

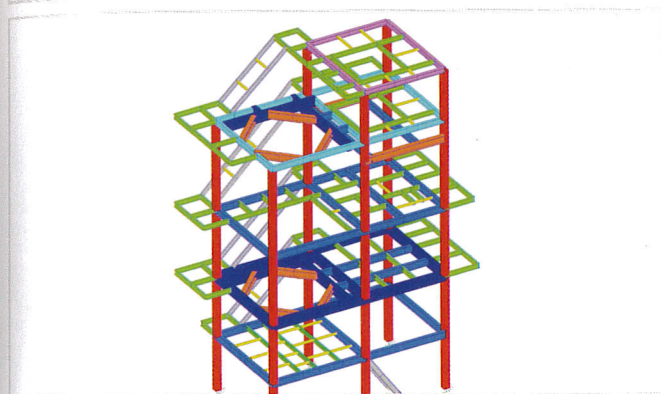
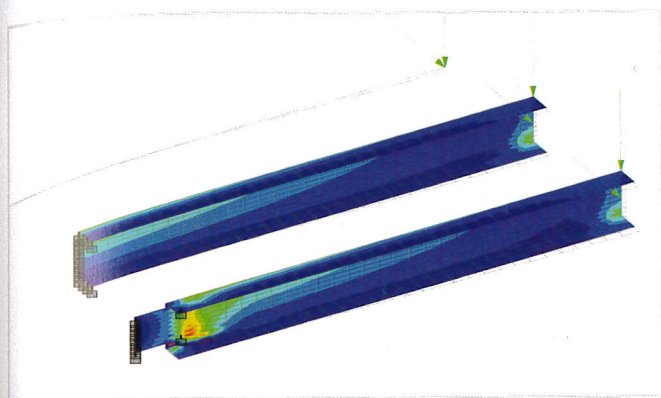


# 2017 INFRASTRUCTURE YEARBOOK

THE EXTRAORDINARY INFRASTRUCTURE  
PROJECTS OF THE 2017 *BE INSPIRED* AWARDS







## Neutral Design Co., Ltd.

Seismic Diagnosis and Reinforced Design  
Saitama Prefecture, Japan

Neutral Design provided the third-party verification of a completed plant's structural safety prior to it commencing operations. Located in Saitama Prefecture in the Kanto region of Honshu Island, the local government owns the environmental plant. The scope of work for this JPY 300 million project included design of the steel structure reinforcements and verifying the safety of the temporary construction work involving reinforced concrete.

STAAD.Pro enabled the project team to run numerous simulations until the optimal reinforcement method was found. This capability significantly reduced the volume of steel used. The project team also considered the workability of the solution and selected a reinforcement method that featured advanced industrial design. Using Bentley software shortened design time by 50 percent and reduced reinforcement costs by 80 percent.

**Project Playbook: STAAD.Pro**



## ReNew Power

PV Mounting Structure to Cover Carports at Delhi  
Metro Stations  
New Delhi, Delhi, India

A solar power project that will generate clean energy and reduce carbon emissions transpired because of a power purchase agreement between ReNew Power and Delhi Metro Rail Corporation (DMRC). The idea was to mount photovoltaic (PV) modules on top of carports at DMRC metro stations. Designed and installed by ReNew Power, the project cost INR 10 million per megawatt of electricity generated.

The PV module design met three requirements: withstand wind speeds of up to 170 kilometers per hour, resist forces within the seismic zone, and utilize the space covering metro station carports. STAAD.Pro helped the team develop an efficient, cost-effective design, and calculations took less time than if they were conducted manually. The PV module mounting structure served the dual purpose of shielding cars from the sun's rays and producing clean energy. **Project Playbook: STAAD.Pro**





# CERTIFICATE OF ACHIEVEMENT

PRESENTED TO

**Seismic Diagnosis and  
Reinforced Design**



Outstanding achievement  
as a NOMINEE in the  
2017 Be Inspired Awards

**Neutral Design**

Greg Bentley, CEO, Bentley Systems, Incorporated

