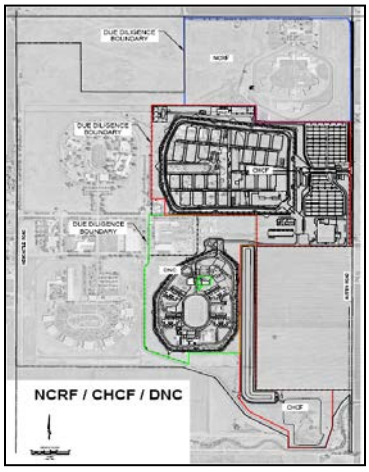
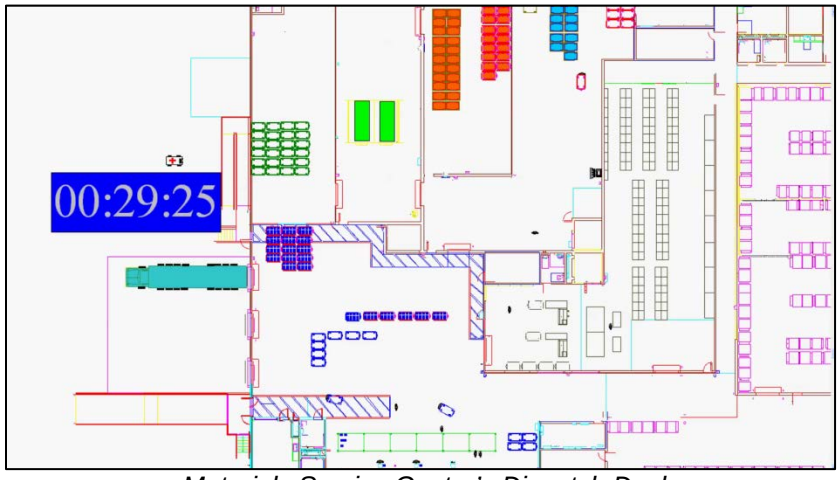
California Health Care Facility Materials Handling Simulation



CHCF Campus Site Plan



Materials Service Center's Dispatch Dock

Client Name: Lerch Bates
Date Started: 2011 **Date Completed:** 2012

TransSolutions served as the simulation consultant to the HOK Architect team and Granite – Hensel Phelps Design Build team retained to develop the site and unsecured facilities to serve the California Health Care Facility (CHCF), operated by the California State Department of Corrections and Rehabilitation (CDCR), designed to provide sub acute medical and mental health care for CDCR inmates.

The 1.2 million square foot facility will provide 1,734 beds, including specialized housing, necessary health care diagnostic and treatment centers, and other medical and mental health-related support and rehabilitation program spaces. The warehouse and materials packing and distribution system provides for the secure transfer of food, medical supplies, linen and waste between the non-secure warehouse operation and the secure health care facilities. The computer simulation model includes vendor receiving and break-out, warehousing, restocking and replenishment of material, totes and carts assembly and dispatch, truck and tug travel through the secure sally ports, and distribution to the material unit transfer (MUT) buildings and the housing unit (HUT) buildings. Similarly the model includes the return of unused supplies, soiled linen and various waste streams.

The purpose of the simulation model was to validate the proposed operation and facilities design and capacity for the CDCR. The model provided important performance metrics including staffing requirements by time of day, totes and carts assembly cycle-time, cart occupancies, and material handling equipment requirements. The simulation model identified the areas which needed improvements in staffing levels or building capacity and served as a tool to examine multiple strategies in improving the system performance. The model output was used to evaluate opportunities to cross-utilize staff to achieve manpower savings, effectiveness of sally port operations and to demonstrate that the overall capacity and size of individual systems and operational areas were adequate to serve the facility mission.