The following steps need to be completed ONE time (not on a project by project basis):

1. C:\Criteria (Must be named this or it will NOT work)
2. Copy all of the criteria files to this location
3. Copy the files in the “input” directory to the location where your gpk is located (they do NOT need to remain in a directory called “input”)

The following steps will need to be repeated on a project by project basis, BUT only ONE time per project:

1. Create a Microstation pattern and shape file (one file) – I would suggest the following name: “SSIJN\_pat\_shape.dgn”, where SSIJN is the 5 digit SSI project number. This will contain the pattern lines that you use to create the cross sections. No matter what, you will need pattern lines to generate the topsoil and pavement structures (although you can create the pattern lines from the XS later if you choose to create XS using stations instead of patterns). Pattern lines for different roads (Ramp A vs Ramp B) should have different symbologies (ie colors, etc). Make a list of what road/ramp is what color (you will need this later).
2. Create the Microstation file with the existing edges of pavement/shoulder lines in it, along with the trigger lines to identify where the roadways are. I would suggest the following name: “SSIJN\_ex\_pavt\_lines.dgn” Existing pavement should be on a level called “PAVT\_RM” while the trigger line should be on a level called “PAVT\_REM\_TRIGGER”
3. Create a proposed cross section file. This could be one file OR separate files for each road. If they are separate, make the names similar, so they can be changed quickly when you switch to create the pavement/topsoil from one road to another.
4. Know what the gpk file name is for the project and set the Geopak preferences to point to where this gpk is located.
5. Create a list of the horizontal aligments (in geopak called a chain) and their corresponding profile (could be the proposed profile OR an existing profile). You will need to copy this information when you switch to create the pavement/topsoil from one road to another.

The following steps will need to be done on a ROAD by ROAD basis (ie repeated several times for each project, but only one time per road):

SHAPE FILE STEPS:

1. Open the “SSIJN\_Shape.inp” in a text editor (Notepad, etc). A shape file is basically a dgn file that tells the program what stations it should draw the existing pavement/topsoil.
2. Change the 3 digit job number to the name of the gpk for your project (step 4 above)
3. Change the shape cluster baseline (2 places total) to the horizontal alignment for the first road you want to run topsoil on (step 4 above). Also change the same callout under chain / offset below (4 places total).
4. Change the shape cluster profile to the profile name corresponding to the road above in step 3 (2 places total).
5. Change the filler line stations to the beginning and ending stations that you want to process this road (2 places total for both the beginning and ending stations). If there are station equations, you will need to also change the regions (R 1 if before the first station equation, R 2 if after the first station equation but before the second one, etc). NOTE, the starting/stopping stations can go beyond where you want the XS to be drawn, but can’t stop short or nothing will process beyond the limits of the shape.
6. Change the last line to point to the directory and file name of the “SSIJN\_pat\_shape.dgn” file you created in step 1 (in the previous list).
7. Open the “SSIJN\_pat\_shape.dgn” in Microstation. Open the Geopak tools and click and hold the ships wheel (Cross Section Navigator), and select the “Shape Manager” icon (it has 3 triangles on it). Another set of tools will pop up. Click on the “Autoshape Builder” icon (It has a picture of a power drill on it). Locate the Shape input file (step one above), make sure the two check boxes are unchecked and click draw superelevation shapes. IF it worked correctly, then you should see some colored shapes that that follow your roadway and start/stop at the desired locations.
8. If step 7 processed correctly, you can repeat steps 3 thru 7 for the next road. If you like, you can save the input file for each roadway, but it is not necessary since it is pretty easy to change. I would recommend running the shapes for all of the roadways at one time, since you will know exactly what to change between each run. NOTE: You CAN’T have any shapes that cross over another shape (ie a local road that crosses over a freeway on a bridge). If you do, add a few more stations to step 5 above that represent where the bridge would be. Then process the shape file like you normally would and then use the microstation delete command to delete the portion of the shape on the bridge (ie that is over the top of another roadway). There are other alternatives (including changing shape symbologies from road to road), but it requires you to make more changes later in the process.

CROSS SECTION STEPS:

1. Open the “SSI\_draw\_existing\_pavt\_and\_Topsoil.inp” in a text editor (Notepad, etc). NOTE: There is A LOT of text in this file and it will not run if there is a typo….and it could be difficult to find, so be careful changing only what you want to.
2. Near the top of the file, change the value to the right of “define “profile 1”” to the profile used in step 4 of the SHAPE FILE STEPS (only one location to change).
3. A few lines below this, change the value to the right of “define “chain 1”” to the horizontal alignment used in step 3 of the SHAPE FILE STEPS (only one location to change). NOTE the chain and profile need to match exactly what was used in the above steps and exist in the gpk in order for the cross sections to process.
4. Change the value to the right of “define "job"” to the 3 digit gpk file name used in step 2 of the SHAPE FILE STEPS (only one location to change).
5. Change the value to the right of “define "pattern file"” to the directory and filename of “SSIJN\_pat\_shape.dgn” created in the Step 1 (of the first list).
6. Change the value to the right of “define "shape file"” to the directory and filename of “SSIJN\_pat\_shape.dgn” created in the Step 1 (of the first list).
7. Change the value to the right of “define "EXISTING TOPO DGN"” to the directory and filename of “SSIJN\_ex\_pavt\_lines.dgn” created in the Step 2 (of the first list).
8. Change the value to the right of “define "xs file"” to the directory and filename of cross section file created in the Step 3 (of the first list). NOTE, as previously stated, this can be the same file for all of the roadway OR different files for each roadway.
9. Scroll down some more, just below “tolerance = 0.00100000”. Verify that just below the “xs dgn” area the names listed to the right of “lvname = ” matches the existing ground level names you used to cut the sections. It has to match EXACTLY…if not, nothing will happen. If you have more than one level, use a comma to separate the names.
10. Scroll down a little more to the “Pattern dgn” area. Verify that the value listed to the right of “lvname = “ matches the level of the pattern lines for this roadway. Also do the same for the color, which is to the right of “co = “.
11. Open the “C:\criteria\other\_input\_variables.tmb” file in a text editor (notepad, etc) and change the values to the right of “\_d\_pavement\_removal\_depth =” to the depth of existing pavement in feet. Also change the value to the right of “\_d\_topsoil\_stripping\_depth = “ to the depth of existing topsoil you want for this roadway. Save the file again (do NOT move it to a different directory or rename it, as it looks for this file each time). NOTE: These values could change for each roadway, so you may have to repeat it.
12. Click the “Run cross sections” too in Microstation (Icon with the person running on it in the same location as the cross section navigator and shape manager tools). Select the “SSI\_draw\_existing\_pavt\_and\_Topsoil.inp” as the input file name (should be in the same directory that it initially browses for if you put it where the gpk file is). Only check the “disable view update” box and hit apply. If the file does NOT process, then check “pause on each section” and hit apply again and you should see an error message to help troubleshoot.
13. Repeat steps 2, 3, 8 (if cross sections are In a different file for each roadway), 10, 11 and 12 for each roadway you need to generate existing pavement/topsoil for. Similar to running the shape files at the same time, it is probably best to run these all at the same time because you know exactly what to change…although you do not have to.