

**NEW ENGLAND TRANSPORTATION CONSORTIUM
QUARTERLY PROJECT PROGRESS REPORT**

A. PROJECT NUMBER AND TITLE:

NETC 19-1: Curved Integral Abutment Bridge Design Study

B. PRINCIPAL INVESTIGATOR(S) & UNIVERSITY(S):

WSP USA Inc. & University of New Hampshire

C. WEB SITE ADDRESS (If one exists):

NA

D. START DATE (Per NETC Agreement):

2/12/2020

E. END DATE (Per NETC Agreement):

6/30/2022

F. ANTICIPATED COMPLETION DATE:

6/30/2022

*If different from the END DATE in paragraph E., the reason must be given. It is the responsibility of the Principal Investigator to ensure that the project, including review of the draft report by the Project Technical Committee and the printing of the Final Report, is completed prior to the Agreement End Date. Costs incurred after the Agreement End Date cannot be reimbursed. **Requests for extensions of the Agreement End Date must contain the reasons for the request and be submitted so as to arrive in the Coordinator's office at least 90 days prior to the Agreement End Date.***

G. PROJECT OBJECTIVES:

This project's objective is to develop guidelines for the designing of Curved Integral Abutment Bridges. These guidelines should provide recommendations for span length, total bridge length, and degree of curvature and skew, with modeling recommendations for designs that are consistent with current AASHTO LRFD Bridge Design Specifications.

H. REPORT PERIOD:

Quarter 1 2021 (January – March)

I. ACCOMPLISHMENTS THIS PERIOD:

Task 1:

Completed:

- Literature Review has been submitted 1/13/21.

Task 2:

Work in Progress:

- Model Validations

- Finalize initial base model
- Checking of the six base superstructure wizards
- Coding and master sheet for iterative model substructure command text
- Development of construction stage sequencing code
- A memo was delivered to the technical committee to ask for an alternative modeling procedure utilizing a 2D beam element including warping stresses as opposed to the 3D superstructure elements. After some letter correspondence and a brief discussion, this method was approved by the committee.

J. PROBLEMS ENCOUNTERED (If any):

None

K. TECHNOLOGY TRANSFER ACTIVITIES: *List any reports, papers, presentations published/presented during the report period or anticipated for the next quarter.*

Nothing at this time.

L. STATUS BY TASK: *Show Work Task Number, description and % complete for each task including those completed, those underway, and those not started.*

0	Project Management	60%
1	Review of Existing Structures	100%
2	Finite Element Studies	20%
3	Design Guidelines	0%
4	Draft Final Report/Presentation	0%
5	Final Report	0%

M. PERCENT COMPLETION OF TOTAL PROJECT: 29%

N. ACTIVITIES PLANNED FOR NEXT QUARTER:

Complete QC of Base Finite Element Model, wizards, and coding sheets
Begin mass production of iterative models

O. FINANCIAL STATUS:

As of: 4/9/2021

Total Project Budget: \$151,315.47

Total Expenditures : approx. \$51,000

Note: This report should not require more than 2-3 pages & should be e-mailed to the NETC Coordinator so as to arrive no later than ten (10) working days after the end of each calendar quarter.