

2022
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS
MILTON F. LUNCH ETHICS CONTEST

Ethical Issue #2: Climate Change/Flooding

Facts:

Engineer A is a consulting engineer representing Client B, a developer who is proposing to develop a health care facility that requires a significant upgrade to the property's access road that crosses a tidal saltmarsh. Engineer A's scope includes design and local permitting of the roadway, including an upgrade of the tidal crossing from a small culvert to a small bridge, increasing its hydraulic capacity. Local development regulations require design to accommodate a 25-year fresh water storm, and assume that future weather conditions will be consistent with updated historical data. The local development regulations and national design codes and standards have not yet been updated to reflect changing conditions and weather patterns, including effects of sea level rise and changes in precipitation intensities and recurrence intervals effected by on-going climate change. It is Engineer A's judgment, based on hydraulic evaluation procedures presented at a recent transportation agency conference, that the proposed project may result in some upstream homes becoming uninhabitable a decade or more earlier than would otherwise be the case. Engineer A proposes a complex and costly hydrologic and hydraulic analysis by a specialized subconsultant to predict the extent to which sea level rise and the increased hydraulic capacity of the tidal crossing will result in flood damage to a neighborhood of twenty upstream homes during future high tides and storm surges, anticipating this to be a difficult question to answer in the project's public hearings. Client B directs Engineer A to proceed without the costly analysis unless and until such an analysis is requested by the applicable regulatory authorities.

Questions:

1. Does Engineer A have an ethical obligation to address or evaluate the impacts of a project on public health, safety, and welfare with respect to climate change induced conditions that have not yet occurred?

2. In this set of circumstances, what are Engineer A's reasonable courses of action with respect to engineering ethics?