



Grandview High School, Aurora, Colorado

EnCon Renew acted as a general contractor providing concrete structural repair, reconstruction, and enhancement services to Grandview High School's entrance bridge as a measure to refurbish damage caused to a double tee and internal steel reinforcement. Exposure to repeated deicing, salts, moisture, and freeze thaw cycles created expansion and contraction over time. These constant cycles caused divarication of the double tee, and eventually led to cracking and deterioration, and potential failure. Constant movement on the concrete caused quicker erosion of the bearing area, which can be a life safety issue.

The double tee repair and restoration was comprised of installation of new steel rebar reinforcement, concrete forming, and new concrete application and patching to fix the damaged double tee areas, and to fill in broken and missing pieces. EnCon Field Services provided all project management, concrete manufacturing, and installation work for the Grandview High School repair project.

Project Facts:

Market Segment: Education
Building Type: Entrance Bridge
Products Used: Forming, concrete and steel rebar reinforcement

Project Design Team:

Owner: Cherry Creek School District,
Greenwood Village, CO
Engineer: EnCon Design, LLC
General Contractor: EnCon Renew

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It can be seen that there is significant deterioration of both support elements.



Long term exposure to deicing salts, moisture, and freeze thaw cycles causes concrete to become brittle, soft, and crack prone.



Before repair the concrete surface is prepared. This process includes removing damaged concrete and installing new steel reinforcement, and the application of corrosion inhibiting bonding agent.



Forming pieces are installed to pour the new double tee stem with a high strength non-shrink grout. The new double tee leg is shown after pouring. The concrete area is then cleaned, patched, and finished.

