

Project Title: Non-Destructive and Destructive Investigation of Aged-In-The Field Carbon FRP-wrapped Columns		
Project Manager and Phone Number: Daniel Hsiao 801- 965-4638	Project No: TPF -5(203)	Project is: <input type="checkbox"/> Planning <input checked="" type="checkbox"/> R & D
Reporting Period: Jan. – Mar. 2011	Multi Year Project:	
Description of Work Performed and Progress: Completed two axial compression tests for the Highland Drive Bridge columns, which were 12 ft tall and 36 in. in diameter. Performed CFRP adhesion tests for both columns and determined characteristics of pullout between grouted regions and original concrete regions. In addition, 13 medium sized columns, 28 in. tall and 10 in. in diameter were tested under axial compression with the following variations: (a) control with steel reinforcement, (b) control with GFRP hoops and steel verticals, (c) all GFRP reinforced, (d) corroded with all steel reinforcement, (e) corroded with GFRP hoops and steel verticals, (f) all steel corroded with CFRP jackets. The corrosion was carried out in 5% salt water solution by weight for 11 weeks using an impressed current. Currently the results of all tests are being compared with each other and with analytical predictions. Six 12 ft long 12 in. diameter columns were also tested with the following three configurations: (1) GFRP verticals with GFRP hoops; (2) Steel verticals with GFRP hoops and (3) Exterior GFRP verticals and interior steel verticals double GFRP hoops. Two specimens were tested in each category, one at 1 in. eccentricity and the other at 4 in. of eccentricity. In addition, one specimen in each category was tested as a short 3 ft column with no eccentricity. The results are currently being analyzed.		
Status and Completion Date: <p style="text-align: center;">Percentage of work completed to date for total project: Project is <u>80</u>%</p> <p style="text-align: center;"><input checked="" type="checkbox"/> on schedule <input type="checkbox"/> behind schedule, explain:</p> <p style="text-align: center;">Expected Completion Date: July 2011_____</p>		

