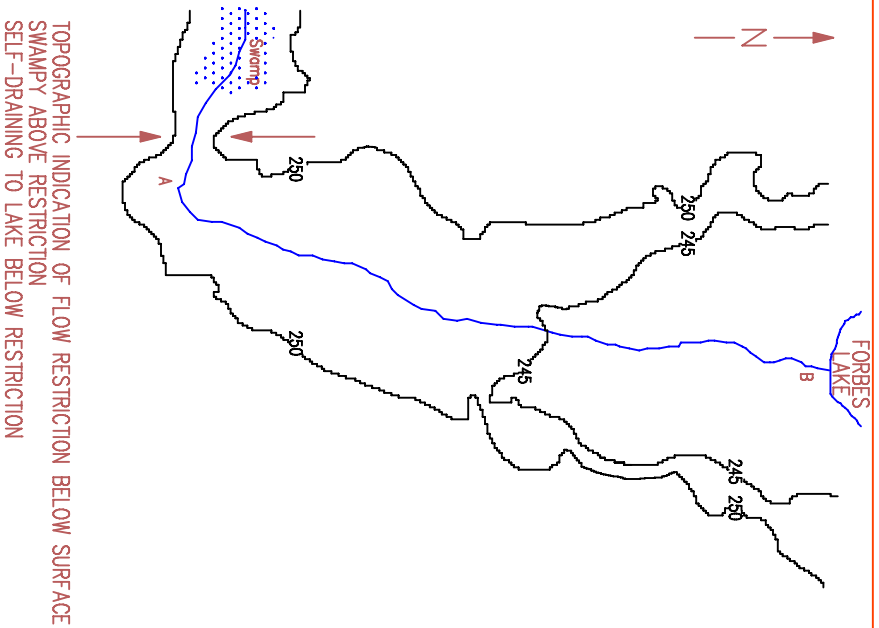
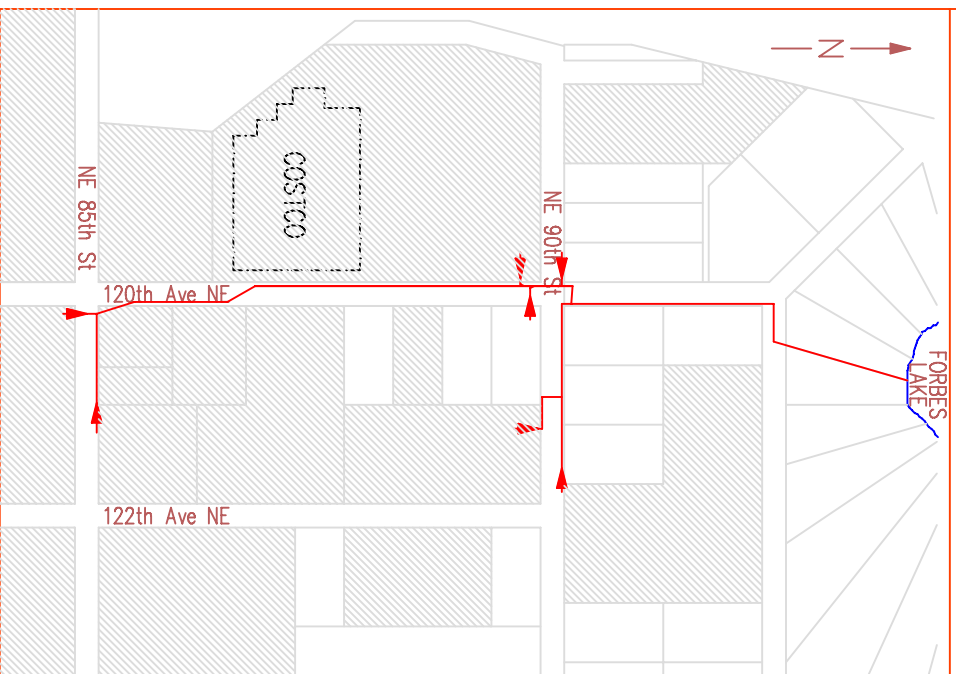


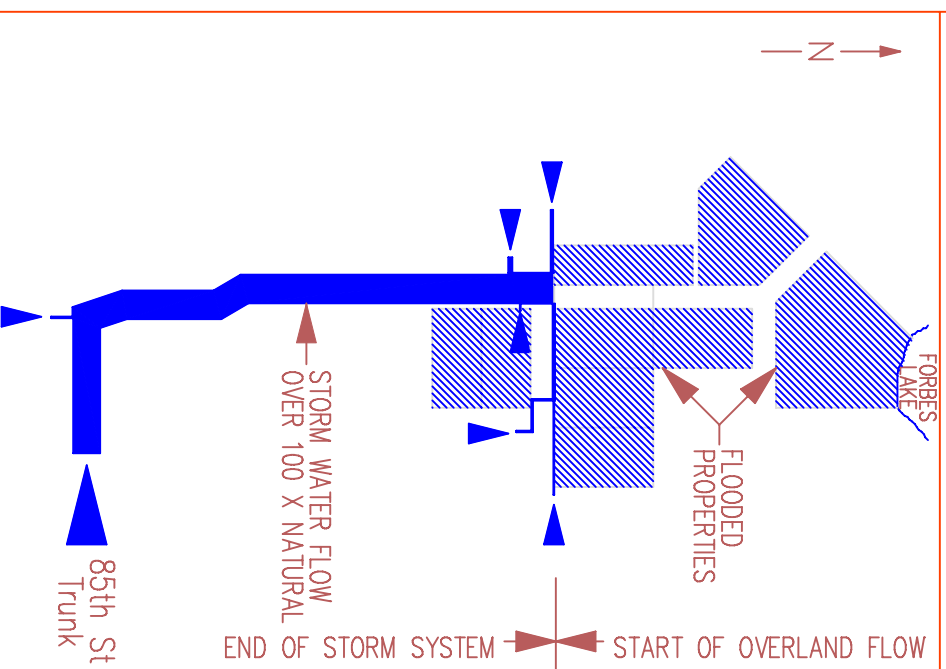
NATURAL HYDROLOGY



ADD ASPHALT



STORM-WATER HYDROLOGY



The left panel shows the original hydrology and the right panel shows how runoff has increased due to the asphalt shown in the middle panel. Asphalt prevents rainwater from seeping into the soils to become ground water. Not only does the overall flow increase but it comes all at once. Water that in the past never made it to Forbes Lake due to evaporation and transpiration now flashes off and the peak flow is over hundred times larger than in the past as indicated by the difference in line width of the stream in the left panel and the the storm-water flow in the right panel. The properties from near NE 90th street and towards Forbes Lake are flooded because the storm water channel to Forbes Lake has filled with sediment and water must find new routes overland.

ILLUSTRATION IN SUPPORT OF NIENABER'S BEFORE-AND-AFTER PHOTOS