ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE

EXAMINER´S ASSESSMENT OF MASTER THESIS

I. IDENTIFICATION

Thesis Title:	**Load rating of the stone arch bridge at Poniklá using 2D and 3D models**
Author´s Name:	**Lucy Jane Davis**
Thesis Type:	Master
Faculty:	Faculty of Civil Engineering
Department:	Department of Mechanics
Thesis Supervisor:	doc. Ing. Petr Fajman, CSc., prof. Ing. Petr Řeřicha, DrSc.
Thesis Examiner:	doc. Ing. Roman Šafář, Ph.D., Faculty of Civil Engineering of CTU in Prague

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	**exacting**
The diploma thesis includes a survey of assessment methods for determination of a load-bearing capacity of masonry arch bridges, preparation and use of several calculation models (2D, 3D, linear and non-linear, various material properties, various number of spans) of the bridge at Poniklá and a comparision of their results. The assignment was exacting.	

Fulfilling of Assignment	**fulfilled**
The assignment was completely fulfilled.	

Used methods	**A - excelent**
The methods used in the master thesis are correct.	

Professional Level	**A - excelent**
Professional level of the master thesis is very high.	

Arrangement and Extent of Thesis	**A - excelent**
The master thesis is logically arranged and contains a high number of diagrams and tables with the used data and obtained results. Extent of the thesis is large.	

Other Commentaries and Evaluation
-

III. FINAL EVALUATION

In the first part, the master thesis includes a survey of methods for determination of a load-bearing capacity of masonry vaulted bridges. In other parts, the thesis includes calculations made with various calculation models and comparation of their results. The thesis is very well done. I have just a few smaller remarks:

- within the methods and standards for determination of a load-bearing capacity of bridges, it would be convenient to mention also a Czech standard ČSN 73 6222,
- p. 24: is it possible to say the value of the compressive strength of the sandstone itself?,
- p. 30, fig. 13: piers and their foundations are probably a little deeper below the ground level,

- p. 36: could you please explain, how the values of LC2 (52,6 kN) and LC3 (4,02 kN/m) were determined?,
- could you please principally explain, how the results would be influenced, if vertical as well as horizontal supports in the calculation models were considered as „elastic“ („spring supports“)?

I propose a final evaluation of the master thesis: **A - excelent**

Date: 19.7.2021 Signature: