

The Reinforced Earth Company

RECO NEWS

WINTER 1999

RECO SUPPLIES ALL MSE STRUCTURES FOR THE I-95 SPRINGFIELD MIXING BOWL

On March 23, 1999, the Virginia Department of Transportation gave notice to proceed on one of the largest transportation projects in VDOT's history — the I-95 Springfield Interchange. The demanding project includes 15 bridges, demolition of 5 existing bridges, moving or placing 350,000 cubic meters of soil, laying over 10,000 meters of pipe, placing more than 150,000 metric tons of stone and over 160,000 metric tons of asphalt. This will occur while 375,000 vehicles per day travel through the interchange that is one of the East Coast's busiest.

The overall reconstruction project will consist of eight phases of work at an



estimated cost of 350 million dollars, nearly twice what it cost to build the entire Capital Beltway 35 years ago. The current contract for Phases II and III was awarded to Shirley Contracting Corporation of Springfield, Virginia for approximately 90 million dollars.

Shirley Contracting selected the Reinforced Earth Company to design and supply 38 MSE structures resulting in a surface area of approximately 35,000 square meters. RECo's ability to design and supply materials in a timely fashion along with its excellent reputation were key considerations for selecting RECo on

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this project as stated by Chris Bucher, Vice President of Shirley Contracting.

On time performance of work is critical due to the large volume of traffic through the interchange. Shirley Contracting will receive a \$10 million bonus, the largest in VDOT history, if Phases II and III are finished by August 2001, nine months ahead of schedule. The contract also includes a \$30,000 per day penalty; also the highest in VDOT history, for every day the project is delayed beyond the June 1, 2002 deadline. Since many of the MSE structures are on the project's critical path, timeliness



and accuracy of both engineering and material delivery is crucial.

After only six months of construction, RECo has successfully designed and supplied approximately

45% of the MSE structures required on the project. This success has been the direct result of RECo's constant interaction with the contractor to ensure timely design submittals and product fabrication. With the direct cooperation of VDOT and Shirley Contracting, RECo commenced casting of over 75 panels per day prior to its first design approval. This close communication and cooperation between the owner, contractor and supplier demonstrates the demanding coordination required for the success of this unique project.

TechSpan Update

RECo constructed five TechSpan projects in North America this year.

The largest span of the five was 18.5m and is shown here during construction.

Details on these structures will follow in future issues.



RECO'S PRECAST BARRIER ALLOWS CONTRACTOR TO MEET TIGHT SCHEDULE

The Morgan Street Overpass Project, located in Baie-d'Urfe just west of Montreal, Quebec, was constructed in the summer of 1998. The use of a precast traffic barrier designed and supplied by Reco allowed the contractor, Les Entreprises Claude Chagnon Ltée to meet the very challenging





Flexibility of Reinforced Earth to accommodate project site requirements results in aesthetic geometry



Precast portion of traffic barrier being installed

al Cast-In-Place (CIP) barrier, Reco proposed a concrete barrier to sit on top of their wall consisting of part precast and part CIP. The barrier's parapet portion was precast and the horizontal restraining slab was CIP. They were structurally connected with reinforcing steel bars that were left to protrude out of the base of the precast portion. The horizontal slab, cast on the Reinforced Earth fill, required very simple forming as opposed to the more time consuming procedure required for a CIP parapet. With a total of 750 lineal meters of barrier the speed of placing precast barriers gave this option a great advantage due to the very tight construction window.

Both the precast barrier and the 3350m² of Reinforced Earth wall were cast with 50 Mpa concrete to meet



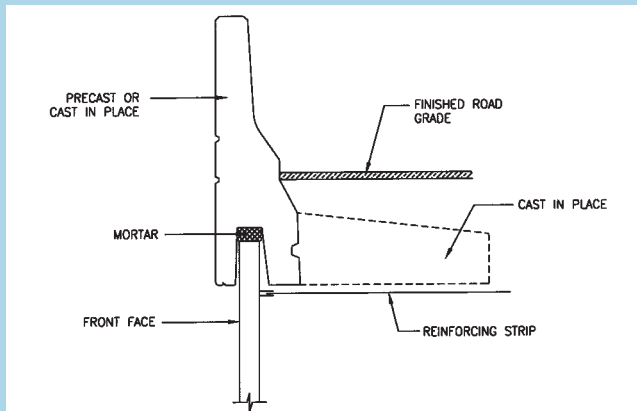
schedule stipulated by the Quebec Ministry of Transportation (MTQ).

Four large Reinforced Earth retaining walls were required to support Highway 20 at Morgan Street and another wall was used to support a rail line adjacent to the depresses access to Morgan Street. A New Jersey style concrete traffic barrier was required along the top of all walls supporting Hwy 20. As an option to the tradition-

FEATURED PRODUCT "Concrete Traffic Barrier"

To withstand the vehicle impact stipulated by highway design codes, the parapet placed on top of an MSE wall normally has a horizontal slab attached to its base to resist the shear force and overturning moment generated during vehicle impacts.

As impact loads and allowable distribution length often varies from jurisdiction to jurisdiction, the exact design also varies. The barrier design is usually developed as a standard for each state or province and then becomes detailed on each project on the consultant's drawings.



MTQ's specifications for improved durability. Beton Bolduc carried out all pre-casting for Reco.

Tecslut was the consultant for the Ministry. Their expedient review of the Reco design and their cooperation with this new (for MTQ) "hybrid" barrier design helped to keep the project on schedule.

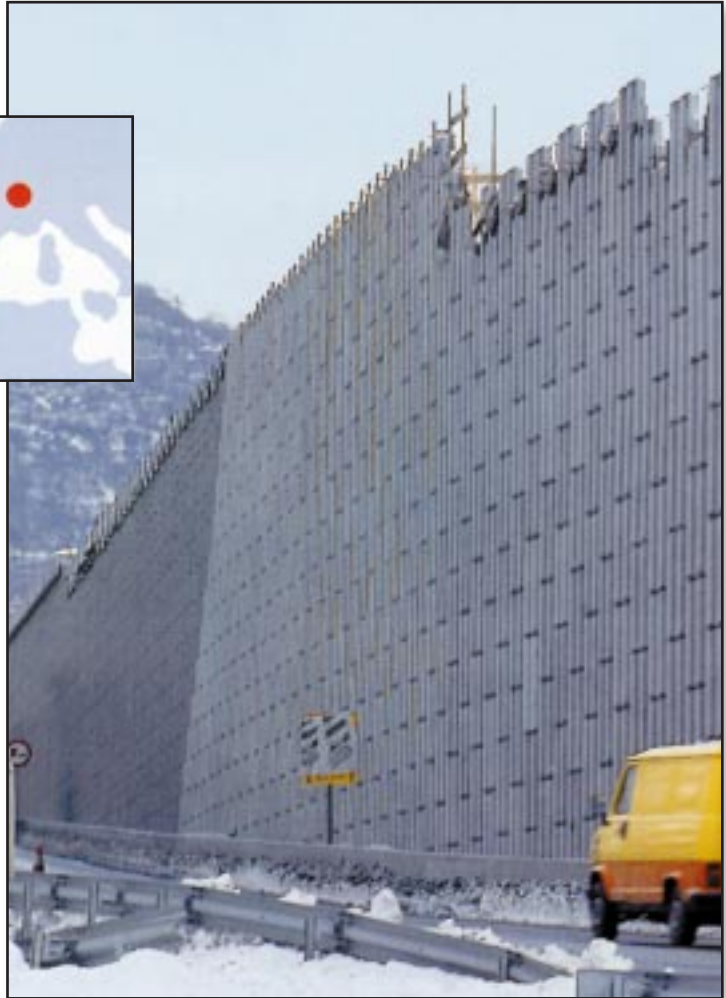
For more details on this and other projects visit our website www.RECoUSA.com

Y2K
Reco is happy to announce that we have taken measures for Y2K "readiness".

A43 MOTORWAY

As part of the construction of the France's A43 Maurienne Motorway the Reinforced Earth Company in France (Terre Armee) has designed and supplied more than 60,000 square meters of retaining wall since 1994. The Motorway is scheduled to be open in the year 2000. The stretch of highway between the A430 Lyon-Albertville Motorway and the Frejus Tunnel required many large retaining walls and complex bridges due to the very mountainous terrain.

A group of contractors lead by SPIE was awarded the Toarch H1-2 contract in the summer of 1997 and subcontracted four retaining walls and one composite abutment to Terre Armee. The area of precast wall panels for this portion of the contract totaled 9,200 square meters. The Toarch H1-2 was the 18th Terre Armee site, in the Muaurienne Valley.



The 17-meter high wall on France's A43 Motorway used a precast finish with double vertical ribs and washed river stone.

PARTICIPANTS

Client: Société française du tunnel routier du Fréjus
 Engineer: Setec
 Architects: Lavigne & Montois (bridges) and
 Chambre & Vibert (landscape artists)
 Civil Engineering Joint Venture:
 Spie-Citra/Borie SAE/Baudin Châteauneuf
 Earthworks joint venture:
 Bethouly/Benedetti/Forezienne d'Entreprises
 Specialized Contractor Terre Armée, Freyssisol

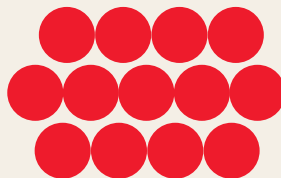
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