *CAL FIRE Tools*.
    a. **Before using this tool, you must close any open MXDs which contain any FIMT feature classes for the current incident. Also, the FIMT GDB for the current incident or any of its contents must not be open or selected in ArcCatalog.** This will create a lock on the GDB which will prevent a successful run of some functions of this tool.

b. Open a new MXD and do not load any data into it.
c. Select **Map Production Tools→Create Page Grid Index Map (using source MXD)** from the *CAL FIRE Tools* toolbar to open the *Create Page Grid Index Map (using source MXD)* dialog box.
d. In the *Grid Index* box, browse and select the ***Grid Index*** layer used in the DDP IAP map.
e. In the *Page Number Field* box, leave it set at ***PageNumber***. No other field will work at this time. If a tool other than the CAL FIRE Tools or the ESRI Grid Index Tool was used to create the grid index layer, it must have a *PageNumber* field which stores the page number attribute.
f. In the *Annotation Workspace* box, browse to and select the ***Incident*** feature dataset of the FIMT GDB used in the DDP IAP map. The copied and rescaled annotation created by the tool will be placed here.
g. In the *Reference Annotation* Layers box, use the button to browse to the FIMT GDB containing the AnnoPoints and annotation layer used for the Divisions/Branches that are in the DDP IAP map, and add them to the list. You can add others if you wish, but they must not be in the current or an open MXD, or the GDB must not be currently selected in ArcCatalog. Any annotation layers placed in this box will be copied, rescaled and placed in the annotation workspace indicated in the box above. If reference annotation layers are in a GDB other than the one noted in the *Annotation Workspace* box, the new rescaled annotation features will also be place in that GDB.
h. In the *Source Map Document* box, browse and select the source MXD containing the DDP IAP map.
i. In the *Output Map Document Location* box, browse and select the folder where you want the Page Grid Index Map stored.
j. Name the Index Map document using GSTOP standards in the *Output Map Document Name* box (*{map type}_{page size}_{page orientation}_{year}_{incident name}_{Unit ID + Local Incident ID}.mxd*).
k. Click the **OK** button to run the tool. The new MXD will open after it is created.

12. Modify annotation and other layout elements. You must edit the FIMT GDB in order to modify the annotation.
    a. If the new reference annotation layers fonts are excessively large, resize the fonts to the font size in the original source annotation layers to see if this size will work. If not, try different font sizes until you are satisfied.
    b. Move or modify the map title and original title block (from IAP) as desired.
    c. Move the page number annotation features to where they can be easily seen.
    d. Delete any duplicate annotation features used on the IAP map.
    e. Move or modify other annotation as necessary. If some features are not sized appropriately, change font size to a more legible size.

IMPORTANT NOTE: You must click the "Setup Data Driven Pages" button on the Data Driven Page Toolbar and uncheck "Enable Data Driven Pages" checkbox in the "Definition" tab of the dialog box. If you don't perform this step, all IAP map pages will be exported instead of the Index Map.

13. Save changes and save to PDF in the same folder as its associated IAP Map PDF(s) using GSTOP naming conventions.
14. If you have software that enables you to edit PDFs, you can add the Index Map as the first page of PDF that contains the multi-page IAP maps.