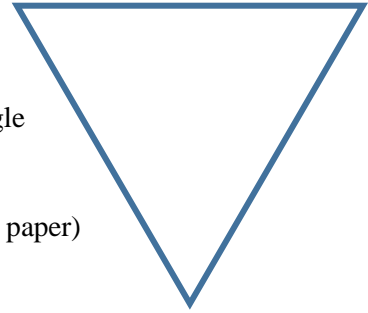


## Statics Paper – Organization Outline



- I. Introduction
  - a. Think of the ideas of your intro like an upside down triangle
    - i. Start broad, then bring the focus in
    - ii. Good potential location to reference Petroski
    - iii. Last sentence should be THESIS (setup for whole paper)
- II. Narrative
  - a. Tell your audience what happened, in your own words
  - b. Dates, events leading up to collapse, collapse itself
  - c. Should be in “story” form – don’t need to dive into statics concepts yet
- III. Design
  - a. In order to know how the structure failed, we need to know how it was built
  - b. Good place to potentially include a figure (especially if the structure is complex)
  - c. Depending on the structure, may need to start statics discussion here or combine with IV
- IV. Statics concepts
  - a. What was wrong about the structure that led to its failure?
  - b. Good concepts to keep in mind – others will apply too, this is just a good place to start
    - i. Balance of forces/Equilibrium
    - ii. Trusses
      1. Tension
      2. Compression
    - iii. Moments
    - iv. Statically determinate/indeterminate members
  - c. Remember! If you introduce a statics concept, you have to define and explain it for a general audience
    - i. Think about giving this paper to a business major – would they understand your explanation about what is happening?
  - d. Good place to potentially include a figure
- V. Ethics
  - a. If there were flaws in the design, what was the cause? What things took priority over public safety?
    - i. A specific person or company
    - ii. Budget
    - iii. Time
    - iv. Neglect (failed inspections, etc...)
    - v. & MORE!
  - b. If you cannot find a definite cause, can you make logical connections or assumptions to help establish a potential ethical issue?
  - c. Great place to reference the NSPE
    - i. Optional, but it really strengthens your ethical analysis
  - d. Good potential location to reference Petroski

VI. Conclusion

- a. Think of the ideas of your conclusion like an right-side up triangle
  - i. Recap the main ideas of your paper
  - ii. Bring the focus back out to the responsibilities all engineers face
    1. What should/must engineers do?
  - iii. Good potential location to reference Petroski
  - iv. Think about the big picture – what are the takeaways from this?

