

LINK Light Rail S700 Aerial Structures

Seattle, Washington

Owner: Sound Transit

Description: INCA Engineers, Inc., A Tetra Tech Company (INCA) provided final design services for LINK Light Rail Section S700: International District to Royal Brougham to the West Beacon Hill Tunnel. INCA was responsible for final structural design services for this light rail alignment, including aerial structures, transition structures, and embedded and direct fixation track slabs. This \$55-million project was the first section of Sound Transit's LINK light rail corridor to go to final design.

The project included many challenges such as:

- ▶ Drilled shaft foundations in poor soils with high seismic forces and stringent two-level design criteria.
- ▶ Complex track work loads with numerous turn-outs and complex geometry.
- ▶ Compressed schedules, tight budgets, multiple jurisdictions, and coordination with several active project teams.

INCA dealt with these challenges using senior experienced engineers and by working closely with the geotechnical team, architects, traffic engineers, and systems consultants. This close and proactive coordination, which included co-locating with the client's staff, saved roughly six months of potential schedule delays.

Sound Transit commented that, of all the structural consultants working for them, INCA showed a superior understanding of the design criteria and seismic design requirements. INCA provided engineering support during construction for the project (C700/ C710), including shop drawing reviews, RFIs, and on-call structural inspections. INCA continues to provide on-call specialty review, analysis, and consulting advice to Sound Transit for other LINK segments.

