

## Completion of the High Speed Rail Ground Vibration Mitigation Project on Schedule

The High Speed Rail Ground Vibration Mitigation Project adopted active and passive reduction methods which featured an active vibration dispersion of 143 "reinforced structure" construction (19.5m X10mX2.6m underground framed structure) and passive vibration isolation of 3,898m "elastic vibration reduction wall" construction (concrete diaphragm with 45m in depth and 1.2m in width as well as elastic vibration reduction material with 15m in depth and 0.45m in width). The project commenced on October 18, 2004 and completed the main parts of the elastic vibration reduction wall and reinforced structure on September 2, 2006. After ground restoration and clean up, the vibration construction project was totally completed on October 31, 2006.

Since the High Speed Rail test rode in October 2005, the STSP Administration has entrusted GEO TECH ENGINEERING CO., LTD. to measure vibration levels and evaluate the relevant impacts. To ensure the accuracy of the vibration measurements, the STSP Administration also invited the National Center for Research on Earthquake Engineering to evaluate the environmental impact and conduct a parallel verification. The review meeting on measurement results was convened on December 13, 2006 and expert participants accepted the measurements conducted by the GEO TECH ENGINEERING CO., LTD..The results measured by GEO TECH ENGINEERING CO., LTD. During dynamic test drives of High Speed Rail indicated that the construction effectively reduced vibration impacts. After the official operation of the High Speed Rail, the STSP Administration will conduct an acceptance inspection on the efficiency of the Vibration Reduction efforts based on the contract and the current condition.

The completion of the Project offers more guarantees for exceptional investment in the TSP since it will reduce operational costs, enhance industrial competitiveness, and facilitate the prosperous development of the high-tech industry in Taiwan.



The Site after Completion of the Reinforced Structure Construction (An Underground Framed Structure Constructed between the Piers of the Taiwan High Speed Rail. The Protuberances on the Ground are the Vibration Damper Maintenance Holes.)



The Site after Completion of the Elastic Vibration Reduction Wall Construction (The Wall was Built on the Strata Under the Right Side of the Pavement. The Ground Restoration was Completed.)



24-hour Monitoring on Dajhou Water Level and Rainfall at the Flood Control Center

## Non-stop Prevention from Flood Risk, the Flood Free TSP

Taiwan is often affected by typhoons and flood prevention is a priority of the STSP. Before the approach of the flood season, the STSP Administration would proactively engage in sediment cleaning on water drainage channels and Siake Lake, as well as providing flood prevention equipment maintenance and training courses for staff in charge of flood prevention and control. In addition, the "Flood Prevention Report and Response Plan for Personnel Shifting" provides robust protection. On April 1, 2005,

the TSP flood prevention mechanism was challenged by the second heaviest rainfall in the past 70 years since its initiation and it succeeded and proved a "flood free TSP." In 2006, there were fewer and smaller typhoons and rain so there were no major challenges.

The "Flood Control Center" under the TSP is now managed by Jhong Sin Consulting Firm; six operators and one station chief are on shift around the clock to monitor two major flood prevention sources: information released by the Central Weather Bureau and water level inside the Park.

When the water meter on Dajhou #5 Valve reaches 4.5 meters or the science park is on typhoon alert, staff on duty has to report to the Center within one hour and contact disaster rescue, electricity, and gas agencies to enact responsive strategies.

The Flood Control Center is equipped with comprehensive software and hardware facilities such as 12 sets of CCTV, one rain gauge, and a set of water level monitoring equipment. When the water level reaches a dangerous level, this advanced and efficient flood monitoring system will allow automatic messages to be sent to relevant personnel and those in charge of flood prevention are able to monitor CCTV and water level information from anywhere at any time.