

Vineeth Mylavarapu

MTech, Engineer

CAREER SUMMARY

Technically accomplished bridge engineer with about 4 years and 4 months of experience in the Design and Assessment of Reinforced Concrete, Prestressed Concrete, Steel and Steel Composite Bridges. Working with Fehmarn Belt (FLC), HS2, Network Rail, and various county clients for the design and assessment of bridges.

Skilled in VBA, Python (Basic), JAVA, MIDAS Civil, LUSAS (including basic LPI), Autodesk Structural Bridge Design (ASBD), SuperSUITE, Staad-Pro, Archie-M, Hilti PROFIS, TEDDS, and Auto CAD. Conversant with Eurocodes, BS, DMRB, CIRIA, PD and Network Rail Standards.

Carried out assessments for CAT0, CAT1, and CAT2 structures as per DMRB codes and various Level 1 and Level 2 structures as per NR codes.

Prepared General inspection reports, Principal inspection reports, Road vehicle incursion reports, and Approval in Principal reports for various counties.



4 years+ experience, 4 years+ with WSP

Area of expertise

Bridges, Civil Structures, Asset Management

EDUCATION

Master of Technology, Structural Engineering, MSRIT, India	2019
Bachelor of Engineering, Civil Engineering, VRSEC, India	2017

PROFESSIONAL MEMBERSHIPS

Graduate Member of the Institution of Structural Engineers	2020 - Present
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PROFESSIONAL HISTORY

Engineer, WSP India (UK)	2023 - Present
Assistant Engineer, WSP India (UK)	2021 - 2023
Graduate Engineer, WSP India (UK)	2019 - 2021

PUBLICATIONS AND PRESENTATIONS

Publications

- Design concepts of pre-stressed balanced cantilever segmental bridge, International Journal of Architectural Design and Management, Vol. 2: Issue 1, 2019.
- A Parametric study on Cost Optimization of Reinforced Concrete Abutment using Genetic Algorithm, Canadian Journal of Civil Engineering, 2022.

Presentations

- Presented a research paper titled "Design concepts of pre-stressed balanced cantilever segmental bridge" for the international conference ICRAES-2018 held at MSRIT, Bangalore.

PROFESSIONAL EXPERIENCE

International Rail - Bridges

FLC, Fehmarn Belt Fixed Link Immersed Tunnel, UK (2021 - Present)

Fehmarn Belt Fixed Link is an immersed tunnel connecting Danish Island with German island over a stretch of 15km. WSP is assigned as a CAT3 checker. I have taken the responsibility to perform the checks related to the transverse and longitudinal reinforcements of the tunnel and develop the scripts in VBA and Python to automate the check flow wherever possible.

UK Rail - Bridges

HS2 – M42 Box, UK, 2023

Carried out dynamic analysis for the high-speed rail loading for the M42 Box bridge in accordance with Eurocodes.

Network Rail, CAFA CP6 National Lot 2 Kent & Sussex – Barrington Road, UK, 2022

This is a Level 2 assessment. The structure is a single span under bridge which comprises of 3No. longitudinal welded plate main girders. Assessment is carried out in accordance with NR codes. A shell model was created in LUSAS and performed a Geometric and material nonlinear analysis.

Network Rail, CAFA CP6 National Lot 1 Anglia – Burdett Road, UK, 2022

This is a Level 2 assessment. The structure is a single span under bridge which comprises of 2No. longitudinal welded plate main girders in half-through format. Assessment is carried out in accordance with NR codes. A shell model was created in LUSAS and performed a Geometric and material nonlinear analysis.

Network Rail, DSF-NR-Western Route-Design PKG A- Drynham Cill Beam design (Cill Beam replacement), UK, 2021

The structure consists of longitudinal troughing which carries the railway loading. Cill beam was analysed and designed in accordance with Eurocodes and NR standards.

Network Rail, DSF-NR-Western Route-Design PKG 9-Avon Bridge strengthening works, UK, 2020

A Level 1 assessment was carried out to design the strengthening works. The structure is a four span under bridge which comprises steel girders and transverse troughing. Assessment and strengthening works are carried out in accordance with NR codes.

Network Rail, DSF-NR-Western Route-Design PKG A, 7, 9, 14, UK, 2020

I was involved in designing the strengthening works for various steel and masonry structures and coordinated with CAD technicians to prepare the detailed design drawings as per NR Standards.

Network Rail, DSF-NR-Western Route-Design PKG 9- Trowbridge design (Deck replacement), UK, 2020

The proposed deck is a steel-concrete composite structure which comprises 3 steel girders spanning longitudinally and reinforced concrete slab spanning transversely. The structure carries highway loading and is designed in accordance with Eurocodes.

Network Rail, C1I-BFB 5m 8ch Freshford UB, UK, 2020.

This is a level 1 assessment. The structure is a multi-span masonry arch under bridge. Assessment is carried out in accordance with DMRB and NR standards.

Network Rail, CAFA LNW CP6 Yr1-B1-DCL-147, UK, 2019.

This is a Level 1 assessment. The structure is a single span under bridge which comprises of 10 number prestressed concrete beams. Assessment is carried out in accordance with DMRB and NR codes.

UK Highway – Bridges

Newlands Footbridge Parapet Replacement CAT2 check, UK, 2021

This is a steel parapet which consists of rails and posts. It was analysed based on the guidelines given in CD377 and BS 7817 and designed using Eurocodes.

Fairoak bridge CAT2 check, UK, 2020.

This is a CAT2 structure. The structure is a single span which consists of encased steel beams. It carries highway loading. Assessment is carried out in accordance with DMRB and BS standards.

Fairground bridge, NCC 2019-20 Assessments, UK, 2020.

This is a CAT2 structure. The structure is a single span over bridge. It comprises of two decks (original and extension). The original deck consists of steel 'I' beams and jack arches supporting concrete infill. The extension deck consists of steel 'I' beams with reinforced concrete infill. The assessment is being carried out in accordance with DMRB and BS codes along with detailed report.

Pigeon hill bridge, NCC 2019-20 Assessment, UK, 2019.

This is a CAT0 structure. The structure is a reinforced concrete slab culvert which carries highway loads. Assessment is carried out in accordance with DMRB and BS standards along with preparation of detailed report.

Cappenhams bridge, NCC 2019-20 Assessment, UK, 2019.

This is a CAT1 structure. The structure is a multi-span masonry arch over bridge. Assessment is carried out in accordance with DMRB codes along with a detailed report.

Lisson Grove NE Pile Design, London, UK, 2019.

Design of reinforced concrete piles in accordance to Eurocode and preparation of detailed report.

Hard water lane, NCC 2019-20 Assessment, UK, 2019.

This is a CAT1 structure. The structure is a reinforced concrete box culvert which carries highway loads. Assessment is carried out in accordance with DMRB and BS standards along with preparation of a detailed report.

UK Civil - Bridges

Caerphilly CBC PI reports, UK, 2021

Preparing various PI reports for Caerphilly CBC.

Larkfield Curve to East Kilbride Electrification (LEKE), UK, 2020

Prepared various Road Vehicle Incursion (RVI) reports and derailment reports.

South Wales Trunk Road Agent (SWTRA) PI Reports, UK, 2020

Prepared various PI reports on concrete structures for South Wales Trunk Road Agent.

K Port Foundation Design, UK, 2019.

Analysis and Design of reinforced concrete spread foundation for a K port Charging hub. Design was carried out in accordance with Eurocodes.

Norfolk County Council (NCC) PI Reports UK, 2019.

Prepared various PI reports on steel, concrete and masonry structures for Norfolk County Council