A Grand Parkway Transportation Corporation Project

State Highway 99 Grand Parkway System Segments H, I-1 and I-2



GRAND

PARKWAY

SH99

Hansportation Corporation

# Quarterly Construction Progress Report September 1 – November 30, 2018 H and I PROJECT

Submitted January 14, 2019 By HNTB as GEC

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Mr. Benjamin H. Asher Secretary/Treasurer Grand Parkway Transportation Corporation 125 East 11th Street Austin, TX 78701

#### Subject: Grand Parkway System – H and I Project Quarterly Construction Progress Report for Fiscal Quarter Ended November 30, 2018

January 14, 2019

Dear Mr. Asher,

As the General Engineering Consultant to the Grand Parkway Transportation Corporation (GPTC) and in accordance with Section 407 of the Trust Agreement between GPTC and US Bank National Association, HNTB is pleased to submit the Quarterly Construction Progress Report for Grand Parkway Segments H, I-1 and I-2, collectively an additional System Segment. This report covers quarterly construction progress through November 30, 2018.

As described in the requirements set forth in the GPTC Trust Agreement Section 407, the General Engineering Consultant shall prepare a progress report at least quarterly during the acquisition and construction of any portion of the Grand Parkway System which is financed in whole or in part with Obligations, commencing within 120 days from the initial delivery of the initial Obligations or Obligations financing an additional System Segment. The quarters used for reporting is based on GPTC's fiscal year.

GPTC adheres to the requirements outlined in the Trust Agreement which governs the acquisition or construction of such System Segments financed with Obligations. As specified in the Trust Agreement, this report includes current estimates of: (i) the date on which such System Segment will be opened for traffic, unless such System Segment shall have been opened for traffic prior to such progress report (Refer to Page 20), (ii) the Estimated Date of Completion and an Estimated Date of Substantial Completion of such System Segment (Refer to Page 20), (iii) the cost of such System Segment, but excluding any Obligation discount, and the interest during construction and for one year after completion of construction (Refer to Pages 9-12), and (iv) the amount of funds required each six (6) months during the remaining estimated period of construction contingencies (Refer to Page 11), and accompanied by a progress schedule for such construction, and further including, as to construction, comparisons between the actual times elapsed and the actual costs, and the original estimates of such times and costs (Refer to Pages 20-21). This information, as well as other items relevant to each System Segment, is presented in greater detail within this report.

Best regards,

Stéphen A. Hrncir, P.E. Program Manager General Engineering Consultant

#### **1.0 INTRODUCTION**

This report describes the State Highway 99 Grand Parkway Segment H and I (H and I Project) construction for the first quarter of Fiscal Year 2019, covering a period from September 1, 2018 through November 30, 2018. H and I Project is an extension of the existing Grand Parkway System and is being constructed by the Grand Parkway Transportation Corporation (GPTC). GPTC is a non-profit Texas corporation authorized by the Texas Transportation Commission (Commission) to develop, finance, refinance, design, construct, reconstruct, expand, operate, and maintain the Grand Parkway System. GPTC, was created under the authority of the Commission and issued bonds to finance development and construction of the System. The project is funded entirely from toll revenue bonds and other obligations issued by GPTC.

#### **1.1 Project Description**

The H and I Project is a 52.3-mile section of the overall Grand Parkway Project, a planned 184mile highway facility around greater Houston extending from State Highway 146 in Galveston County to State Highway 146 in Baytown. It is spread across the seven counties including Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty and Montgomery. When completed Grand Parkway will provide a third outer loop around the Houston metropolitan area. The Grand Parkway is divided into 11 Segments designated A through I-2 as depicted on the map in Figure 1.1. Segment I-2 is further divided into Segments I-2A and I-2B. The Commission has designated Segments D (Harris County portion), E, F-1, F-2 and G that achieved final acceptance in 2017 and are open to tolled traffic and Segments H, I-1 and 1-2 that are under construction as part of the Grand Parkway System.



Figure 1.1: Map of State Highway 99 (Grand Parkway) Project

Segments H and I-1 together are approximately 37.5-mile long two-lane toll facility (one lane in each direction) with intermittent four-lane sections for passing in Montgomery, Liberty, Harris and Chambers Counties. Segment H includes H-West Option, which comprises construction of two additional tolled mainlanes for a total of four tolled mainlanes for the first 8 miles from its connection with Interstate Highway 69. Segment I-2B is approximately 6.1-mile four-lane toll facility in Chambers and Harris Counties. TxDOT is currently constructing improvements to the Segment I-2B non-tolled frontage roads as a separate construction project, which is separate and apart from the H and I Project and is being funded by TxDOT. Lastly, Segment I-2A is an existing 8.7-mile four-lane facility in Chambers County that was constructed by TxDOT in 2008. Segment I-2A will receive tolling equipment upgrades and other improvements as a part of H and I Project. Figure 1.2 shows the typical sections of H and I Project over its length.

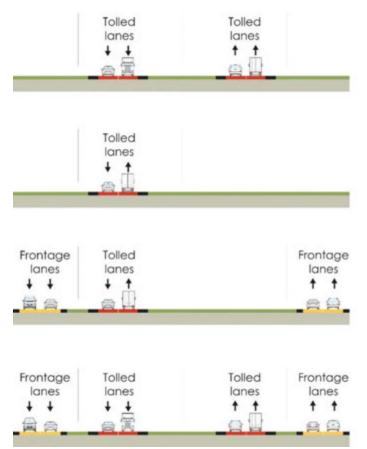


Figure 1.2: Typical Sections of H and I Project

The development and construction tasks for H and I Project principally include: design development; right-of-way acquisitions; utility relocations; excavation and embankment; concrete pavement; bridges; retaining walls; drill shafts; rip rap; drainage structures; barricades, signs, and traffic handling; illumination; overhead sign supports; traffic signals; toll facilities; and ITS ducts. H and I Project design, coordination, and construction activities are carried out by a DB Contractor under a Design Build Agreement (DBA) and toll zones are developed by a Toll System Integrator under a statewide Toll System Integration and Maintenance Agreement.

#### **1.2 Design Build Agreement**

On July 31, 2014 TxDOT issued a request for qualifications (RFQ) to design, construct, and potentially maintain Segments H, I-1 and I-2 pursuant to a DBA. TxDOT subsequently determined that three of the four teams submitting qualifications statements in response to the RFQ were qualified to be on the short list to submit detailed proposals.

On April 30, 2015 TxDOT issued a request for proposals (RFP) to the short-listed teams. In October 2015, TxDOT received three design build proposals. On January 24, 2017, proposal revisions were received from three short-listed teams following a request for proposal revisions process. The Commission then conditionally awarded the DBA to Grand Parkway Infrastructure (GPI), LLC on March 28, 2017.

Equity member firms for GPI include Ferrovial Agroman (40%), Granite Construction Company (30%), and DBW Construction –Webber (30%).

#### **1.3 Project Milestones**

- Conditional Award occurred March 28, 2017
- o Contract fully executed on June 30, 2017
- o NTP1 issued on July 10, 2017
- Limited NTP2 issued on October 13, 2017
- Option NTP issued for H-West Option on October 27, 2017
- o NTP2 (full) issued on October 27, 2017
- GPTC Revenue Bond Financing closed on May 30, 2018
- Start of construction in July 2018
- Substantial Completion to occur within 1,693 days after NTP1
- o Substantial Completion Deadline is February 27, 2022
- Projected Substantial Completion date is February 27, 2022
- Projected Open to Traffic date is February 27, 2022
- Expected Revenue Commencement date per GPTC System T&R forecast is May 22, 2022
- o Final Acceptance to occur 120 days after Substantial Completion
- Final Acceptance Deadline is June 27, 2022
- Projected date of Final Acceptance is June 27, 2022

#### **1.4 Purpose of the Report**

GPTC Trust Agreement Section 407 states that General Engineering Consultant shall prepare a progress report at least quarterly during the acquisition and construction of any portion of the Grand Parkway System which is financed in whole or in part with Obligations, commencing within 120 days from the delivery of the initial Obligations or Obligations financing an additional System Segment. The H and I Project is considered an additional System Segment to the Grand Parkway System as defined by the GPTC Trust Agreement.

This Quarterly Construction Progress Report complies with the reporting requirements of Section 407 of the Trust Agreement. This Quarterly Construction Progress Report provides the

required information as of last calendar date of the GPTC Fiscal Year quarter preceding its submittal.

# 2.0 Project Costs

Table 2.1 provides: (a) a detailed breakdown of the GPTC bond proceeds available for H and I Project, (b) an adjusted budget showing an estimate of total project costs at completion, (c) actual costs-to-date as of previous quarter end, or August 2018, (d) actual costs-to-date as of end of current quarter, or November 2018, (e) total actual costs-to-date expended as of November 2018 and (f) a forecast comprising an estimate of costs-to-complete. Table 2.2 provides a forecast of cost for each six-month period over the remaining duration of construction and extends one-year beyond the completion of construction date to ensure all costs are captured.

Actual costs paid-to-date and an estimate of funds required for processing of DB Contractor's draw for the remaining duration of construction are shown in Table 2.3 on a semiannual and cumulative basis. Estimate of funds required is based on the approved maximum payment schedule, including the H-West Option from the DBA, revised as per TxDOT letter dated July 27, 2018, and further adjusted for approved change orders. Approved maximum payment curve is indicative of the DB Contractor's original estimates of costs over time at the time of the contract award, with subsequent adjustments for approved change orders. The DB Contractor's earned value for the work completed is as of the latest approved draw request received for the quarter. Cumulative earned value reported as of the most recent quarter is below the maximum payment by 3.6%. This indicates a slight need for additional resources and some acceleration of critical path activities. Refer to Section 5 of this report for additional discussion. Paid-to-date represents the amount that has been disbursed and trails the cumulative earned value estimate of work completed because of constraints from the maximum payment schedule included in the DB Agreement. Difference in earned value and paid-to-date amounts also accounts for the time it takes for DB Contractor to assemble and submit the draw request after the cut-off date, address TxDOT review comments, resubmit as necessary, and for TxDOT to approve and process the payment.

	В	ond Proceeds Budge	et		Actuals		Forecast <sup>₄</sup>	Estimate at
Element	Original Proceeds	Adjustments	Adjusted Total	Expended Thru Aug'18	Expended This Quarter	Expended Thru Nov'18	Estimate to Complete	Completion (Actuals and Forecast)
Segments H, I-1, & I-2								
Design-Build Agreement Costs <sup>1,3</sup>	894,702	923	895,625	51,890	39,071	90,961	804,664	895,625
Right-of-Way Acquisition <sup>1</sup>	330,000	-	330,000	29,454	7,777	37,231	292,769	330,000
Toll Equipment & Integration <sup>1</sup>	32,000	3,196	35,196	115	135	250	34,947	35,197
Environmental Mitigation <sup>1</sup>	24,000	(12,000)	12,000	9,942	-	9,942	2,058	12,000
TxDOT Agency Costs <sup>1</sup>	53,737	7	53,744	17,186	1,553	18,739	35,005	53,744
Project Contingencies <sup>1</sup>	110,000	7,874	117,874	-	-		117,874	117,874
Subtotal Project Costs	\$1,444,438	-	\$1,444,438	\$ 108,587	\$48,536	\$ 157,123	\$1,287,316	\$ 1,444,438
Financing Costs								
Capitalized Interest (2018 Bonds/BANs) <sup>1</sup>	309,855	-	309,855	-	24,939	24,939	284,916	309,85
Cost of Issuance (2018 Bonds/BANs) <sup>1</sup>	11,537	-	11,537	10,185	48	10,233	1,304	11,53
Capitalized Interest (50% of Series 2013E) <sup>2</sup>	29,639	-	29,639	29,639	-	29,639	-	29,63
Cost of Issuance (50% of Series 2013E) <sup>2</sup>	958	-	958	958	-	958	-	95
Rate Stabilization Fund <sup>1</sup>	50,000	-	50,000	50,000	-	50,000	-	50,00
Subtotal Financing Costs	\$401,988	-	\$401,988	\$90,782	\$24,987	\$115,769	\$286,220	\$ 401,98
Total Project and Financing Costs	\$1,846,427	-	\$1,846,427	\$199,369	\$73,523	\$272,892	\$1,573,536	\$1,846,42

#### Table 2.1: GPTC H and I Project Budgets, Actuals, Forecasts and Total Estimated Costs (\$ Thousands)

Figures shown may not add to totals due to rounding.

#### Notes:

1. Reflects information provided in the GPTC Annual FY 2019 Capital Construction Budget ("FY19 Budget") for Segments H&I, as adopted by the board on August 21, 2018, including actual costs, forecasted costs, and allocation of the budget contingency, updated to reflect results of the reporting period.

2. Reflects 50% of capitalized interest and cost of issuance for the Series 2013E Bonds.

3. Design Build Agreement Costs reflect approved change orders only.

4. H&I Forecast – see Table 2.2 for allocation of forecast into six-month periods.

#### Table 2.2: H and I Project Forecast Costs (\$ Thousands)

	Forecast						Total			
	Fiscal Ye	ear 2019	Fiscal Ye	ear 2020	Fiscal Ye	ear 2021	Fiscal Ye	ear 2022		Estimate to Complete
Element	3-month	6-month	6-month	6-month	6-month	6-month	6-month	6-month	FY 2023	
Segments H, I-1, & I-2	•	•	•		•				•	
Design-Build Agreement Costs <sup>1</sup>	129,940	206,027	161,828	103,699	127,674	59,036	16,460	-	-	804,664
Right-of-Way Acquisition	92,223	100,000	37,500	37,500	9,661	9,661	2,750	2,750	725	292,769
Toll Equipment & Integration	299	651	3,948	5,921	4,201	6,302	5,450	8,175	-	34,947
Environmental Mitigation	629	607	400	220	110	52	27	13	-	2,058
TxDOT Agency Costs	5,804	7,357	6,250	6,250	3,000	3,000	1,672	1,672	-	35,005
Project Contingencies	-	-	-	-	-	-	-	-	117,874	117,874
Subtotal Project Costs	228,895	\$314,641	\$209,925	\$153,590	\$144,646	\$78,051	\$26,359	\$12,610	\$118,598	1,287,316
Financing Costs										
Capitalized Interest (2018 Bonds/BANs)	-	37,099	37,099	37,099	37,099	37,099	37,099	37,099	25,222	284,916
Cost of Issuance (2018 Bonds/BANs)	1,304	-	-	-	-	-	-	-	-	1,304
Capitalized Interest (50% of Series 2013E)	-	-	-	-	-	-	-	-	-	-
Cost of Issuance (50% of Series 2013E)	-	-	-	-	-	-	-	-	-	
Rate Stabilization Fund	-	-	-	-	-	-	-	-	-	
Subtotal Financing Costs	\$1,304	\$37,099	\$37,099	\$37,099	\$37,099	\$37,099	\$37,099	\$37,099	\$25,222	\$286,220
Total Project and Financing Costs	\$230,199	\$351,740	\$247,024	\$190,689	\$181,745	\$115,150	\$63,458	\$49,709	\$143,821	\$1,573,536

Figures shown may not add to totals due to rounding.

#### Note:

1. Design Build Agreement Costs reflect approved change orders only.

Pe	riod	Estimate of Cons	Estimate of Construction Draw <sup>1,5</sup>		Earned Value <sup>2</sup>	
Begin	End	Period	Cumulative	Period	Cumulative	Paid-to-Date <sup>4</sup>
NTP1	8/31/2017	12,403	12,403	12,403	12,403	12,403
9/1/2017	2/28/2018	25,125	37,528	40,711	53,114	37,528
3/1/2018	8/31/2018	42,806	80,334	32,605	85,719	80,334
9/1/2018 4	11/30/2018	78,236	158,570	67,118	152,837	90,961
12/1/2018 4	2/28/2019	62,331	220,901			
3/1/2019	8/31/2019	206,027	426,928			
9/1/2019	2/29/2020	161,828	588,756			
3/1/2020	8/31/2020	103,699	692,455			
9/1/2020	2/28/2021	127,674	820,129			
3/1/2021	8/31/2021	59,036	879,165			
9/1/2021	2/28/2022	16,460	895,625			

#### Table 2.3: H and I Project Design Build Agreement Construction Draw (\$ Thousands)

Notes:

1. Estimate of Construction Draw is based on the maximum payment schedule, including the H-West Option, revised as per TxDOT letter dated July 27, 2018 with adjustments for executed change orders.

- 2. Earned Value is based on construction work completed per the latest draw request as of the reporting period.
- 3. Highlighted rows represent breakout of semiannual period to reflect the 3-month period included with this quarterly report
- 4. Paid-to-Date represents amounts that were disbursed by quarter end and reported in the periods they were earned.
- 5. Estimate of Construction Draw reflect approved change orders only.

# 3.0 Overall Progress of Construction

Construction activities started on the project in the previous quarter and have continued to make steady progress this quarter. The DB Contractor has continued to engage on preconstruction activities such as environmental coordination, permitting, right-of-way, utilities and public outreach. Design has been progressed and submittals made to TxDOT for review and comment, leading to release-for-construction for some early start packages in this reporting period. A summary of overall progress since the effective date is summarized below and illustrated in construction photographs included with Appendix A.

#### 3.1 Public Information & Communications by the DB Contractor

Public Information Office located at 7560 FM 1960, Dayton is functional and operating.

Domain name <u>www.sh99grandpkwy.com</u> is maintained by the DB Contractor and continues to be a source of information for the project.

Contact subscription list continues to grow. At closing of this quarter, 681 recipients (elected officials, TxDOT, corridor residents, business owners, and GPI staff) are signed up to receive project alerts, newsletters, etc.

Social media presence for the project continued to increase. At closing of this quarter, project website had 202 followers on Twitter site and 368 followers on Facebook. The number of people who had any posts from the GPI FB page on their screen was 130 for the most recent month of the quarter ended November 2018.

DB Contractor has held outreach and made presentations and held networking events regarding the project to various interested parties such as:

- o National Association of Minority Contractors
- o City of Dayton at the Public Information Office
- Mont Belvieu Emergency Officials in Mont Belvieu
- o Cedar Bayou Navigation District Official at the Baytown Field Office
- o Cleveland Chamber of Commerce in Cleveland
- Cedar Bayou Navigational District Board Meeting at Cedar Bayou Community Building in Baytown
- o Baytown Chamber of Commerce Job Fair initial meeting, Baytown



Figure 3.1: Grand Parkway Segments H, I-1 and I-2 on Social Media

#### **3.2 Utilities**

DB Contractor continues to negotiate PUAA'S with utility owners and has completed sending out the PUAA's to all known affected utility owners. Fourteen PUAA's have been fully executed. One PUAA (Mt. Belvieu) is currently being reviewed by TxDOT and three (Oneok, Mont Belvieu and Undine) are undergoing revisions by the DB Contractor for re-submission to TxDOT. The remaining PUAA's are currently being reviewed by the utility owners. Overall status of the utility coordination is shown in the following table.

Utility Status						
Anticipated Total Utility Adjustments	346					
PUAA's						
Anticipated Total	39					
Executed	14					
Remaining	25					
UAAA's						
Anticipated Total	62					
Executed	2					
Remaining	60					

#### Table 3.1: Status of Utilities Work

Anticipated total utility adjustments represents an estimate of conflict locations requiring adjustment based on the DB Contractor's design progress. As the roadway design progresses, conflicts may be avoided, or additional conflicts may be identified. The DB Contractor continues to progress pending PUAA's, UAAA's, and design for the remaining Owners. Additionally, the DB Contractor is verifying civil design impacts and working on completing AUA's with Utility Owners for utilities that are not in conflict and its right of way team is currently pursuing the required easement documents.

Status of DB Contractor managed design is as follows:

- New Caney MUD A re-design was needed for the existing waterline due to changes in the storm sewer profile at Loop 494. The DB Contractor is lowering the waterline. New Caney MUD has approved the change.
- Undine A plan site has been selected. 90% exhibits have been approved for waterline relocation.
- Mt. Belvieu 90% design plans are pending submittal to Mont Belvieu.
- Plum Creek RFC is planned in December.

Status of utility owner managed design is as follows:

- Entergy Transmission Two crossings are in for review with Entergy.
- CenterPoint Electric Continues to design the relocations for their area of operation.
  Coordination efforts in process to ensure priority areas are receiving the most attention.
- Comcast Provided DB Contractor with record/reference drawings. Design and Coordination with electrical relocations is in process.

#### **3.3 Permits/Environmental**

DB Contractor addressed review comments on SW3P sheets for Segment I-2B1 and I-2B2

Reevaluation of ATC 21 in Segment H was approved by TxDOT and reported in last quarterly report. DB Contractor is currently coordinating with USACE on the design change for this location to determine if any additional mitigation is required.

Reevaluation of ATC 18 in Segment I-2 was approved by TxDOT and reported in last quarterly report. This design change is currently being coordinated with the USCG and USACE.

DB Contractor received comments from TxDOT on the reevaluation package for Segments H and I-1 and is updating it. Design changes covered in the reevaluation package include:

- Dayton Canal proposed Bridge to Culvert design change. THC has approved this design change
- Peach Creek Tributary proposed Bridge to Culvert.
- Church House Gully proposed Bridge to Culvert.
- West Dayton Ditch proposed Bridge to Culvert.
- Tributary 1 to Cedar Bayou
- Tributary 2 to Cedar Bayou
- Passing Lanes Redesign between SH 146 and Future Langston Rd.
- Drainage Channel at FM 565 to Hackberry Gully
- Drainage Channel at Future Langston Blvd. to Hackberry Gully

DB Contractor is working on a reevaluation package in Segment I-2. Design changes include:

- ML Wismer Drive Additional ROW/corner clips. MAPO work has been ongoing
- Koppel Road Additional ROW for Drainage Improvements in under review
- Lee Drive Additional ROW/corner clips

DB Contractor awaiting permit approvals to begin work on lead-based paint mitigations at UPRR Overpass in Segment I2 and lift bridge and conducting Phase II investigations at Parcel 332 (Placid Tank Farm).

DB Contractor continues to coordinate with USACE to complete the wetland verification process for Project Specific Locations (PSL's).

For potential borrow source locations, DB Contractor is in the process of completing the necessary environmental field studies to satisfy Special Condition 2 and 4 of the USACE Individual Permit (IP) and Nation-Wide Permit (NWP).

#### 3.4 Right of Way

In accordance with the terms of the DBA the DB Contractor is responsible for right-of-way surveys, appraisals, environmental phase I assessments, acquisition packages, title searches and relocation packages. Overall the schedule of right-of-way acquisitions and associated costs are tracking against the DB Contractor's baseline schedule. The following table provides a detailed status of progress made towards releasing parcels for construction through this reporting period. An assessment of actual parcels acquired and released into construction against total to be acquired is discussed in Section 8 of this report.

Item	Activities Completed Previous Periods	Activities Completed Current Period	Total Completed Activities	Activities In- Progress
Pre-Acquisition (Title Searches, ROEs, etc.)	315	0	315	0
Appraisals (prep, approval for initial and ED update)	336	96	432	18
Surveys (prep, review, approval)	467	0	467	0
ESA Phase I's	230	5	235	0
Acquisition Packages (prep, review, approval)	209	152	361	11
Initial Offers Made	71	80	151	25
Final Offers to Made	35	71	106	11
Closing Payment Packages (prep, approval, funding for PUA's and signed deeds)	33	72	105	20
Closings	2	17	19	1
Relocation, Relocation Payment Packages and 90-Day NTV's	30	39	69	34
ED Packages (prep, review, approval)	10	10	20	15
ED Proceedings (AAG approval and setting hearing)	10	10	20	0
ED Payment Packages (prep, approval, funding, deposit and 30- day NTV)	22	24	46	3
Released for Construction	8	17	25	0

#### Table 3.2: Status of Right of Way Work

Note: For a discussion of parcels released into construction against total number of parcels to be acquired, see Section 8 of this report

#### 3.5 Design

DB Contractor is designing the project in priority areas as depicted in Figure 3.2. These areas represent the priority for start of construction based on availability of right-of-way. The sections that have top priority are shown in green and consist of Section H-1A; US-69 to East of LP 494 and Section I-2B2; SH 146 to Cedar Bayou. These are then followed by those shown in yellow and red. The progress up to end of the current quarter is as is as follows:

• Design has been progressing and is approximately 75% complete.

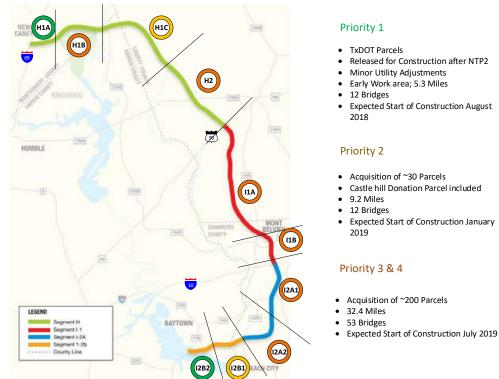


Figure 3.2: DB Contractor Priority Areas for Design Development

- DB Contractor continues to review and develop the design, both in terms of technical compliance and value-engineering opportunities.
- Geotechnical field investigation continues, with 25 additional boreholes identified and carried out. From a total 768 boreholes, 739 have been completed.
- Regular DB Contractor meetings with the design consultants were ongoing to progress the design submittals.
- DB Contractor continues to coordinate design development with TxDOT through meetings and RFI submittals.
- Released-for-Construction submittals were made for Segments H-1A, H1C, I-2A1, I-2A2, I-2B1 and I-2B2.
- DB Contractor continues to respond to TxDOT submittal comments.

#### **3.6 Tolling Systems**

Coordination is on-going between the DB Contractor and TransCore for design at tolling locations. TransCore is responsible for design and construction of tolling infrastructure in the toll zones.

#### 3.7 Quality

DB Contractor has mobilized its quality control staff as well as Independent Quality Firm staff to perform inspection and testing. Construction quality control and hold point inspections for drilled shaft construction were performed. DB Contractor has instituted a process for reporting

non-conforming work and is maintaining a log of non-conformance reports and of Construction Deficiencies. Status of quality related actions as of the closing of this quarter:

- Total NCRs issued as of closing of current quarter: 16 (1 open)
- o Observation Reports issued as of closing of current quarter: 9
- Engineering Judgements: 4

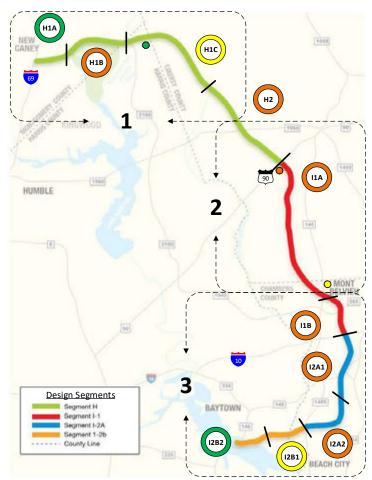
#### **3.8 Maintenance During Construction**

With the issuance of full NTP2, the DB Contractor is responsible for maintaining all existing roadways within the project right-of-way of Segments H and I-1, and is responsible for elements modified or constructed by the DB Contractor in Segment I-2. The DB Contractor has developed procedures under its Maintenance Management Plan to inspect and repair facilities on an ongoing basis. Debris removal and sign straightening have been the main items of maintenance work in this quarter. Activities carried out by the DB Contractor includes:

- o Weekly Inspections Completed: 9
- Monthly Inspections Completed: 3
- Special Inspections Completed: 0
- Incident Responses Attended: 0
- o Defects Identified this Period: 7
- Defects Resolved this Period: 9
- o Defects Total to Date: 34
- Defects Resolved to Date: 34
- o Defects Currently Unresolved: 0

#### **3.9 Construction**

The DB Contractor is constructing the project in three segments. Figure 3.3 shows the correlation of design priority areas to the three construction segments.



# Construction Segments

#### **Construction Segment 1:**

- Segment Manager: Jason Pittenger (Webber)
  From Segment G Tie-In near US 59 to North of FM
- STA 1016+60 to STA 1920+00 (17.1 Miles)
- 45 Bridges with 871k SF of Deck; 14k CY Substruct
- 1.35M CY EX and 3.3M CY EMB; 1.9M CY to Borrow

#### Construction Segment 2:

- Segment Manager: Brais Saurez (Ferrovial)
  From North of FM 1960 to SH 146
- STA 1920+00 to STA 2812+00 (16.5 Miles) - 19 Bridges with 523k SF of Deck; 10k CY Substruct
- (includes a 4,000+ LF Bridge over Railroad) - 602k CY EX and 3.5M CY EMB; 2.9M CY to Borrow
- Segment will also oversee work in Luce Bayou

#### **Construction Segment 3:**

- Segment Manager: Chris Allen (Granite)
- From SH 146 to Southern Terminus of the Project
- STA 2812+00 to STA 2141+19 (6.2 Miles)
- STA 445+31 to STA 617+93 (1.4 Miles)
- STA 74+00 to STA 351+48 (5.3 Miles) - 25 Bridges with 235k SF of Deck; 4.5k CY Substruc
- 400k CY EX and 3.2 CY EMB; 2.8M CY to Borrow
- Segment will oversee the Cedar Bayou Lift Bridge

Figure 3.3: Construction Segments and Priority Design Areas

For the reporting period, the DB Contractor continued its pre-construction reporting activities including setting up subcontracts and developing pre-activity plans for early work packages in portions where construction has not begun. Construction activities in each of the three construction segments is as follows:

#### Segment 1:

Activities in H-1A included:

- Started installing drainage pipe and Inlets between US-59 to Loop 494
- o Started MSE Wall fabrication
- Continue earthwork operations
- o Started topsoil and embankment operations
- $\circ$   $\,$  Continue drill shafts and footings for Bridges 203 and 204  $\,$
- Continue with drill shafts, columns and caps for Bridges 201 and 202
- Started columns on Bridges 203 and 204

 $\circ$   $\;$  Started girder and panels fabrication for Bridges 201 and 202  $\;$ 

#### Activities in H-1C included:

- Continue clearing and grubbing
- Continue installation of erosion control measures

#### Segment 2:

- o Completed installing cubicles and internet wiring at the field office
- o Conducted soil tests at borrow pit and at sand source
- o Continued with drilling boreholes
- Performed QC tests for sand at a pit site

#### Segment 3:

- $\circ$  Continued at Bridge 20 (FM 1405) including drilled shaft
- Continued tree clearing
- o Started installation of 12" waterline along the EB FR at Koppel Road

#### 4.0 Substantial Completion

Substantial Completion and opening to traffic is anticipated to occur concurrently in February 2022. As reported in the last quarterly construction progress report, the 19 additional days that the DB Contractor was relying on in projecting Substantial Completion date were formally awarded with approval of the change order. Total working days now stand at 1,693 days. Of these revised working days, 1,674 days were per the DB Agreement and the 19 additional days were approved with Change Order No. 1. According to the most recent progressed schedule submitted by the DB Contractor in this reporting period, Substantial Completion of H and I Project is 6 days beyond the 1,693 days that are available to the DB Contractor. Project is in early stages of construction and these 6 additional days are expected to be mitigated through additional resources and activity acceleration. Substantial Completion is therefore expected to occur on February 27, 2022. Project completion through Final Acceptance is projected to be 120 days after Substantial Completion on June 27, 2022.

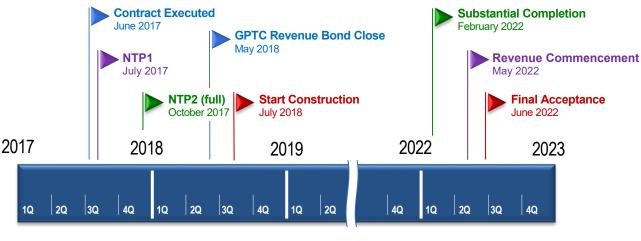
DB Contractor has an interim milestone requirement to complete work in Toll Zones 180 days prior to Substantial Completion Deadline and handover to Toll System Integrator. Latest schedule from the DB Contractor indicates this to be August 12, 2021 which meets with the requirements of the DB Agreement. TxDOT continues to monitor the schedule for turning over the Toll Zone and facilitates DB Contractor and Toll System Integrator in coordinating their efforts to meet the target date.

#### 5.0 Material Problems Encountered

There were no material problems encountered this quarter. As of November 20, 2018, when the latest draw submittal was made by the DB Contractor (for this reporting period), actual schedule percent complete was 11.1%. This is slightly behind the Planned Schedule Percent Complete of 14.4%. Similarly, earned value reported by the DB Contractor and included in Table 2.3 of this report shows that overall progress is behind what was originally estimated and

included in the form of maximum payment curve, by 3.6%. An assessment of the DB Contractor's progress against the Project Baseline CPM (Critical Path Method) schedule for the reporting period indicates that the Contractor is slightly behind schedule. However, projected Substantial Completion remains unchanged and is expected to occur on February 27, 2022 as the DB Contractor will mobilize additional resources and accelerate certain activities. There are no identified threats to the schedule at this time. The Project is on target to meet contractually required completion date.

Based on the latest schedule update submittal from the DB Contractor, the current projected Substantial Completion date is 6 days outside the Substantial Completion Deadline included in the DBA as adjusted for the approved change orders. The DB Contractor is still in the beginning stages of construction and is expected to make up the days. Commencement of toll revenues are expected ahead of the date included in the T&R study. The GPTC System T&R forecast and CDM Smith 2018 Bring Down Letter assume that Segments H, I-1 and I-2B will be open to tolled traffic on May 22, 2022.



Note:

#### Figure 5.1: H and I Project Milestones

As was the case with the schedule, there are no material problems encountered with costs. As reported in the last quarterly report, one issue of concern is the escalation in domestic steel prices for reinforcement steel. The DB Contractor has made a request for partnering discussion in accordance with the provisions of the DBA to discuss whether there is any entitlement to a relief through change order. These discussions are on-going.

# 6.0 Delivery Status of Equipment

No issues with equipment deliveries from the DB Contractor or the Toll System Integrator are currently anticipated. DB Contractor will procure the ITS and Traffic Signal equipment which is routine for such project.

Future dates are subject to change

TransCore is responsible for installing Tolling Equipment such as transponder readers and cameras, and has done so on other projects for TxDOT on a statewide basis.

### 7.0 Change Orders

#### 7.1 Approved Change Orders

As of the period covered in this progress report, following Change Orders were Approved:

Change Order #1

- Delay in issuance of full NTP2 for the project
  - Amount = \$0
  - Days = 19-day delay

Change Order #2a

- Castle Hill CH Partners Utility Casings
  - Amount = \$849,097
  - Days = 0

Change Order #2b

- Remove RR Track from UPRR Structures
  - Amount = \$73,941
  - Days = 0

Appendix B provides the overall list of approved change orders. With the approval of these change orders, the total construction cost for the DBA has increased from \$894,701,621.55 to \$895,624,659.55 and total days have increased from 1,674 to 1,693.

# 7.2 Pending Change Orders

Two change orders are under review. This includes revisions to Bridge #8 configuration over Rail Yard/Speer Property and a requirement from Coastal Water Authority to construct a siphon system at Luce Bayou and request from UPRR to increase US90 bridge span length. Anticipated value of these pending change orders is as follows:

Pending Change Order #3

- Bridge Over Rail Yard/Speer Property
  - Amount = \$17,600,000
  - Days = 0

Pending Change Order #4

- o CWA Siphon at Luce Bayou
  - Amount = \$4,799,826
  - Days = 0

Total for Pending Change Orders

- Amount = \$22,399,826
- Days = 0

### 8.0 Right of Way Acquisition

TxDOT carried out early right of way acquisition activities prior to issuance of NTP2. With the issuance of the NTP2, the DB Contractor is made responsible for all right of way acquisitions. Based on progress reporting from the DB Contractor, to date status of acquisitions is as follows:

ROW Status	
Estimated Total Number of Parcels <sup>1</sup>	234
Surveys Submitted for TxDOT Approval <sup>2</sup>	222
Right-of-Entry – Signed or verbal <sup>3</sup>	217
Parcels in Possession and cleared for construction <sup>4</sup>	25

Table 8.1: Progress on Right of Way Acquisitions

Notes:

- 1. Estimated total number of parcels represents most recent estimate of total acquisitions required based on the status of design development.
- 2. Surveys submitted for TxDOT approval represents approved surveys and those pending approvals as of the report period. Surveys previously submitted but requiring modifications are not included in the count until resubmitted.
- 3. Right-of-Entry figures represent active verbal or signed right of entries excluding those that may have expired.
- 4. As of reporting period, 25 out of the estimated total parcels to be acquired, or 11% are cleared for construction.

The DB Contractor right of way acquisition activities are on track as indicated by the earned value reporting and actual percent complete discussed in Sections 2 and 5 respectively

#### 9.0 Discussion of Other Matters

There are no matters related to the H and I Project Construction that have been requested.

APPENDIX A – Construction Photos for the Quarter



Figure A.1: Embankment Between US-59 201 and Loop 494 in Segment 1



Figure A.2: Bridge 201, Bent 3 Drilled Shafts in Segment 1



Figure A.3: Bridge 201, Bent 3 Concrete Pour for Columns in Segment 1



Figure A.4: Bridge 201, Bent 4 Concrete Pour for Columns in Segment 1



Figure A.5: View of Bridge 202, Abutment 9 in Segment 1



Figure A.6: Bridge 202, Bent 5 Concrete Pour at Drilled Shaft in Segment 1



Figure A.7: Bridges 201 and 202, View of Columns and Bent Caps in Segment 1



Figure A.8: Bridge 204, Drilled Shaft Construction in Segment 1



Figure A.9: Drainage Between US-59 and Loop 494 in Segment 1



Figure A.10: View of Clearing in Segment 1



Figure A.11: Bridge 20, Abutment 1 Installation of Drilled Shaft Cage in Segment 3



Figure A.12: Bridge 20, Abutment 4 Drilled Shaft Construction in Segment 3



Figure A.13: Tree Clearing West Median of FM-1405 in Segment 3

# APPENDIX B – Change Orders List

Change Order No.	Description	Status	Date Executed	Time Impact (days)	Cost Impact (\$)
1	Hurricane Harvey Impact & NTP2 Delay	Executed	11/20/18	19	-
2a	Castle Hill CH Partners Utility Casings	Executed	9/18/18	0	849,097
2b	Remove RR Track from UPRR Structures	Executed	9/18/18	0	73,941
	Subtotal for Exe	ige Orders	19	923,038	
3	Bridge Over Rail Yard/Speer Property	Pending	NA	0	17,600,000
4	CWA Siphon at Luce Bayou	Pending	NA	0	4,799,827
	Subtotal for Pe	0	22,399,827		
	Total for Executed and Pe	nding Chan	ige Orders	19	23,322,865

Figures shown may not add to totals due to rounding.

Note:

With the approval of change orders 1, 2a and 2b, the total construction cost for the DBA has increased by \$923,038 from \$894,701,621.55 to \$895,624,659.55 and total days have increased from 1,674 to 1,693.

#### APPENDIX C – Acronyms and Abbreviations

- ATC Alternate Technical Concept
- AUA Abbreviated Utility Agreement
- CPM Critical Path Method
- DB Design Build
- DBA Design Build Agreement
  - ED Eminent Domain
- ESA Environmental Site Assessment
- FHWA Federal Highway Administration
  - FM Farm to Market Road
  - GEC General Engineering Consultant
  - GPI Grand Parkway Infrastructure, LLC (DB Contractor)
- GPTC Grand Parkway Transportation Corporation
  - IH Interstate Highway
  - IP Individual Permit
  - ITS Intelligent Transportation Systems
- MSE Mechanically Stabilized Embankment
- NCR Non-Conformance Report
- NEPA National Environmental Policy Act
- NTP Notice to Proceed
- NWP Nationwide Permit
- PUA Possession and Use Agreement
- PUAA Project Utility Adjustment Agreement
  - RFC Released for Construction
  - RFI Request for Information
  - ROE Right of Entry
- ROW Right of Way
  - SH State Highway
  - SI Systems Integrator
- SW3P Storm Water Pollution Prevention Plan
  - TTC Texas Transportation Commission
- UPRR Union Pacific Railroad
  - US United States Highway
- USCG United States Coast Guard
- USACE United States Army Corps of Engineers
  - T&R Toll and Revenue
- TxDOT Texas Department of Transportation
- UAAA Utility Adjustment Agreement Amendment