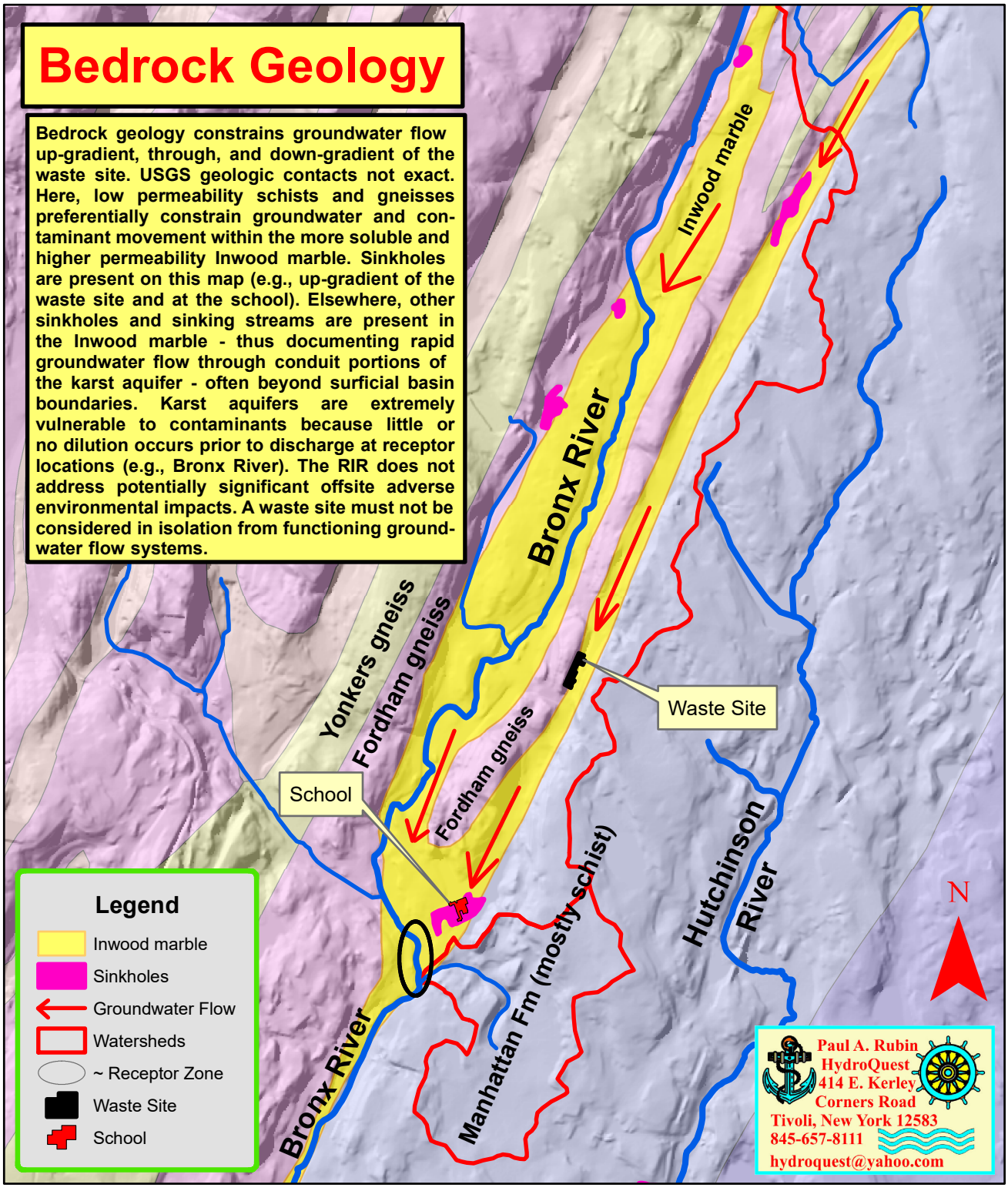
Bedrock Geology
Bedrock geology constrains groundwater flow up-gradient, through, and down-gradient of the waste site. USGS geologic contacts not exact. Here, low permeability schists and gneisses preferentially constrain groundwater and contaminant movement within the more soluble and higher permeability Inwood marble. Sinkholes are present on this map (e.g., up-gradient of the waste site and at the school). Elsewhere, other sinkholes and sinking streams are present in the Inwood marble - thus documenting rapid groundwater flow through conduit portions of the karst aquifer - often beyond surficial basin boundaries. Karst aquifers are extremely vulnerable to contaminants because little or no dilution occurs prior to discharge at receptor locations (e.g., Bronx River). The RIR does not address potentially significant offsite adverse environmental impacts. A waste site must not be considered in isolation from functioning groundwater flow systems.
Inwood marble
Bronx River
Yonkers gneiss
Fordham gneiss
Fordham gneiss
Waste Site
School
Hutchinson River
Manhattan Fm (mostly schist)
Bronx River
Legend
Inwood marble
Sinkholes
Groundwater Flow
Watersheds
~ Receptor Zone
Waste Site
School
N
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0 0.25 0.5 1 1.5 2

Figure 3