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July 2021

### Harbor Bridge Project (HBP) South Interchange Construction Progress: Part I

July was an incredibly productive month for construction progress around the South Interchange or future tie-in point for IH 37, SH 286 (Crosstown Expressway), and US 181. Despite initial rain delays, roadworks and structure crews met several goals to accomplish major upcoming traffic shifts, connector switches, and demolition of existing ramps around the IH 37 and SH 286 Interchange. Building roadways suitable for heavy traffic requires careful planning and the execution of environmental, scientific, and structural assessments. Following is an overview of the process involved to construct and open a new Detour to northbound US 181 and Antelope Street and the new Northwest Loop Ramp (NWLR) to SH 286 to traffic in August.

**Utilities and Drainage:** Underground work to install utilities, sewer, and storm drainage is a complex infrastructure essential to building a new busy thoroughfare expected to last for many years. Excavation, environmental compliance, and testing occur before a vast web of pipe and cable are placed up to 15 feet below a roadway.

**Walls and Sloping:** Building retaining walls is necessary for enhanced stability depending on the new road elevation. This step is often done in tandem with ongoing excavation. Mechanically Stabilized Earth (MSE) walls are constructed by placing aggregate to build the wall from the ground up. Decorative panels are used throughout the HBP to conceal MSE walls. Soil Nail Walls (SNW) are built from the top down with shotcrete or sprayed concrete and often remain unseen. SNW's are covered with a mound of soil for higher elevations, to create a gentle sloping "hill" The slope is then covered with a layer of concrete called riprap or grass seeding to prevent erosion.

**Grading, Aggregate Base, and Asphalt Paving:** The concept of ground stabilization is 5,000 years old. Subgrade preparation is where the base is excavated or "cut down" to the natural earth. Then a thick layer of non-organic material with a targeted plasticity index range is applied to a specified thickness, graded, treated with lime, and subjected to a curing process. Next, a dense concrete treated base (CTB) is added and graded again. Finally, a top layer of asphalt is applied and cured for at least three full days before construction vehicles can drive over it to continue the next step.

**Traffic Rail Foundation (TRF), Concrete Barrier, Metal Beam Guard Fence (MBGF), Mow Strips, and Curb and Gutter:** Final elements to make a roadway safe for motorists are added after the paving is complete. TRF is installed to create a base for Concrete Barriers meant to contain a vehicle from skidding and sliding over the edge. MBGF is another form of protection for wayward vehicles and is mounted on top of Mow Strips or concrete overlay used for weed prevention in hard-to-mow areas. Curb and Gutters are poured and tied-in to drain inlets strategically positioned along the roadway.

**Sign Columns, Opaque Painting, Striping, and Signage:** Three large sign column structures, up to 35 feet tall, were recently completed near Coles High School and the NWLR to assist motorists with navigating the area when the new routes are opened. Opaque paint sealant is being applied to the sign columns and bridge substructures to prevent vehicle spray before opening the new lanes to live traffic. Striping paint (yellow on the left/white on the right) and directional signage placement are the last steps typically completed the day before a new roadway opens to motorists. Quality Control and walkthrough inspections are conducted at several intervals throughout the construction process.

Thank you to the Coastal Bend Community for using extreme caution while traveling through the HBP construction zone. We appreciate your patience with the associated temporary closures and detours. Commuters are witnessing history in the making as the newly constructed South Interchange comes together.



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