

LOUISIANA HIGHWAY 3034
SULLIVAN ROAD IMPROVEMENT PROJECT

DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT



PERFORMANCE AUDIT SERVICES
ISSUED MARCH 3, 2022

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LOUISIANA LEGISLATIVE AUDITOR
MICHAEL J. "MIKE" WAGUESPACK, CPA

March 3, 2022

The Honorable Patrick Page Cortez,
President of the Senate
The Honorable Clay Schexnayder,
Speaker of the House of Representatives

Dear Senator Cortez and Representative Schexnayder:

This report provides the results of our evaluation of the Department of Transportation and Development's (DOTD) progress on the Louisiana Highway 3034 Sullivan Road improvement and sanitary sewer system installation project in the City of Central. The purpose of this evaluation was to determine the reason for project delays.

We found that because the project started as part of the East Baton Rouge Parish (EBR) Green Light Plan, DOTD did not follow its typical process before taking it over in 2011. Typically, DOTD would have identified funding for each project stage, would have been in charge of the engineering design and pre-construction work, and would have had EBR complete the sanitary sewer system installation before letting the road construction work. However, DOTD had to rely on EBR's design plans, did not have the expertise to oversee sanitary sewer system installation work, and had to secure additional funding because EBR's local monies were not transferred, all of which caused delays in the project.

In addition, we found that multiple changes to the scope of the project resulted in delays that were compounded because DOTD had to coordinate with EBR, the City of Central, and its engineering consultant each time a change was made.

We also found that the utility companies took more than three years to move electricity, water, gas, and telecommunication lines, which delayed the sanitary sewer system installation work.

Underground soil conditions and drainage issues resulting in multiple change orders also delayed the sanitary sewer system work. The contractor for the project eventually stopped work on the sanitary sewer system work in November 2021, which means DOTD's road construction may be further delayed pending the decision on how to proceed with sanitary sewer system installation.

The Honorable Patrick Page Cortez,
President of the Senate
The Honorable Clay Schexnayder,
Speaker of the House of Representatives
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As of January 2022, DOTD, working with EBR, had not yet decided how to complete the sanitary sewer system installation. DOTD is considering multiple options, including:

- asking EBR to take over sanitary sewer system installation work since the sanitary sewer system will be handed over to the city-parish once the construction is complete, and EBR has the expertise for that kind of work;
- letting the sanitary sewer system installation contract first and then letting the road construction contract; or
- letting the sanitary sewer system installation and road construction work together under the same contract.

The report contains our findings, conclusions, and recommendations. I hope this report will benefit you in your legislative decision-making process.

We would like to express our appreciation to the Department of Transportation and Development for its assistance during this audit.

Respectfully submitted,



Michael J. "Mike" Waguespack, CPA
Legislative Auditor

MJW/aa

Louisiana Legislative Auditor

Michael J. “Mike” Waguespack, CPA



Louisiana Highway 3034 Sullivan Road Improvement Project Department of Transportation and Development

March 2022

Audit Control # 40220005

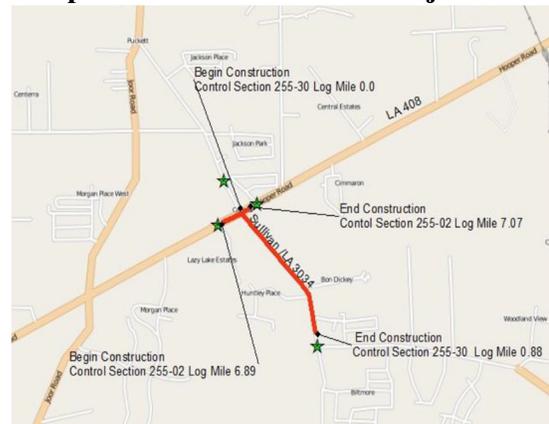
Introduction

We evaluated the Department of Transportation and Development’s (DOTD) progress on the Louisiana Highway 3034 Sullivan Road (Wax-Hooper) improvement and sanitary sewer system installation project (Sullivan Road) in the City of Central. Exhibit 1 shows the project site in red. During the Joint Legislative Committee on the Budget meeting on November 19, 2021, the Chairman requested an audit to evaluate the reasons for the delay in the completion of this project. This project began as part of East Baton Rouge’s (EBR) Green Light Plan¹ (GLP) and was one of 42 road improvement projects in the plan.

The GLP’s initial design plan proposed to widen Hooper and Sullivan Roads and concurrently improve the sanitary sewer system along Sullivan Road. Although no written agreement exists, DOTD’s previous administration took over the Sullivan Road project from EBR in 2011 under the conditions that EBR’s road and sanitary sewer system design plans would be used for the Sullivan Road project, while EBR would keep the Hooper Road project. The GLP’s Sullivan Road project’s estimated cost was \$25 million, including \$22 million in local funds and \$3 million in state funds. After DOTD took over the Sullivan Road project, the project is now expected to cost approximately \$28 million in state and federal funds,² as shown in Exhibit 2 on the next page.

Between 2011 and December 2021, there have been multiple delays, including the relocation of utilities and scope changes to the project. As of December 2021, DOTD’s clearing, grubbing, and sanitary sewer contractor has fully completed the clearing and grubbing of the construction site, but has only completed 55% of the contractually-required sanitary sewer system installation. According to DOTD, in November 2021, the clearing, grubbing, and sanitary sewer installation contractor stopped the sanitary sewer system installation work at a

Exhibit 1
Map of the Sullivan Road Project Site



Source: Prepared by legislative auditor’s office using a map obtained from DOTD.

¹ Act 413 of the 2006 Regular Session provided East Baton Rouge Parish with authority to undertake the financing of highway construction projects on state highways provided that the projects are funded pursuant to a ballot measure approved by the voters of East Baton Rouge Parish on October 15, 2005.

² Although DOTD is authorized to use federal funds on this project, it has not used any as of January 2022.

point where the work could be stopped safely and continued later without damage or deterioration to the completed sanitary sewer work, and DOTD is currently in the process of terminating the contract based on a mutual agreement with the contractor. The project may be further delayed if road construction cannot begin until the sanitary sewer work is completed.

Expenditures. As of January 19, 2022, DOTD has spent or committed \$8.1 million in state funds (i.e., General Funds and General Obligation Bonds) on this project. The projected cost is \$28 million. Exhibit 2 summarizes project budget and expenditures by funding source as of January 2022.

Exhibit 2 Sullivan Road Project Budget and Expenditures by Funding Source As of January 19, 2022			
Project Name and Description	Budget	Total Amount Spent or Committed	Amount Remaining
Sullivan Road: environmental study, utility relocations, right-of-way acquisitions, road construction, etc.	\$20,291,986	\$3,959,521	\$16,332,465
General Fund	3,030,869	807,935	2,222,934
General Obligation Bonds	17,261,117	3,151,586	14,109,531
Roundabout: design and traffic studies*	3,357,537	129,625	3,227,912
General Obligation Bonds	3,357,537	129,625	3,227,912
Clearing, Grubbing, and Sanitary Sewer System: contract, contract work inspections, etc.	4,344,917	4,000,172	344,745
General Obligation Bonds	4,344,917	4,000,172	344,745
Total	\$27,994,440	\$8,089,318	\$19,905,122
*In February 2022, to avoid further delays, DOTD decided to remove the roundabout at the intersection of Sullivan and Hooper Roads from the Sullivan Road project. It is unclear how this may impact the overall project budget.			
Source: Prepared by legislative auditor’s staff based on information in LaGov.			

Project Timeline. Exhibit 3 shows the current status of the Sullivan Road project site. Exhibit 4 on the next page provides a timeline for this project. As of January 2022, DOTD does not know when the Sullivan Road project road construction will be started.

**Exhibit 3
Sullivan Road Project Site**



Source: Picture was taken by legislative auditor’s staff on January 7, 2022.

Exhibit 4 Timeline of Sullivan Road Project

LOUISIANA DEPARTMENT OF TRANSPORTATION
AND DEVELOPMENT

SULLIVAN ROAD PROJECT



Source: Prepared by legislative auditor's staff using information obtained from DOTD.

The objective of this audit was:

To determine the reasons for delays of the Sullivan Road project.

Our results are summarized on the next page and discussed in detail throughout the remainder of the report. Appendix A contains DOTD's response, and Appendix B contains our scope and methodology. Appendix C provides all change order descriptions and amounts associated with the clearing, grubbing, and sanitary sewer system installation contract for the Sullivan Road project.

Objective: To determine the reasons for delays of the Sullivan Road project.

Overall, we found that multiple issues contributed to delays of the Sullivan Road project. Specifically, we found the following:

- **Because the Sullivan Road project started as an East Baton Rouge (EBR) Green Light Plan (GLP) project, it did not follow the typical DOTD process when DOTD took over the project in 2011. This caused project delays because DOTD had to rely on EBR's design plans, it did not have the expertise to oversee sanitary sewer system installation work, and it had to secure additional funding because EBR's local funds were not transferred to DOTD.** If the project had been selected by DOTD through its typical process, DOTD would have identified funding for each project stage, would have been directly in charge of the engineering design and pre-construction work, and EBR would have completed the sanitary sewer system installation before DOTD let the road construction project.
- **Multiple scope changes to the Sullivan Road project resulted in delays that were compounded by DOTD having to coordinate with EBR, the City of Central, and their engineer consultant every time the scope of the work changed.** These scope changes included the separation of the clearing, grubbing, and sanitary sewer installation project from the road construction project, as well as minor adjustments to the sanitary sewer system design plans based on the geotechnical study results.
- **Utility companies did not meet their agreed-upon deadline to relocate utilities and took more than three years to relocate the electricity, water, gas, and telecommunication lines, which delayed the sanitary sewer system installation work.** These delays also resulted in change orders to maintain rights-of-way (i.e., weedeating, mowing, herbicide applications, etc.) during these three years. Although state law³ allows DOTD to fine the utility companies for liquidated damages for unjustified delays, DOTD stated that the fines are not significant enough to persuade utility companies to complete the relocation in a timely manner.
- **Underground soil conditions and drainage issues delayed the progress of the sanitary sewer work, resulting in multiple change orders and the contractor stopping work on November 23, 2021. As of December 2021, DOTD is in the process of terminating the clearing, grubbing, and sanitary sewer installation contract, which may further delay this project.** According to DOTD, the contractor did not anticipate the amount of dewatering that would be required to install the sanitary sewer system, even though a geotechnical report indicated that free groundwater and silty sand (soil conditions) existed between 8 and 14 feet

³ Louisiana Revised Statute (R.S.) 48:381

underground at the sanitary sewer pump station construction site. According to DOTD, underground conditions (such as flowing sand, water infiltration at depth, etc.) created complications for the DOTD contractor, resulting in changes to construction methods, equipment, and materials to address these conditions.

As of January 2022, DOTD, in coordination with EBR, has not yet decided how to proceed with completing the sanitary sewer system installation work. DOTD is currently considering multiple options including the following:

- (1) DOTD can ask EBR to take over sanitary sewer system installation work since the sanitary sewer system will be handed over to EBR once the construction is complete and EBR has the expertise for that kind of work;
- (2) DOTD can let the sanitary sewer system installation contract first before letting road construction contract; or
- (3) DOTD can let the sanitary sewer system installation and road construction work together under the same contract.

Our findings and our recommendations are discussed in more detail in the following sections.

Because the Sullivan Road project started as an East Baton Rouge (EBR) Green Light Plan (GLP) project, it did not follow the typical DOTD process when DOTD took over the project in 2011. This caused project delays because DOTD had to rely on EBR's design plans, it did not have the expertise to oversee sanitary sewer system installation work, and it had to secure additional funding because EBR's local funds were not transferred to DOTD.

State law⁴ mandates that DOTD must not undertake any construction project except those included in the Highway Priority Program (HPP) for that fiscal year, regardless of the source of the funds for the project.⁵ However, DOTD can also receive specific construction projects through the Capital Outlay Bill (HB2) each fiscal year, which do not go through the typical DOTD process developed to comply with HPP requirements. Although DOTD did not start working on the project until 2011, the Sullivan Road project was added to HB2 in the 2007 Regular Session, although it was not fully funded at that time.

In accordance with R.S. 48:229.1 - 232, DOTD has developed a process for selecting projects for the HPP. According to this process, projects are first identified based on state highway data and input from stakeholders (i.e., citizens, elected officials, industry representatives, etc.). DOTD then prioritizes projects in each region in consultation with state and local officials. Once projects have been prioritized, the proposed HPP is submitted to the House and Senate Transportation Committees, who hold public hearings in each of the nine DOTD districts and is ultimately approved by the entire Legislative body.

Source: Prepared by legislative auditor's staff based on information provided by DOTD.

The Sullivan Road project did not follow the typical DOTD process when DOTD took over the Sullivan Road project because pre-construction activities were completed by another entity and it had no expertise in overseeing sanitary sewer system installation work. DOTD pre-construction activities include surveying the future construction site, acquiring necessary permits, holding public meetings, developing design plans and right-of-way (ROW) plans, conducting environmental studies, etc. These activities help ensure the project's success by planning, budgeting, scheduling, staffing, directing, and controlling project activities to achieve a desired objective. In addition, DOTD typically does not construct sanitary sewer systems, because these systems are a part of local infrastructure. However, when DOTD took over the Sullivan Road project in 2011, DOTD's previous administration also agreed to take over the sanitary sewer system installation work as part of this project, where it lacked expertise, according to DOTD. According to DOTD's current administration, they are unsure why DOTD took over the sanitary sewer system installation work. DOTD agreed to use EBR's road and sanitary sewer system design plans developed by EBR's engineering consultant and relied on EBR to (1) inspect sanitary sewer system installation work, (2) task its engineering consultant to make necessary design changes to the sanitary sewer system, and (3) accept ownership of the sanitary sewer system when construction would be complete.

⁴ R.S. 48:232

⁵ With the exceptions of projects undertaken and financed out of the DOTD secretary's emergency fund and projects involving the use of matching funds to meet federal requirements in order to receive federal aid funds.

DOTD had to secure full funding for the Sullivan Road project when it took it over from EBR. The GLP 's Sullivan Road project was to be funded by a combination of local funds in the amount of \$22 million and state funds in the amount of \$3 million for a total of \$25 million. When DOTD took over this project in 2011, the \$22 million in local funds for the project did not transfer to DOTD. As a result, in order to qualify for federal funding, DOTD had to do an environmental assessment, which was approved in May 2015.

Recommendation 1: DOTD should ensure it has the necessary expertise before it takes over any sanitary sewer system installation projects in the future.

Summary of Management's Response: DOTD agrees with this recommendation and stated that DOTD will work to ensure that these types of issues are mitigated in the future should this type of project handoff be discussed. Specifically, that the entity that owns the utility must be involved in the design and inspection to ensure the project is constructed correctly. The entity should also be responsible for change orders and costs incurred due to installation of entity owned utilities.

Multiple scope changes to the Sullivan Road project resulted in delays that were compounded by DOTD having to coordinate with EBR, the City of Central, and their engineer consultant every time the scope of the work changed.

According to DOTD, its previous administration agreed to take over the Sullivan Road project from EBR GLP in 2011 under two conditions. First, that EBR's project design plans would be used in the Sullivan Road project, and second, that EBR and the City of Central would retain an engineering consultant responsible for pre-engineering, engineering, and design work. Since DOTD did not contract with the engineering consultant directly, every time the scope of work changed, it had to coordinate with EBR and the City of Central, which contributed to project delays. Scope changes resulted in DOTD having to amend its Cooperative Endeavor Agreement with EBR and the City of Central, and EBR and the City of Central having to amend their contracts with their engineering consultant. For example, the first design change was to separate the Sullivan Road widening and sanitary sewer installation project, which was taken over by DOTD, and the Hooper Road widening project, which was kept by EBR. This delayed the project because design plans that were already completed by EBR's engineering consultant had to be redesigned to accommodate this split. Exhibit 5 below summarizes scope changes to the Sullivan Road project.

Exhibit 5	
Sullivan Road Scope Changes Resulting in Delays	
Year	Design Change Description
2011	The original project was split into two segments, with DOTD taking the Sullivan Road segment and EBR GLP keeping the Hooper Road segment.
2015	DOTD decided to split the Sullivan Road project into two projects: (1) the clearing, grubbing, and sanitary sewer installation project and (2) the roadway construction project. In December 2015, DOTD signed an agreement with the City of Central to task the city's engineering consultant to develop the clearing and grubbing plans and finalize road construction plans for \$89,030 and signed an agreement with EBR to task EBR's engineering consultant to design the sewer system within the Sullivan Road project. DOTD was responsible for letting the project and handing over ownership of the sanitary sewer system to EBR after completion.
2016	Letting of the clearing, grubbing, and sanitary sewer contract was delayed due to additional soil testing* for a sanitary sewer pump station site, which resulted in EBR's engineering consultant making minor adjustments to the sanitary sewer system design plans.
2020	In 2020, to improve traffic flow, DOTD decided to combine a roundabout located at the intersection of Sullivan and Hooper Roads with the Sullivan Road Improvement project and amended its agreement with the City of Central for the City's engineering consultant to modify the design plans to accommodate this change instead of the previously-designed signalized intersection. This could have resulted in further delays because DOTD would have been required to get federal environmental reevaluation clearance, utility companies would have needed to relocate utility lines at the site of the roundabout, and DOTD would have had to purchase the remaining ROWs, all while also minimizing the impact to a historic building on one side of the intersection and a gas station on the other.
2021	In 2021, DOTD reached a mutual agreement with the clearing, grubbing, and sanitary sewer contractor to terminate the contract, which is currently in progress. This may require additional changes to the sanitary sewer system design by EBR's engineering consultant and delays due to redesigning and reletting the sanitary sewer work contract.
2022	In 2022, to avoid further delays to the road construction (such as delays due to purchasing additional ROW and utility relocations at the site of the roundabout), DOTD decided to remove the roundabout at the intersection of Sullivan and Hooper Roads from the Sullivan Road project. As a result of this decision, the road design plans will need to be changed by EBR's engineering consultant.
<p>*In April 2016, EBR's engineering consultant requested another company to conduct a geotechnical study, i.e., test the soil profile near the proposed pump station site on the Sullivan Road project. This study identified the soil profile at different depths and documented the existence of groundwater at the pump station site. Source: Prepared by legislative auditor's staff using information provided by DOTD.</p>	

Utility companies did not meet their agreed-upon deadline to relocate utilities and took more than three years to relocate the electricity, water, gas, and telecommunication lines, which delayed the sanitary sewer system installation work.

Before road or sanitary sewer system construction can begin, certain activities have to be completed, such as the purchase of ROWs, completion of clearing and grubbing⁶ of the project site, and relocation of utility lines (such as water, telecommunication, electricity, etc.) from the existing location to the newly purchased ROWs. Typically, DOTD lets the contract to complete clearing and grubbing first. After this work is completed, DOTD notifies utility companies to begin relocating their utility lines at the project site. Then, DOTD notifies local authorities to move or construct their sanitary sewer system. Once all of this work is complete, then DOTD lets the contract for road construction. However, to expedite this project, DOTD combined the clearing and grubbing work with sanitary sewer system installation under one contract with the expectation that utility lines would be moved at the same time.

Utility relocations took more than three years, which resulted in five change orders to maintain the ROWs. Each utility company received a Notice to Proceed in August 2017, authorizing them to start utility relocation and setting specific completion dates when all utility lines had to be moved to the newly-acquired ROWs. After DOTD's clearing, grubbing, and sanitary sewer system installation contractor completed 100% of clearing and grubbing on the construction site, utility companies started relocating their utility lines. However, delays in utility relocation impacted the sanitary sewer system installation part of the contract. According to DOTD, all five utility companies⁷ exceeded their agreed-upon completion deadlines, with the last utility company finishing its relocation in March 2021 instead of the final planned date of November 2018.⁸

According to DOTD, the contractor decided to start working on sanitary sewer system installation in the areas where utility lines had been relocated in order to keep the project moving even though utility lines were not relocated for the whole construction site yet. This created the public perception that construction had started. In addition, the clearing, grubbing, and sanitary sewer contractor had 240 days added to his contract time due to delays with utility relocation. Exhibit 7 lists change orders that resulted in changes to the clearing, grubbing, and sanitary sewer system installation

**Exhibit 6
Herbicide Application by the Contractor to Maintain the ROWs**



Source: Provided by the East Baton Rouge Parish Department of Environmental Services.

⁶ A surface operation for the cutting and removing of timber, logs, brush, stumps and debris within or encroaching onto the right-of-way of the construction site.

⁷ Electricity, gas, telecommunications, and water.

⁸ The latest completion date for utility relocations.

contract due to delays in relocating utilities. For example, ROW maintenance at the Sullivan Road project site included mowing, weedeating, and herbicide applications, as shown in Exhibit 6. Appendix C lists all change orders for the project.

Exhibit 7				
Clearing, Grubbing, and Sanitary Sewer Work Contract Change Orders				
Due to Utility Relocation Delays				
As of November 2021				
Change Order ID Number	Change Order Date	Change Order Description	Change Order Amount	Days Added
3	8/14/2018	Right-of-way maintenance at the Sullivan Road project site due to utility relocation delays.	\$12,332	
4	11/13/2018		6,831	
5	4/4/2019		25,012	
7	7/2/2019		16,926	
10	9/5/2019		14,967	
16	11/25/20	Reimbursement of calendar days due to utility relocation delays.		240
Total cost of change orders for maintenance due to relocation delays			\$76,068 (15.5%)	
Total cost of all change orders <i>(See Appendix C for all change orders)</i>			\$490,620	
Source: Prepared by the legislative auditor's staff using information from the DOTD <i>SiteManager</i> database.				

Even though utility companies finished relocating utilities in March 2021, the clearing, grubbing, and sanitary sewer contractor encountered additional unmarked utility lines, resulting in additional delays to the project because the contractor had to stop work again until these utility lines were moved.

DOTD did not require utility companies to submit documentation explaining the reasons for utility relocation delays in order to determine whether delays were justified. State law⁹ allows DOTD to fine utility companies for liquidated damages equal to 0.05 percent per day of the estimated utility's relocation costs for delays caused solely by the unjustifiable delinquency of a utility in the completion of relocation work. Although DOTD suspended issuing new DOTD statewide permits¹⁰ for one of the utility companies, it did not request documentation from all five utility companies to justify their delinquency. While DOTD policy requires that DOTD document utility delays, it does not require utility companies to explain the reasons for delays. Therefore, it is not clear whether DOTD should have exercised their authority to fine these utility companies for unjustifiable delinquencies. DOTD stated that it rarely pursues fines since they are not significant enough to persuade utility companies to finish relocating their lines in a timely manner. Even if DOTD chose to fine utility companies for the delay, DOTD is limited by state law to a fine in the amount of 0.05 percent per day of the estimated unjustified delay costs.

⁹ R.S. 48:381

¹⁰ DOTD regulates the location, design, methods for installing, adjusting, accommodating, and maintenance of non-DOTD facilities (such as utility lines, drive ways, etc.) on DOTD ROWs by issuing a Right-of-Way Permit. The types of permits issued include: fiber optic permit, utility permit, wireless permit, etc.

Matter for Legislative Consideration: The legislature may wish to consider revising state law to develop a mechanism to hold utility companies accountable for unjustified delays of utility relocation. This may include increasing fines or imposing a per day penalty when companies exceed agreed-upon deadlines.

Recommendation 2: DOTD should follow its policies and document whether utility relocation delays are justified and consider exercising its statutory authority to fine utility companies for unjustified delays.

Summary of Management's Response: DOTD partially agrees with this recommendation and stated that DOTD did not exercise its authority to assess fines due to the negligible value of the fines. DOTD will continue its practice of suspending or delaying permits to utilities when necessary.

Underground soil conditions and drainage issues delayed the progress of the sanitary sewer work, resulting in multiple change orders and the contractor stopping work on November 23, 2021. As of December 2021, DOTD is in the process of terminating the clearing, grubbing, and sanitary sewer system installation contract, which may further delay the project.

In 2015, DOTD signed an agreement with EBR to design the sanitary sewer system along Sullivan Road, which will be handed over to EBR by DOTD after the work is completed. DOTD awarded the clearing, grubbing, and sanitary sewer system installation contract (contract) based on these design plans that required the sanitary sewer lines in some areas to be buried 20 feet deep. Two bidders bid for the clearing, grubbing and sanitary sewer system installation contract, and DOTD awarded the bid to the lowest bidder, per state law.¹¹ Exhibit 8 shows the status of the contract as of November 2021; for example, the original contract amount was \$3.2 million; however, change orders increased this to \$3.7 million (15.5% increase).

According to DOTD, the contractor did not anticipate the amount of dewatering that would be required to install the sanitary sewer system, even

**Exhibit 8
Status of the Sullivan Road Clearing,
Grubbing, and Sanitary Sewer System
Installation Contract
As of January 2022**

Bid Days	365
Adjusted Days*	274
Total Days	639
Charged Days	539
Percent Time Used	84.35%
Bid Amount	\$3,168,835
Approved Change Order Amount	\$490,620
Approved Amount	\$3,659,455
Paid To Date	\$1,969,980

*Calendar days given back to the contractor due to utility relocation delays, holidays, adverse weather, etc.

Source: Prepared by the legislative auditor's staff using information from the DOTD *SiteManager* database.

¹¹ R.S. 48:252

though a geotechnical report indicated that free groundwater and silty sand (soil conditions) existed between 8 and 14 feet underground at the sanitary sewer pump station construction site. According to DOTD, underground conditions (such as flowing sand, water infiltration at depth, etc.) created complications for the DOTD contractor, resulting in changes to construction methods, equipment, and materials to address these conditions. As a result, according to DOTD, the contractor requested additional funding and stopped its work pending DOTD approval. Since the inception of the contract, DOTD has approved 19 change orders, for \$490,620 (15.5% of contract cost), and extended the contractor's deadline by 274 days. Exhibit 9 lists all change orders to the contract due to underground conditions.

Exhibit 9 Clearing, Grubbing, and Sanitary Sewer System Installation Contract Change Orders Due To Underground Conditions As of November 2021			
Change Order ID Number	Change Order Date	Change Order Description	Change Order Amount
2	3/27/2018	Additional work needed to install the jack and bore sanitary sewer. The jack and bore sanitary sewer in these locations was necessary because of right-of-way constraints (none was purchased in the area), and to lessen the impact on local roads, and to address encountered flowing sand and water at the construction site.	\$57,525
6	6/5/2019	Due to unstable soil conditions under the roadway, the City of Baton Rouge's Department of Public Works (DPW) advised that if the contractor bored with Certa-Lok PVC pipe, a locking bell pipe, in lieu of casing with traditional carrier pipe, it would meet specifications in the contract.	(73,536)
11	9/12/2019	Due to water and flowing sand, the City of Baton Rouge's DPW advised that a well point system be setup around the location of the trench that meets specifications in the contract.	60,165
12	10/2/2019	Groundwater and unstable sand infiltration caused unstable conditions in the subgrade. Stone backfill was used by the contractor for future manhole locations where the contractor had trouble setting sanitary sewer manhole boxes at elevation. Additionally, three sanitary sewer lines were shifted and extended to avoid boring near underground oak tree roots.	49,345
13	10/25/2019	Due to groundwater and unstable sand infiltration made boring operations unsafe. After further discussion, the City of Baton Rouge's DPW advised that a well point system be setup around the location of the trench that meets specifications in the contract.	69,144
14	3/27/2020	To increase the quantity for 24" Jack and Bore sanitary sewer pipes due to change to Certa-Lok pipe.	52,556
15	04/28/2020	While excavating for the sanitary sewer, the Contractor came into conflict with two storm drain catch basins and storm drain pipe. After further discussion, the Project Engineer directed the contractor to remove and replace the two catch basins and the storm drain pipe.	6,324
17	4/12/2021	To increase the quantity of stone backfill and to increase the quantities of removal and replacement of PCCP (9") due to encountering unsuitable subgrades	35,376
18	6/21/2021	To increase the quantity of stone backfill due to encountering unsuitable subgrades	101,431
Total cost of change orders due to underground conditions			\$358,330 (73.0%)
Total cost of all change orders (See Appendix C for all change orders)			\$490,620
Source: Prepared by legislative auditor's staff using information from the DOTD <i>SiteManager</i> database.			

As of December 2021, DOTD is in the process of terminating the contract and is considering multiple options on how to proceed. DOTD initiated the change order that documents a mutual agreement between the state and the contractor to terminate the contract, which is currently in progress. According to DOTD, the contractor is unable to finish its work within the contracted amount because of the additional cost and time associated with the dewatering required to install the sanitary sewer system and the utility relocation delays on the project. DOTD stated that it cannot pursue default proceedings against the contractor until early summer 2022 when the contract expires. Because this would further delay the project, DOTD and the contractor mutually decided to terminate the contract, and DOTD will pursue other means to complete the sanitary sewer system installation.

In January 2022, DOTD sent a list of items to be completed by the contractor prior to the contract termination. Once the contract is terminated and DOTD accepts work already completed by the contractor, design plans for the sanitary sewer system most likely will need to be changed by the EBR's engineering consultant, and a new contract for sanitary sewer system installation will need to be let. As of January 2022, DOTD has not yet decided how to proceed with sanitary sewer system installation. DOTD, in coordination with EBR, is currently considering the following options:

- (1) DOTD can ask EBR to take over sanitary sewer system installation work since the sanitary sewer system will be handed over to EBR once the construction is complete and EBR has the expertise for that kind of work;
- (2) DOTD can let the sanitary sewer system installation contract first before letting road construction contract; or
- (3) DOTD can let the sanitary sewer system installation and road construction work together under the same contract.

APPENDIX A: MANAGEMENT'S RESPONSE



Office of the Secretary
PO Box 94245 | Baton Rouge, LA 70804-9245
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John Bel Edwards, Governor
Shawn D. Wilson, Ph.D., Secretary

February 22, 2022

Mr. Michael J. (Mike) Waguespack
Legislative Auditor
P. O. Box 94397
Baton Rouge, LA 70804

**RE: Department of Transportation and Development Audit Recommendation 1:
Sanitary Sewers**

Dear Mr. Waguespack:

The Department is in receipt of your report titled “LA HWY 3034 Sullivan Road Improvement Project”. Included in the report were two findings with accompanying recommendations. I appreciate the opportunity to respond to your findings and recommendations and to have my response letter included as an attachment in the final report.

The Department agrees with Recommendation #1, which states “DOTD should ensure that it has the necessary expertise before it takes over any sanitary sewer system installation projects in the future”. As stated in your report, this project initiated as an East Baton Rouge Parish (EBR) Green Light Project, including the plans for sanitary sewer installation work. As was discovered once work commenced, the sanitary sewer design plans did not clearly indicate the amount of dewatering needed as a single geotechnical boring is not adequate to qualify the underground conditions (such as flowing sand, water infiltration at depth, etc.) and therefore created complications for the DOTD contractor. This resulted in changes to construction methods, equipment, and materials to address these conditions. DOTD will work to ensure that these types of issues are mitigated in the future should this type of project handoff be discussed. Specifically, the entity that owns the utility must be involved in the design and inspection to ensure the project is constructed correctly. The entity should also be responsible for change orders and costs incurred due to installation of entity owned utilities. DOTD does not own utilities nor do we construct sanitary sewer systems.

The Department partially agrees with Recommendation #2, which states “DOTD should follow its policies and document whether utility relocation delays are justified and consider exercising its statutory authority to fine utility companies for unjustified delays”. We documented each utility owner’s timeframe to relocate their property. We also documented the delays to the Construction contract, which created change orders adding time. We also reimbursed the Contractor days they worked prior to the utilities relocations. As stated, we did not exercise our authority to assess fines due to the negligible value of the fines. As an example,

a \$200k relocation project would result in a fine of \$100 per day ($\$200,000 \times .005$) after exceeding the utility owners estimated duration. We will continue our practice of suspending or delaying permits to utilities when necessary.

Thank you for the opportunity to respond to these audit findings and recommendations. We appreciate the positive working relationship we have with your staff. Please feel free to contact me at (225) 379-1200 or Chris Knotts, Chief Engineer at (225) 379-1384 should you have any questions.

Sincerely,



Shawn D. Wilson, Ph.D.
Secretary

SDW:MS:ch

cc: Dr. Eric Kalivoda, PE
Mr. Barry Keeling
Mr. Don Johnson
Mr. Mark St. Cyr
Mr. Mike Vosburg, PE
Mr. Chad Winchester, PE

APPENDIX B: SCOPE AND METHODOLOGY

This report provides the results of our performance audit of the Department of Transportation and Development. We conducted this performance audit under the provisions of Title 24 of the Louisiana Revised Statutes of 1950, as amended. This audit covered the progress of the Sullivan Road project from 2005 to February 2022. Our audit objective was:

To determine the reasons for delays of the Sullivan Road project.

We conducted this performance audit in accordance with generally accepted *Government Auditing Standards* issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide reasonable basis for our findings and conclusions based on our audit objective. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. To answer our objective, we reviewed internal controls relevant to the audit objective and performed the following audit steps:

- Reviewed Louisiana State laws and federal laws related to road construction.
- Reviewed DOTD's policies and procedures for project delivery.
- Met with DOTD and East Baton Rouge Parish/City of Baton Rouge staff to gain an understanding of the history of the Sullivan Road project.
- Met with Engineering Consultant who designed the sanitary sewer system plans for the Sullivan Road project.
- Obtained and reviewed documentation related to the Sullivan Road project from DOTD's intranet and *SiteManager* database and requested other project documentation from DOTD staff. Specifically:
 - Obtained and reviewed the Sullivan Road project design plans from East Baton Rouge Parish's Green Light Plan and DOTD.
 - Obtained and reviewed the environmental assessment of the Sullivan Road project approved by the federal government.
 - Obtained and reviewed agreements between DOTD and the City of Central and DOTD and East Baton Rouge Parish/City of Baton Rouge for the design and construction of the Sullivan Road project.
 - Obtained and reviewed the contract for clearing, grubbing, and sanitary sewer work for the Sullivan Road project.

- Obtained and reviewed DOTD's communications with utility companies that relocated utility lines at the Sullivan Road project site.
- Obtained and reviewed all change orders for the clearing, grubbing, and sanitary sewer work contract.
- Obtained and reviewed documentation of project related email communications between DOTD, East Baton Rouge Parish, the City of Central, and engineering consultant who designed the sanitary sewer system plans.
- Obtained Sullivan Road project expenditures to date from DOTD and compared these expenditures to the reports obtained from Business Objects to ensure reliability.
- LLA's Manager of Construction Auditing reviewed bidding and letting documentation, change orders, and inspection reports for the clearing, grubbing and sanitary sewer work contract for the Sullivan Road project.
- Visited the project site to review current site conditions.
- Offered to meet with the clearing, grubbing, and sanitary sewer work contractor to gain an understanding of the issues faced during sanitary sewer system installation, but the contractor opted not to.
- Sent the report to DOTD and EBR for review and to provide feedback.

APPENDIX C: DESCRIPTION AND AMOUNTS ASSOCIATED WITH CHANGE ORDERS FOR THE CLEARING, GRUBBING, AND SANITARY SEWER SYSTEM INSTALLATION CONTRACT

Change Order ID Number	Description	Amount	Days Added	Change Order Date	Approval Date
1. Partial Acceptance	The purpose of this change order was to obtain authorization for a partial acceptance. The items accepted for this phase includes: clearing and grubbing along Sullivan and Hooper Road, erection of the temporary erosion control items, removal of the existing drainage structures, removal of fences and sprinkler systems, and all signs on Sullivan Road with the exception of two at specific stations. A total of 30 days was added to the contract to account for nine adverse weather days, nine holidays, and 12 days waiting time for DOTD inspection.	\$0	30	08/25/17	10/30/17
2. Jack and Bore Sewer Change	The purpose of this change order was to create an item for the additional work needed to install the jack and bore sanitary sewer. The jack and bore sanitary sewer in these locations was necessary because of right-of-way constraints (none was purchased in the area), to lessen the impact on local roads, and to address encountered flowing sand and water at the construction site.	57,525	N/A	03/27/18	05/07/18

Change Order ID Number	Description	Amount	Days Added	Change Order Date	Approval Date
3. Right-of-Way Maintenance	The purpose of this change order was to create an item for right-of-way maintenance. Due to numerous complaints from the land owners adjacent to the project site and the City of Central, the contractor was maintaining the right-of-way.	\$12,332	N/A	08/14/18	08/22/18
4. Right-of-Way Maintenance	The purpose of this change order was to create an item for right-of-way maintenance. Due to numerous complaints from the land owners adjacent to the project site and the City of Central, the contractor was maintaining the right-of-way.	6,831	N/A	11/13/18	11/26/18
5. Right-of-Way Maintenance	The purpose of this change order was to create an item for right-of-way maintenance. Due to numerous complaints from the land owners adjacent to the project site and the City of Central, the contractor was maintaining the right-of-way.	25,012	N/A	04/04/19	05/06/19

Change Order ID Number	Description	Amount	Days Added	Change Order Date	Approval Date
6. Bore with Certa-Lok	The purpose of this change order was to create items for boring sanitary sewer at locations shown in the plans and non-returnable casing materials. After encountering flowing sand in the receiving pit and attempting to dewater it for several days, the contractor decided site conditions made the initial method of jack and bore dangerous. Furthermore, while drilling under the roadway, the contractor encountered additional sand collapsing the horizontal hole and water infiltration at depth. These unstable soil conditions under the roadway caused concerns. After further discussion, the City of Baton Rouge's Department of Public Works (DPW) advised that if the contractor bored with Certa-Lok PVC pipe, a locking bell pipe, in lieu of casing with traditional carrier pipe, it would meet specifications in the contract.	(\$73,536)	N/A	06/05/19	08/12/19
7. Right-of-Way Maintenance	The purpose of this change order was to create an item for right-of-way maintenance. Due to numerous complaints from the land owners adjacent to the project site and the City of Central, the contractor was maintaining the right-of-way.	16,926	N/A	07/02/19	07/03/19
8. Additional Construction Layout	The purpose of this change order was to create an item for construction layout. Due to numerous requests by the utility companies to have the right-of-way and sanitary sewer bore pits staked, the Construction Layout budget was exhausted. DOTD requested that the right-of-way be staked on multiple occasions to confirm silt-fencing locations during the utility relocation process as well.	17,011	N/A	07/02/19	07/03/19

Change Order ID Number	Description	Amount	Days Added	Change Order Date	Approval Date
9. Arborist Services	The purpose of this change order was to add Arborist Services. The sanitary sewer system installation process for this project includes trenching, boring, and placing sanitary sewer manholes at the proposed locations. Live oak trees and/or roots were located in two construction servitude areas and one inside the right-of-way line. DOTD's Landscape Architect examined these three locations and determined that an arborist was needed to properly trim and treat the tree roots to avoid any damage during sanitary sewer system installation.	\$3,516	N/A	08/23/19	08/23/19
10. Right-of-Way Maintenance	The purpose of this change order was to create an item for right-of-way maintenance. Due to numerous complaints from the land owners adjacent to the project site and the City of Central, the contractor was maintaining the right-of-way.	14,967	N/A	09/05/19	09/16/19

Change Order ID Number	Description	Amount	Days Added	Change Order Date	Approval Date
11. Well Point System (Bore 5)	The purpose of this change order was to create an item for the installation, usage, and removal of a well pointing system for Bore #5. Specifically, during trenching operations, the contractor encountered ground water 5 ft. above the proposed invert elevation of the receiving pit. Dewatering and using a pump for several days allowed the contractor to suction water from the trench to the roadside ditch. However, once boring operations started, water and flowing sand began to rush into the trench, making conditions unsafe. After further discussion, the City of Baton Rouge's DPW advised a well point system be setup around the location of the trench that meets specifications in the contract.	\$60,165	N/A	09/12/19	09/17/19
12. Sewer Manhole Backfill	The purpose of this change order was to create an item for stone subgrade and to adjust the as-built quantity for boring with Certa-Lok. While excavating to place manhole boxes, the contractor encountered groundwater and unstable sand infiltration, which caused unsuitable conditions in the subgrade. Several manhole locations were potholed and exhibited similar conditions. Stone backfill would be placed as needed for future manhole locations where the contractor has trouble setting sanitary sewer manhole boxes at elevation due to unsuitable subgrade material. Additionally, three sanitary sewer lines were shifted and extended to avoid boring near underground oak tree roots.	49,345	N/A	10/02/19	11/01/19

Change Order ID Number	Description	Amount	Days Added	Change Order Date	Approval Date
13. Well Point System (Bore 7)	The purpose of this change order was to create an item for the installation, usage, and removal of a well pointing system. During trenching operations, the contractor encountered ground water 5 ft. above the proposed invert elevation of the receiving pit. Dewatering and using a pump for several days allowed the contractor to suction water from the trench to the roadside ditch. However, once boring operations started, water flowing sand began to rush into the trench, making conditions unsafe. After further discussion, the City of Baton Rouge's DPW advised a well point system be setup around the location of the trench that meets specifications in the contract.	\$69,144	N/A	10/25/19	11/07/19
14. Sanitary Sewers Quantity Adjustment	The purpose of this change order was to increase the quantity for 24" Jack and Bore sanitary sewer pipes installed before installation was changed to Certa-Lok pipe.	52,556		03/27/20	03/31/20
15. Catch Basin and SDP Removal & Replacement	The purpose of this change order was to create items for 18" storm drain pipe and catch basin modifications. While excavating for the sanitary sewer line along the right shoulder of Sullivan Road, the Contractor came into conflict with two storm drain catch basins and storm drain pipe. After further discussion, DOTD directed the contractor to remove and replace the two catch basins and the storm drain pipe.	6,324	4	04/28/20	05/05/20

Change Order ID Number	Description	Amount	Days Added	Change Order Date	Approval Date
16. Reimbursement of Days (Utility Cooperation)	The purpose of this change order was to reimburse the contractor calendar days charged during the Cooperation with Utilities period of construction activities. Time charge must not resume until all utilities listed in the contract are removed, relocated, adjusted, or abandoned in accordance with the agreements between DOTD and utility owners. Contractor may choose to work prior to utility relocation being completed, but contract time will not be charged during this period. This change order reimbursed the contractor 240 calendar days charged between August 4, 2017 and March 4, 2021.	\$0	240	11/25/20	05/11/21
17. Estimate 22 Overruns	The purpose of this change order was to increase the quantity of Stone Backfill # 57 and to increase the quantities of removal and replacement of PCCP (9" Thick). In order to install manhole boxes, the contractor submitted a trench box design for review and approval. To install trench box, sections of the roadway shoulders needed to be removed and replaced.	35,376	N/A	04/12/21	04/22/21
18. Stone Backfill #57 Overrun	The purpose of this change order was to increase the quantity of Stone Backfill # 57. When installing sanitary sewer structures and encountering unsuitable subgrades, Contractor shall remove unsuitable material that cannot be pump dry, at the direction of the Project Engineer, #57 stone encapsulated in geotextile fabric, shall be used in accordance with the Standard Detail 801-01. Unsuitable subgrade material was encountered at three specific locations.	101,431	N/A	06/21/21	07/07/21

Change Order ID Number	Description	Amount	Days Added	Change Order Date	Approval Date
19. Estimate 29 Overrun	The purpose of this change order was to increase the quantity of Temporary Silt Fencing. DOTD directed the contractor to reinstall silt fence damaged by Hurricane Ida.	\$35,695	N/A	10/18/21	10/18/21
20. Termination of Contract	The purpose of this change order was to acknowledge the agreement between Boone Services, LLC (contractor), Liberty Mutual Insurance Company (surety), and DOTD (department) for the Termination of Contract of State Project. Upon approval of this change order, the department shall generate a list of remaining items to be completed by the contractor prior to termination.	0	N/A	12/10/21	Pending
Total Cost/Days Added of All Change Orders		\$490,620	274		
Total Contract Cost/Days Before Change Orders		\$3,168,835	365		
Total Contract Cost/Days Including Change Orders		\$3,659,455	639		
Percent Increase		15.5%	75.1%		
Source: Prepared by legislative auditor's staff using information from the DOTD <i>SiteManager</i> database.					