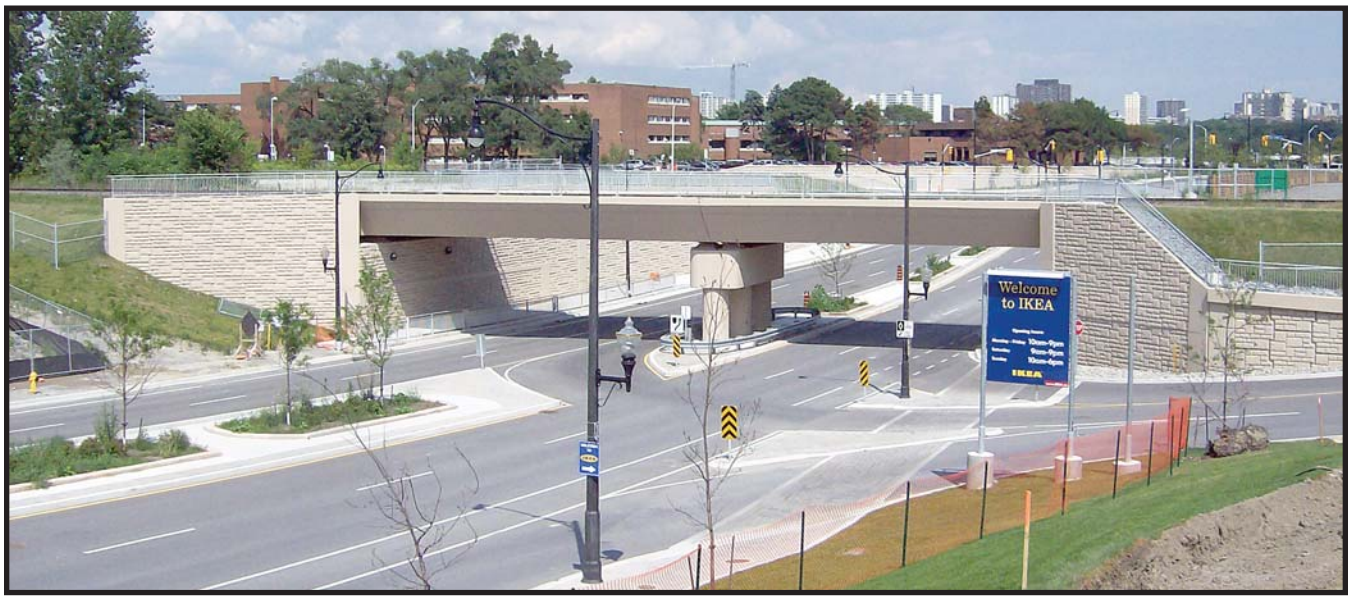
RECO NEWS
VOLUME 9: ISSUE 2
The Reinforced Earth Company

Esther Shiner Blvd Grade Separation

CN line Leslie and Sheppard Avenue North York Ontario



A land development located at Sheppard Avenue and Leslie Street in North York Ontario included some significant components such as new road underpass and residential buildings. One of the features local Governments required was to minimize environmental impact and a means of doing this was to re-use materials from the existing facility. The MSE design was supplemented with test materials and construction methodology to allow future assessment of the performance of the soil reinforcement in the re-cycled concrete backfill environment. By using this type of backfill the developer realized savings to the project as there was not the need to remove waste backfill and import new backfill.

The development required a series of new roads in the block of land to connect with existing network of roads in the area. One of the roads was Ester Shiner Blvd which was to run under an existing railway tracks, this required a grade separation along with adjoining retaining walls. Part of the constraints was to take out a ramp to an existing business during construction and to be re-installed with no net loss of parking

Property constraints limited the use of slopes for the underpass and MSE walls were selected for earth retention where space did not

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What's inside

RECo Reacts:

A Speedy Wall Repair Restores Rail Service

On January 16, 2009, a freight train operated by Burlington Northern / Santa Fe (BNSF) derailed in a depression south of Littleton, Colorado, severely damaging an existing MSE retaining wall. The freight tracks share a corridor with the Regional Transportation District (RTD) light rail system, and the damage to the MSE wall forced a suspension to the RTD service.

The Reinforced Earth Company (RECo) was contacted on January 17 to participate in the evaluation of the damaged MSE retaining wall and aid in developing plans to restore RTD service. RECo's local personnel were on-site that same day to coordinate a plan of action with Denver Transit Construction Group (DTCG), a joint venture between Herzog Contracting, St. Joseph, MO and Stacey Witbeck, Alameda, CA. DTCG was, at the time of the derailment, under contract to construct the new West Corridor LRT line for RTD in the nearby city of Golden for which RECo is supplying more than 246,000 SF of retaining walls (see more below). This existing relationship allowed for a quick solution to restore the RTD service: DTCG would dismantle 400' of damaged MSE wall and re-construct utilizing RECo designs and materials.

RECo completed the necessary drawings and calculations by January 20th. Replacement precast facing panels, soil reinforcements and accessories were obtained from the West Corridor project inventory.

Derailment, Jan16

DTCG work crews had deconstructed and excavated the MSE wall section by January 19th, and RECo's first material deliveries were made on January 20th when construction of the new wall section began. The entire wall section was completed within 10 days and RTD service was restored on February 2.

DTCG's Mr. John West, Project Manager, acknowledged that…"your (RECo's) effort on this project was extraordinary and I certainly appreciate all of your assistance in making this a successful effort."

Dismantled MSE Wall, Jan 19

Reconstruction underway, Jan 20

Grade separation...

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permit the use of traditional 2:1 slopes. MSE walls are made up of soil reinforcement, facing panels and frictional backfill. Selection of backfill is an important consideration for MSE walls. Urban projects commonly use sand and gravel type backfills with well-defined physical properties. Projects where high quality backfills are not readily available make use of available backfills provided they are compatible with the MSE system design.

Given the use of recycled concrete for MSE backfill, test reinforcing strips were incorporated into the MSE wall design. Based on the scope of the MSE facing area (3) test panel locations were chosen. The locations are selected to provide relatively easy access for soil reinforcement extraction in the future. A testing and monitoring program will be carried out on the galvanized steel reinforcing strips. One (1) strip from each of the (3) test panels will be extracted at each of years 2,5,10 and 20 of the service life of MSE walls

The retaining walls were finished with a sandstone coloured pigment which was added to the concrete produced. Adding the architectural finish and coloured concrete to the walls enhanced the appearance of the structure

The following organizations participated in the success of this environmental and project benefit.

MMM Group

Dufferin Construction Company

Peto MacCallum Ltd.

On completion of project the City of Toronto will assume ownership of the project

More Reinforced Earth Walls Underway for Denver's RTD

Just prior to the BNSF derailment (aforementioned), RECo had been awarded a contract to design and furnish materials for over 60 individual MSE walls comprising approximately 246,000 square feet of Reinforced Earth® Wall systems. The West Corridor "FasTracks Project" is a 12-mile light rail transit (LRT) corridor that will link the Denver city center with nearby Golden. All of the walls directly support the LRT Track System and will have a unique architectural pattern designed for this particular corridor which passes through several neighborhoods and Parks and Recreation areas.

Slaton Bros., Centennial, CO, another Freyssinet subsidiary, will install approximately 30% of the retaining walls. Construction of the retaining walls is underway and is expected to continue through 2010. RECo's work is being carried out by the RECo USA Western Regional office in Englewood, Colorado.

Construction now underway on 'FasTracks'

Participants:

Owner: Denver Regional Transportation District (RTD)

Prime Consultant: David Evans and Associates, Denver

Construction Manager/Prime Contractor: : Denver Transit Construction Group (DTCG), a joint venture of Stacey & Witbeck, Inc.(Alameda, CA) and Herzog Contracting (St. Joseph, MO)

Subcontractor (MSE Walls): Slaton Bros., Centennial, CO

Precasting: Pacheco Construction Products, Inc., Littleton, CO

MSE Design and Materials: The Reinforced Earth Company, Englewood, CO

Engineers Without Borders: RECo's Commitment to Humanity

John Sankey (second from left) with Peruvian villagers/workers

Engineers Without Borders USA (EWB) is a national organization with local chapters organized through several universities. The mission of EWB focuses on improving the lives of impoverished people facing an existence without basic necessities such as clean drinking water, power, education, sanitation, among other challenges.

Work underway on ferro-cement chlorination vault in Peru

Professionals with design and/or construction experience act as consultants and mentors to students and academia responsible for developing partnerships in order to implement humanitarian projects around the world.

RECo has furnished both human and financial support to EWB through charity sponsorships and by sending its own delegations to deprived townships needing aid . RECo participants have dontated their support on a wide range of projects: from installing water chlorination and filtration systems in Peru and Ecuador, to laying foundations for a new Youth Center in Ethiopia.

To learn more about EWB-USA, visit their website at www.ewb-usa.org.

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