

To: File

From: Steel Bridge Team

Date: October 13, 2016

Re: TA meeting #2

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Date of Meeting: October 13, 2016

Time Start: 5:30pm

Time End: 6:45pm

Attendees: Sabrina Ballard, Sean Hopper, Ryan Morofsky, Meg Stevens, Thomas Nelson (via Skype)

Topics Discussed:

- Problems with RISA model
  - Decking support tube
    - Look at where it is connecting
  - Check buckling for composite mini truss member
    - Replace “r” with radius of entire section
  - Put lateral bracing on top
    - Will help decrease the unbraced length
- Overview of shell model
  - Outline plate with rigid links
  - Locate bolt holes
  - Define plate size
  - Split rigid links at locations of plates
  - Delete rigid links
  - Delete holes where cut-out will be
  - Auto-mesh
  - Use polar grid to draw nodes for bolt hole
  - Delete plates in hole
- Connection analysis
  - Find moment by multiplying force by distance
  - Put forces in tubes and reaction at bolt

Action Items:

Sabrina – update RISA model with fixes from Tommy

Meg – begin shell model

Ryan – Connection hand calculations

Sean – Create mock up connection

To: File

From: Steel Bridge Team

Date: October 27, 2016

Re: TA meeting #3

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Date of Meeting: October 27, 2016

Time Start: 5:30pm

Time End: 6:20pm

Attendees: Sabrina Ballard, Sean Hopper, Ryan Morofsky, Meg Stevens, Thomas Nelson (via Skype)

Topics Discussed:

- RISA model
  - Find deflections with bridge modeled as pin-pin and pin-roller because real condition will be somewhere in between
  - Friction of the baseplate will need to withstand the horizontal reaction
  - Right now, 600 lb horizontal load, which is way too high
- Connection Capacity
  - Need to check moment capacity at bolt cross section and at slot cross section
  - Treat plate as a beam
    - Calculate beam deflection under a point load

Action Items:

Sabrina –RISA: model bridge as pin-pin & pin-roller, work on decreasing horizontal reaction

Meg – work on RISA models to decrease horizontal reaction

Ryan – work on RISA models to decrease horizontal reaction

Sean – Create mock up connection (male joint)

To: File

From: Steel Bridge Team

Date: November 10, 2016

Re: TA meeting #4

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Date of Meeting: November 10, 2016

Time Start: 5:30pm

Time End: 6:30pm

Attendees: Sabrina Ballard, Sean Hopper, Ryan Morofsky, Meg Stevens, Thomas Nelson

Topics Discussed:

- RISA model
  - Legs of bridge leaning to the right
    - Make symmetric
    - Make bridge centered over legs
  - Review members with fixity issues
    - Make pin-pin instead of fixed-fixed
    - Members with fixity issues:
      - M815A
      - M983
      - M972A
      - M977
      - M922B
      - M959B
      - M959A
      - M960A
  - Load factor=1
    - Weight of grate already taken into account and loads increased by 20%
  - Yield strength=50ksi
    - Make sure we can get this
  - Global model settings
    - Codes
    - Adjust stiffness= no

Action Items:

Sabrina – Update fixities, and global model settings in RISA

Meg – Shell model

Ryan – leg members in RISA

Sean – AutoCAD drawings for plates

To: File

From: Steel Bridge Team

Date: January 20, 2017

Re: TA meeting #5

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Date of Meeting: January 20, 2017

Attendees: Sabrina Ballard, Sean Hopper, Ryan Morofsky, Meg Stevens, Thomas Nelson (via email)

Topics Discussed:

- Updated RISA file
- Updated substructure
  - Seems simpler and more efficient
- Updated AutoCAD drawings
  - Not showing weld symbols
  - Still need to add scale bars
- Fabrication
  - Will be starting this week
  - Send update photos to Tommy

Action Items:

Sabrina – Fabrication updates to Tommy

Meg – Add scale bars

Ryan – Print fabrication schedule

Sean – Print fabrication plans

To: File

From: Steel Bridge Team

Date: January 24, 2017

Re: TA meeting #6

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Date of Meeting: January 24, 2017

Time Start: 2:53pm

Time End: 3:00pm

Attendees: Sabrina Ballard, Sean Hopper, Ryan Morofsky, Meg Stevens, Thomas Nelson (via email)

Topics Discussed:

- Fabrication Update
  - Bending mini trusses
  - Photo of jig sent
  - Photo of bent rod sent
- Analysis question
  - How to analyze rod when it is bent
  - Tommy sent sketch on how to analyze
  - Additional moment created in bend

Action Items:

All - fabrication

To: File

From: Steel Bridge Team

Date: February 10, 2017

Re: TA meeting #7

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Date of Meeting: February 10, 2017

Attendees: Sabrina Ballard, Sean Hopper, Ryan Morofsky, Meg Stevens, Thomas Nelson (via email)

Topics Discussed:

- Fabrication Update
  - Working on predicting potential issues
- Foundation connection
  - 2 bolts or 4
  - Not recommend offsetting bolts
    - Will make it want to twist
  - 2 bolts will be okay with the kicker
    - Kicker will make it stay at 90 degree angle
    - If not rigid enough when done fabricating, add one additional bolt on each side

Action Items:

All - fabrication

To: File

From: Steel Bridge Team

Date: March 7, 2017

Re: TA meeting #8

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Date of Meeting: March 7, 2017

Attendees: Sabrina Ballard, Sean Hopper, Ryan Morofsky, Meg Stevens, Thomas Nelson (via email)

Topics Discussed:

- Fabrication Update
  - Laser cut plates vs precision cut plates
  - Pictures sent of fabricated members
    - Plates
    - Lateral braces
    - Mini-trusses
    - Zinc coating
- Fabrication hours
  - About 150 hours each so far

Action Items:

All - fabrication