

## **SOUTH CANAL IMPROVEMENTS – PHASE 2**

**SJRA PROJECT NO. HDPM0003.1117.2N005**  
**COMPETITIVE SEALED PROPOSAL NO. 21-0046**  
**CONTRACT NO. 21-0046**



**CLIENT: SAN JACINTO RIVER AUTHORITY**



**MAIN CONTRACTOR: R&T ELLIS EXCAVATING, INC**



**HSE CONTRACTORS INC. CPM SCHEDULING CONSULTANTS**

### **February Update Narrative Report**

Notice to Proceed	<b>March 14<sup>th</sup>, 2022</b>
Substantial Completion	<b>August 4<sup>th</sup>, 2023</b>
Final Completion	<b>September 3<sup>rd</sup>, 2023</b>

## Table of Contents

<b>1. Purpose of this Document .....</b>	<b>3</b>
<b>1.1 Project Description and Scope of Work.....</b>	<b>3</b>
<b>2. Project Phasing .....</b>	<b>4</b>
<b>2.2. Key Dates and Milestones.....</b>	<b>4</b>
<b>2.3. Procurement.....</b>	<b>4</b>
<b>2.4. Construction .....</b>	<b>5</b>
<b>3. WBS.....</b>	<b>6</b>
<b>5. Calendars .....</b>	<b>8</b>
<b>6. Working Hours.....</b>	<b>9</b>
<b>7. Critical Path .....</b>	<b>9</b>
<b>8. Progress made in this update .....</b>	<b>10</b>
<b>9. Work to be performed in the Next Month .....</b>	<b>10</b>
<b>10. Conclusion .....</b>	<b>11</b>

## 1. Purpose of this Document

The purpose of this document is to illustrate and define HSE's Project Execution Strategy and Planning Approach demonstrated in the Baseline schedule complying with the Specs and Drawings.

### 1.1 Project Description and Scope of Work

The Work is located on the Highlands Reservoir, Highlands EOC, SJRA South Canal Bypass, and SJRA South Canal in east Harris County, TX.

- R&T Ellis Excavating, Inc is responsible for:
  - the replacement of two siphons, levee improvements, installation of an access culvert in the SJRA South Canal Bypass, and installation of an all-weather access roadway on the Highlands Reservoir Dam.
  - The following figures show the project location layout:

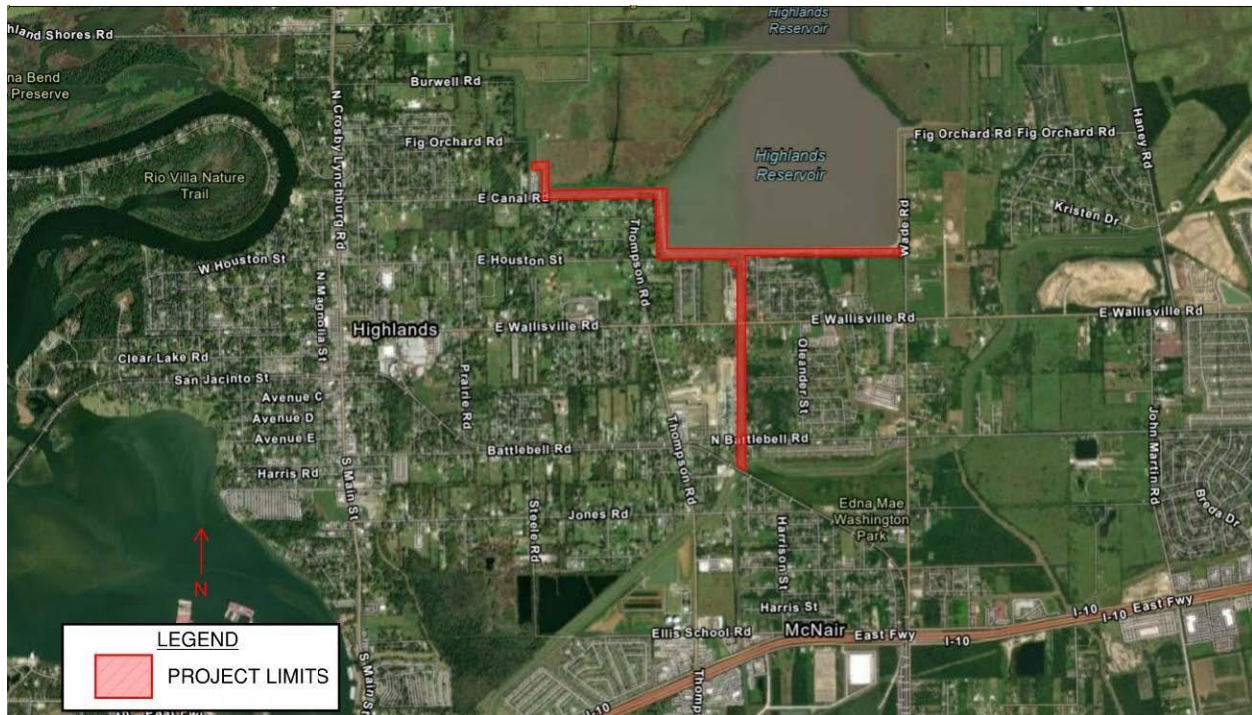


Figure 1: Project Location

## 2. Project Phasing

The Main Schedule includes works for South Canal Improvements Phase 2 including the Procurement section which is divided into Subcontract Award, Prepare & Submit, Review & Approve, and Fabricate & Deliver. This section includes shop drawings and the delivery of the main material required for Construction.

The construction section includes Site Preparations in Mobilization, Site survey Layout, installation SWPPP, and Hydro mulching and seeding. Access Culvert installation with the SW corner, Reservoir Road installation from station 00 to station 94+50, Siphon 25 installation in demolition works, Intake structure, discharge structure, and E. Wallisville Rd. underground piping, Canal levee improvements, and Siphon 26 installation in demolition works, Intake structure, discharge structure, and N. Battlebell Rd. underground piping.

### 2.2. Key Dates and Milestones

The Key dates and Milestones section includes all important dates such as:

Activity Name	Baseline	February Update	Variance (days)
NTP	14-Mar-22	14-Mar-22	0
Substantial Completion	06-Sep-23	4-Aug-23	33
Final Completion	05-Oct-23	3-Sep-23	32

### 2.3. Procurement

The procurement phase of the project starts with the preparation of submittals along with their review and approval and the delivery of the main material needed for the project. The submittals in the project start by:

- Submittals and Approvals of TCEQ permit, County Permit, Safety Plan, Trench safety program, Traffic Control plan, Utility relocation plan, Care of water plan for Access culvert, Siphon 25, and Siphon 26.
- Submittals and Approvals of Geotextile Catalog Sheets, Reinforced steel shop drawings, sieve analysis of aggregates, Articulated Concrete Blocks, and Hydro mulching certifications.
- Submittals and Approvals of long lead items of RC Box Culvert, and Centrifugally Cast Fiberglass Pipes.

## 2.4. Construction

The Construction works starts by Construction Site survey and Layout on Jun, 9<sup>th</sup>, 2022 followed by Mobilization, Construction SWPPP, and silt fences and Topographic Survey/layout. The construction is then broken down into 5 Areas:

- **Access Culvert Area:** Access Culvert area is broken down to include the installation of care water diversion channel that starts on, excavation of the area, then placing precast box culvert and installation of cement stabilized sand. PVC conduits is then installed followed by the construction of the culvert slabs, and wing walls associated by the stop logs, staff gauge, and handrails, and final clean up in backfilling and placing concrete riprap.
- **Reservoir road:** construction starts by removing vegetation from station 00 to station 94+50, installing fill material, installing Articulated Concrete Blocks, then backfilling and Hydro mulching.
- **Siphon 25:** Starts by Install Care of Water diversion channel, and demolition of existing concrete and driveways, then excavation, laying 2-60" CCFRPM Pipes, and the construction of the Intake structure associated with the stop logs, staff gauge, and handrails, and final clean up in backfilling and placing Recycled Crushed Concrete Base and concrete riprap, the same process for the discharge structure, and eventually the E. Wallisville Rd. underground piping.
- **Canal Levee improvements:** construction starts by removing Debris, and vegetation from station 290+00 to station 244+00, then compacting fill areas, and grading the canal.
- **Siphon 26:** Starts by Install Care of Water diversion channel on, and demolition of existing concrete and driveways, then excavation, laying 2-60" CCFRPM Pipes, and the construction of the Intake structure associated by the stop logs, staff gauge, and handrails, and final clean up in backfilling and placing Recycled Crushed Concrete Base and concrete riprap, the same process for the discharge structure, and eventually the N. Battlebell Rd. underground piping.

### 3. WBS

The below figure is extracted from the baseline schedule of the project on Microsoft Project and shows all WBS levels. The Key dates & Milestones section includes all important milestones and dates for the project. The Procurement section includes Submittal and preparation activities along with their reviews and approvals, their Fabrication and Delivery along with The Long Lead Items. Then the Construction Phase is divided into 6 Sections: General works that include all site works, restoration of disturbed areas, hydro mulching, Access Culvert Area, Reservoir Road, and Canal levee improvements along the stations that include grading canal, and installation of Articulated concrete blocks. Then Siphons 25 and 26 include demolition, construction of Intake and Discharge structures, and underground piping.

The following figures show the WBS Structure:

WBS ▼	Task Name ▼
<b>SCIP-2</b>	▣ <b>South Canal Improvements Program Phase 2</b>
<b>1.1</b>	▷ <b>Key Dates &amp; Milestones</b>
<b>1.2</b>	▣ <b>Procurement</b>
<b>1.2.1</b>	▷ <b>Prepare &amp; Submit</b>
<b>1.2.2</b>	▷ <b>Review &amp; Approve</b>
<b>1.2.3</b>	▷ <b>Fabricate &amp; Delivery</b>
<b>1.2.4</b>	▷ <b>Long Lead Items</b>
<b>1.3</b>	▣ <b>Construction</b>
<b>1.3.1</b>	▷ <b>General</b>
<b>1.3.3</b>	▷ <b>Access Culvert</b>
<b>1.3.6</b>	▣ <b>Reservoir Road</b>
<b>1.3.6.1</b>	▷ <b>STA 00 To STA 14+00</b>
<b>1.3.6.2</b>	▷ <b>Alternate Road</b>
<b>1.3.6.3</b>	▷ <b>STA 14+00 To STA 34+00</b>
<b>1.3.6.4</b>	▷ <b>STA 34+00 To STA 48+00</b>
<b>1.3.6.5</b>	▷ <b>STA 48+00 To STA 84+00</b>
<b>1.3.6.6</b>	▷ <b>STA 84+00 To STA 94+50</b>
<b>1.3.2</b>	▣ <b>Siphon 25 - Station 279+00 to 274+50</b>
<b>1.3.2.1</b>	▷ <b>Demolition</b>
<b>1.3.2.2</b>	▷ <b>Intake Structure</b>
<b>1.3.2.3</b>	▷ <b>Discharge Structure</b>
<b>1.3.2.4</b>	▷ <b>E. Wallisville Rd. Underground</b>
<b>1.3.5</b>	▣ <b>Canal Levee Improvements</b>
<b>1.3.5.1</b>	▷ <b>STA 290+00 To STA 279+00</b>
<b>1.3.5.2</b>	▷ <b>STA 274+50 To STA 259+50</b>
<b>1.3.5.3</b>	▷ <b>STA 259+50 To STA 252+50</b>
<b>1.3.5.4</b>	▷ <b>STA 248+00 To STA 244+00</b>
<b>1.3.4</b>	▣ <b>Siphon 26 - Station 252+50 to 238+00</b>
<b>1.3.4.1</b>	▷ <b>Demolition</b>
<b>1.3.4.2</b>	▷ <b>Intake Structure</b>
<b>1.3.4.3</b>	▷ <b>Discharge Structure</b>
<b>1.3.4.4</b>	▷ <b>N. Battlebell Rd. Underground</b>
<b>1.4</b>	▷ <b>Close-Out</b>

## 5. Calendars

This section contains details on the calendars which are assigned on all activities. The calendar usage and assignment demonstrate that the builder has taken into account all official holidays and weekends, and has scheduled the project activities efficiently to minimize any risk on project completion. The Calendars used in this project are:

- A 7 Day Workweek Calendar: the calendar is based on 7-day week and is assigned on milestones, procurement activities, and closeout activities.
- A 5 Day Workweek Calendar: the calendar is based on 5-day week and recognizes weekends and federal holidays and is assigned to construction activities.

### 2022 Federal Holidays:

Date	Holiday
Monday, May 30	Memorial Day
Monday, July 4	Independence Day
Monday, September 5	Labor Day
Friday, November 11	Veterans Day
Thursday, November 24	Thanksgiving Day
Friday, November 25	Friday after Thanksgiving
Monday, December 23	Christmas Eve
Tuesday, December 26	Christmas Day

### 2023 Federal Holidays:

Date	Holiday
Monday, January 2	New Year's Day
Monday, January 16	Birthday of Martin Luther King, Jr.
Monday, February 20	President's Day
Monday, May 29	Memorial Day
Monday, July 4	Independence Day
Monday, September 4	Labor Day
Friday, November 10	Veterans Day
Thursday, November 23	Thanksgiving Day
Friday, November 24	Friday after Thanksgiving
Monday, December 25	Christmas Eve
Tuesday, December 26	Christmas Day



Since the Working Conditions of this project will be outdoors and the project will be executed almost in summer where Rain will cause Block outs in some months so according to NOAA National Weather Service Report, 24 calendar days are adjusted to suit these weather conditions.

## 6. Working Hours

The working hours are 8 hours per day from Monday till Friday, totaling 40 hours per week. These work durations have been used throughout all scheduled construction activities to calculate durations and the remaining time to complete.

## 7. Critical Path

The Critical Path in this update is driven by the Installation of Care of water diversion channel of Siphon 26 then the removal of the RCPs. After demolition is completed, the Excavation of Siphon 26 starts followed by the lower slab, walls, and upper slab installation, and then finishes starts with placing the geotextile, Riprap Installation, Backfilling, and Recycled crushed concrete installation. Hereafter, the underground works in N. Battlebell road take place to finally reach the removal of the care water diversion channel of siphon 26. Hereafter, installing driveway culverts, and PVC conduits.

Substantial completion is then on August 4<sup>th</sup>, 2023, and the TCEQ Notice of Termination to start the punch list, testing and commissioning, demobilization, and the close-out requirements to have the final completion on September 3<sup>rd</sup>, 2023.

The figure below shows the critical path of the project

ID	Task Name	Duration	Remaining Duration	Start	Finish	% Complete	Feb	Mar	Qtr 2, 2023 Apr	May	Jun	Qtr 3, 2023 Jul	Aug	Sep
1	South Canal Improvements Program Phase 2	538 days	184.66 days	March 14, 2022	September 3, 2026	66%								
2	Key Dates & Milestones	538 days	538 days	March 14, 2022	September 3, 2020	0%								
4	Substantial Completion	0 days	0 days	August 4, 2023	August 4, 2023	0%								
5	Final Completion	0 days	0 days	September 3, 2022	September 3, 2020	0%								
69	Construction	261 days	130.18 days	June 9, 2022	August 8, 2023	50%								
70	General	259 days	89.86 days	June 9, 2022	August 4, 2023	65%								
77	Removal of Silt Fences & Temporary erosion control	3 days	3 days	July 24, 2023	July 26, 2023	0%								
78	Restore all disturbed Areas	5 days	5 days	July 31, 2023	August 4, 2023	0%								
155	Siphon 26 - Station 252+50 to 238+00	100 days	100 days	March 1, 2023	August 4, 2023	0%								
159	Demolition	74 days	74 days	March 1, 2023	June 26, 2023	0%								
160	Install Care of Water diversion channel - Siphon 26	7 days	7 days	March 1, 2023	March 10, 2023	0%								
162	Remove 2-42" RCPs - Siphon 26	4 days	4 days	March 17, 2023	March 22, 2023	0%								
167	Intake Structure	55 days	55 days	March 23, 2023	June 20, 2023	0%								
168	Excavation - Intake Structure - Siphon 26	5 days	5 days	March 23, 2023	March 30, 2023	0%								
182	Discharge Structure	53 days	53 days	March 31, 2023	June 23, 2023	0%								
183	Excavation - Discharge Structure - Siphon 26	5 days	5 days	March 31, 2023	April 7, 2023	0%								
184	Install Cement Stabilized Sand - Discharge Structure - Siphon 26	4 days	4 days	April 10, 2023	April 13, 2023	0%								
185	FRP Lower Slab - Discharge Structure - Siphon 26	8 days	8 days	April 14, 2023	April 26, 2023	0%								
186	FRP Walls & Waterstop - Discharge Structure - Siphon 26	9 days	9 days	April 27, 2023	May 9, 2023	0%								
187	FRP Upper Slab - Discharge Structure - Siphon 26	8 days	8 days	May 10, 2023	May 22, 2023	0%								
194	Place Geotextile Layer - Discharge Structure - Siphon 26	5 days	5 days	May 23, 2023	May 31, 2023	0%								
195	Install 24" Concrete Riprap - Discharge Structure - Siphon 26	5 days	5 days	June 1, 2023	June 12, 2023	0%								
192	Backfill with Top Soil - Discharge Structure - Siphon 26	4 days	4 days	June 13, 2023	June 16, 2023	0%								
196	Install Recycled Crushed Concrete Base - Discharge Structure - Siphon 26	5 days	5 days	June 19, 2023	June 23, 2023	0%								
197	N. Battlebell Rd. Underground	27 days	27 days	June 26, 2023	August 4, 2023	0%								
198	Install Traffic Rated Ground Box - N. Battlebell Rd. - Siphon 26	3 days	3 days	June 26, 2023	June 28, 2023	0%								
199	Install driveway Culverts - N. Battlebell Rd. - Siphon 26	3 days	3 days	June 29, 2023	July 3, 2023	0%								
200	Install 5 PVC Conduits - N. Battlebell Rd. - Siphon 26	3 days	3 days	July 5, 2023	July 7, 2023	0%								
201	Backfill with Conduits - N. Battlebell Rd. - Siphon 26	3 days	3 days	July 10, 2023	July 12, 2023	0%								
202	Remove Care of Water diversion channel - Siphon 26	7 days	7 days	July 13, 2023	July 21, 2023	0%								
203	Repair N. Battlebell rd. - Siphon 26	8 days	8 days	July 24, 2023	August 4, 2023	0%								
263	Close-Out	18 days	18 days	August 4, 2023	September 3, 2020	0%								
264	TCEQ Notice of Termination	0 days	0 days	August 4, 2023	August 4, 2023	0%								
265	Punch List	7 days	7 days	August 5, 2023	August 11, 2023	0%								
266	Testing & Commissioning	7 days	7 days	August 12, 2023	August 18, 2023	0%								
267	As-Built drawings	6 days	6 days	August 19, 2023	August 24, 2023	0%								
268	Close-Out requirements	5 days	5 days	August 25, 2023	August 29, 2023	0%								
269	Demobilization	5 days	5 days	August 30, 2023	September 3, 2020	0%								

## 8. Progress made in this update

This Update reflects that R&T Ellis Excavating Inc has progressed in the schedule with the fabrication and delivery of Articulated Concrete blocks. For Siphon 25, the swing gates and handrails started and are halfway through completion in both the Intake and discharge structures. The underground works of the E.Wallisville road are completed. For the Canal levee improvements, there is progress regarding STA 290+00 to STA 279+00, and is completed. For the Reservoir Road, STA 48+00 to STA 84+00 is almost completed.

The project becomes ahead by 5 days from January's update besides it is still ahead by 23 days from the Baseline Schedule.

## 9. Work to be performed in the Next Month

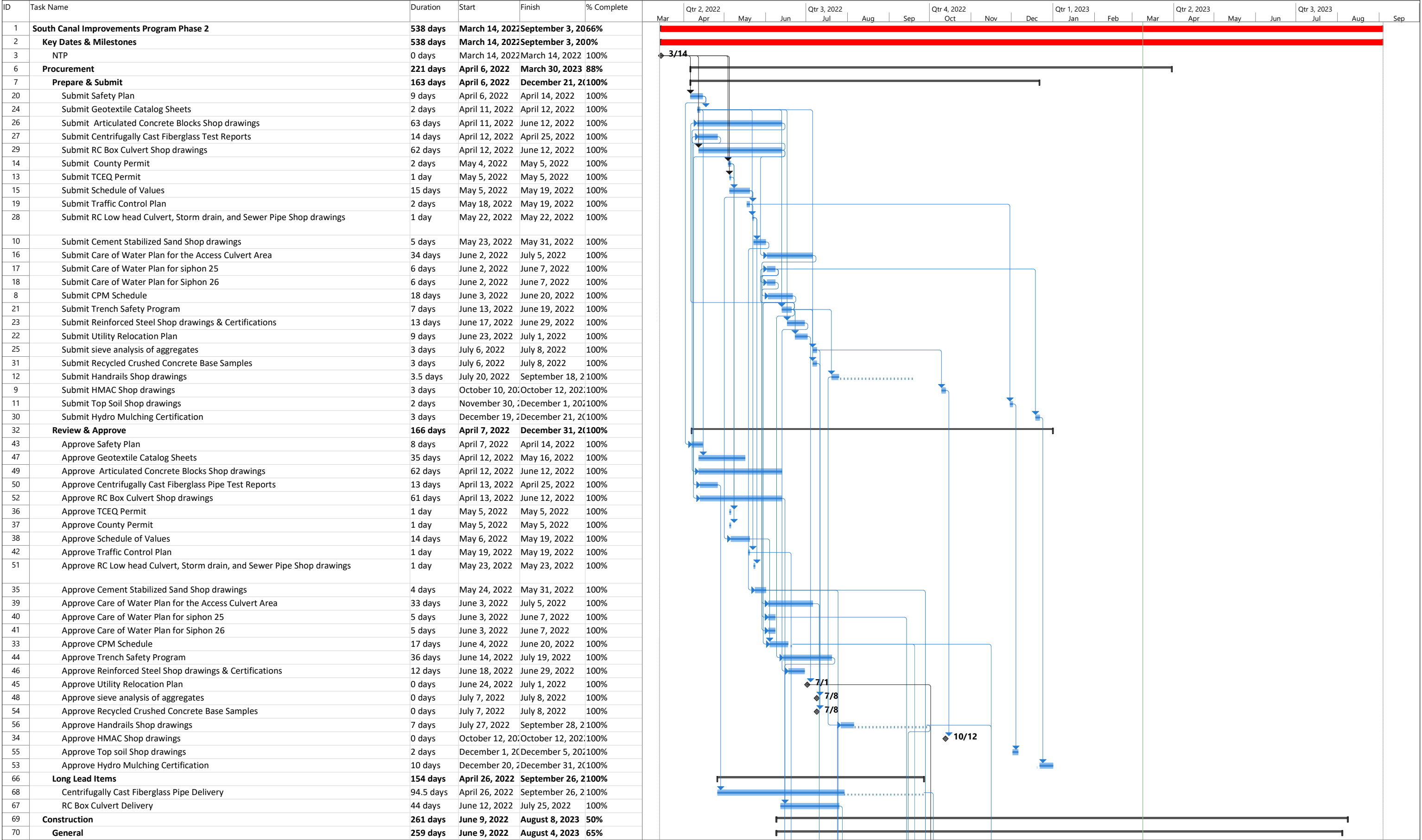
For work to be performed in March starting with the procurement of the Recycled Crushed Concrete, Top Soil, and Hydro Mulch. Then the Backfilling with Hydro-mulch for Access Culvert.

Regarding Siphon 25, the installation of Recycled Crushed Concrete in the Intake and Discharge Structure. Then for the Canal Levee Improvements, compact fill areas and place 24" concrete riprap for STA 259+50 to STA 252+50, and STA 248+00 to 244+00.

For the Reservoir Road, STA 48+00 To STA 84+00, STA 34+00 To STA 48+00, and STA 14+00 To STA 34+00 Installing Fill Material and Placing the Geotextile layer should have progressed. For Alternate Road STA 00 To STA 14+00, also Installing Fill Material and Placing the Geotextile layer should have progressed.

For Siphon 26, Excavation is to start for both the Intake and Discharge structures, and the demolition of the existing utilities. Also, the 1<sup>st</sup> Road Closure of Battlebell Road takes place in the next month.

The figures below show the completed work, Work in progress from NTP to the Data Date of February 28<sup>th</sup>, 2023, and Work scheduled to progress in the next month.



Project: South Canal Improvem

Date: March 9, 2023

Task

Split

Milestone

Summary

Project Summary

Inactive Task

Inactive Milestone

Inactive Summary

Manual Task

Duration-only

Manual Summary Rollup

Manual Summary

Start-only

Finish-only

External Tasks

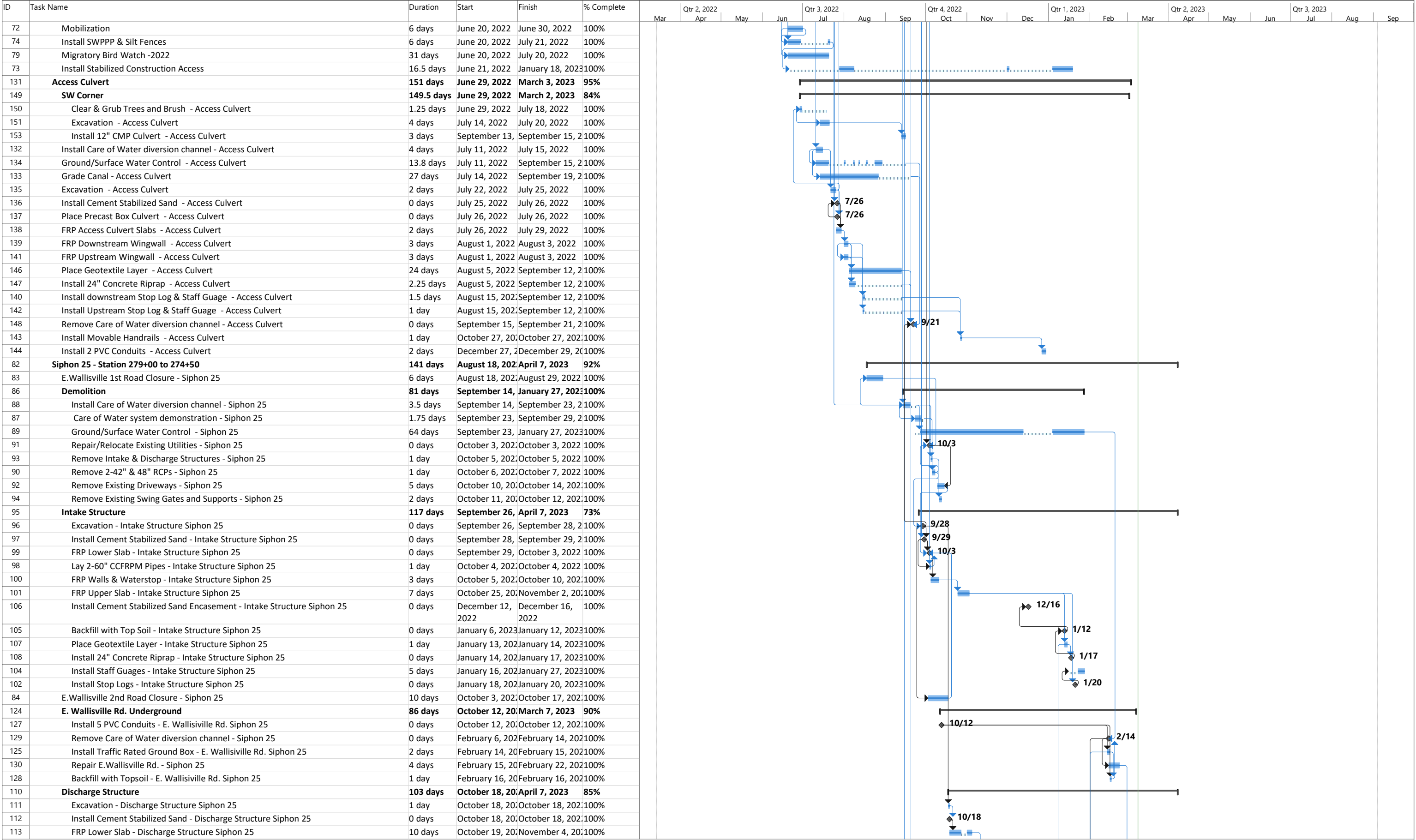
External Milestone

Deadline

Progress

Manual Progress

critical



Project: South Canal Improvem

Date: March 9, 2023

Task

Split

Milestone

Summary

Project Summary

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Manual Task

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External Tasks

External Milestone

Deadline

Progress

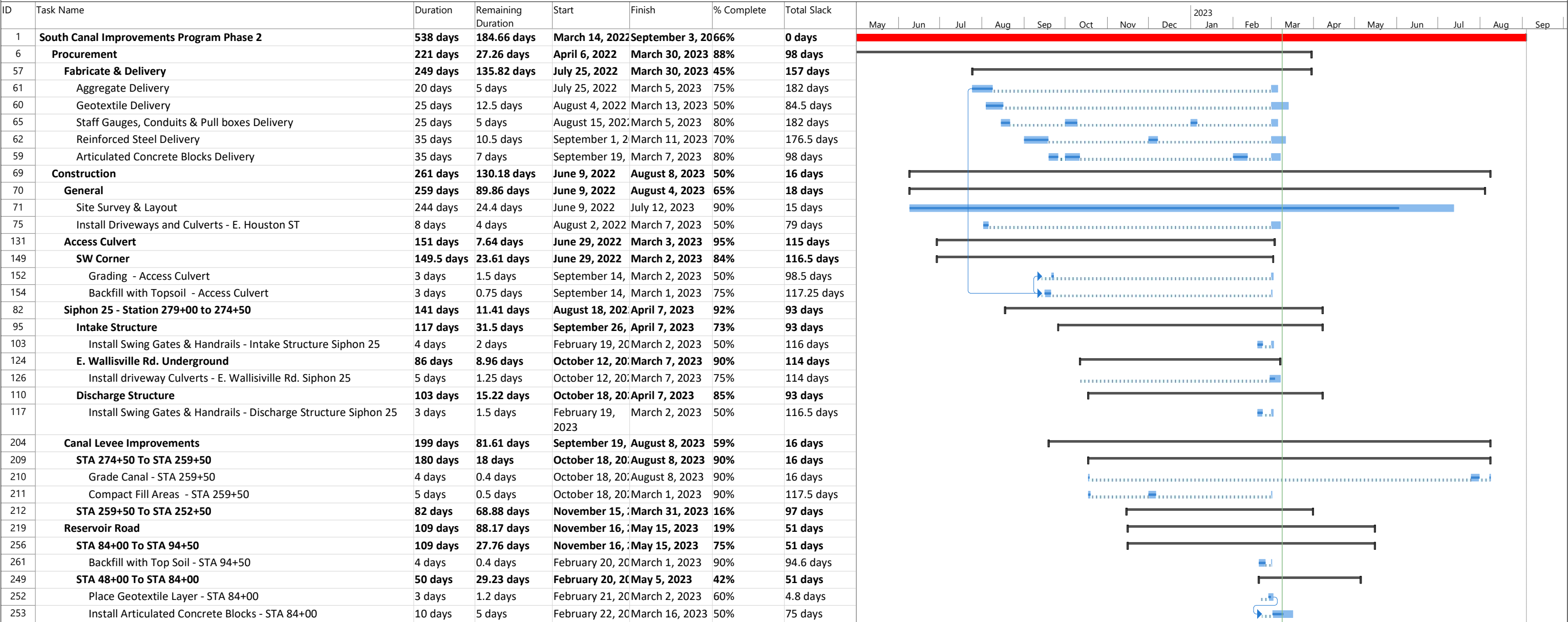
Manual Progress

critical



ID	Task Name	Duration	Start	Finish	% Complete	Mar	Qtr 2, 2022	Apr	May	Jun	Qtr 3, 2022	Jul	Aug	Sep	Qtr 4, 2022	Oct	Nov	Dec	Qtr 1, 2023	Jan	Feb	Mar	Qtr 2, 2023	Apr	May	Jun	Qtr 3, 2023	Jul	Aug	Sep
114	FRP Walls & Waterstop - Discharge Structure Siphon 25	7 days	November 11, 2022	November 23, 2022	100%																									
115	FRP Upper Slab - Discharge Structure Siphon 25	4 days	December 19, 2022	December 28, 2022	100%																									
120	Install Cement Stabilized Sand Encasement - Discharge Structure Siphon 25	2 days	January 6, 2023	January 9, 2023	100%																									
121	Place Geotextile Layer - Discharge Structure Siphon 25	5 days	January 13, 2023	January 23, 2023	100%																									
116	Install Stop Logs - Discharge Structure Siphon 25	3 days	January 18, 2023	January 20, 2023	100%																									
122	Install 24" Concrete Riprap - Discharge Structure Siphon 25	0 days	January 23, 2023	January 23, 2023	100%																									
118	Install Staff Guages - Discharge Structure Siphon 25	2 days	January 26, 2023	January 27, 2023	100%																									
119	Backfill with Top Soil - Discharge Structure Siphon 25	2 days	February 27, 2023	February 28, 2023	100%																									
85	E.Wallisville 3rd Road Closure - Siphon 25	6 days	February 6, 2023	February 23, 2023	100%																									
204	Canal Levee Improvements	199 days	September 19, 2022	August 8, 2023	59%																									
205	STA 290+00 To STA 279+00	95 days	September 19, 2022	February 25, 2023	100%																									
206	Remove Debris, Vegetation and Existing Cuts - STA 279+00	0 days	September 19, 2022	September 21, 2022	100%																									
207	Grade Canal - STA 279+00	18.6 days	September 19, 2022	February 25, 2023	100%																									
208	Compact Fill Areas - STA 279+00	19.5 days	September 20, 2022	February 25, 2023	100%																									
212	STA 259+50 To STA 252+50	82 days	November 15, 2022	March 31, 2023	16%																									
213	Grade Canal - STA 252+50	4 days	November 15, 2022	March 7, 2023	100%																									
219	Reservoir Road	109 days	November 16, 2022	May 15, 2023	19%																									
256	STA 84+00 To STA 94+50	109 days	November 16, 2022	May 15, 2023	75%																									
257	Remove 3" of Vegetation - STA 94+50	1.6 days	November 16, 2022	January 3, 2023	100%																									
258	Install Fill Material - STA 94+50	1.6 days	November 16, 2022	January 3, 2023	100%																									
259	Place Geotextile Layer - STA 94+50	3.25 days	November 17, 2022	January 4, 2023	100%																									
260	Install Articulated Concrete Blocks - STA 94+50	5.75 days	November 17, 2022	January 5, 2023	100%																									
249	STA 48+00 To STA 84+00	50 days	February 20, 2023	May 5, 2023	42%																									
250	Remove 3" of Vegetation - STA 84+00	4 days	February 20, 2023	February 24, 2023	100%																									
251	Install Fill Material - STA 84+00	0 days	February 21, 2023	February 24, 2023	100%																									

Page 3



Project: South Canal Improvement  
Date: March 9, 2023

South Canal Improvements Program Phase 2 - February Update  
1 Month Look ahead

ID	Task Name	Duration	Remaining Duration	Start	Finish	Early Start	Early Finish	Late Start	Late Finish	% Complete	Total Slack	2022	J	M	M	J	S	N	2023	J	M	M	J	S
1	South Canal Improvements Program Phase 2	538 days	184.66 days	March 14, 2022	September 3, 2022	March 14, 2022	September 3, 2022	March 14, 2022	September 3, 2022	66%	0 days													
6	Procurement	221 days	27.26 days	April 6, 2022	March 30, 2023	April 6, 2022	March 30, 2023	April 6, 2022	September 3, 2023	88%	98 days													
57	Fabricate & Delivery	249 days	135.82 days	July 25, 2022	March 30, 2023	July 25, 2022	March 30, 2023	July 25, 2022	September 3, 2023	45%	157 days													
58	Recycled Crushed Concrete Delivery	30 days	30 days	March 1, 2023	March 30, 2023	March 1, 2023	March 30, 2023	July 29, 2023	August 27, 2023	0%	150 days													
63	Top Soil delivery	20 days	20 days	March 1, 2023	March 30, 2023	March 1, 2023	March 30, 2023	May 23, 2023	June 26, 2023	0%	54 days													
64	Hydro Mulch Delivery	30 days	30 days	March 1, 2023	March 30, 2023	March 1, 2023	March 30, 2023	June 14, 2023	July 13, 2023	0%	105 days													
69	Construction	261 days	130.18 days	June 9, 2022	August 8, 2023	June 9, 2022	August 8, 2023	June 9, 2022	September 3, 2023	50%	16 days													
70	General	259 days	89.86 days	June 9, 2022	August 4, 2023	June 9, 2022	August 4, 2023	June 9, 2022	September 3, 2023	65%	18 days													
80	Migratory Bird Watch -2023	96 days	96 days	March 1, 2023	June 4, 2023	March 1, 2023	June 4, 2023	May 31, 2023	September 3, 2023	0%	91 days													
76	Install Fences/Gates- E. Houston ST	9 days	9 days	March 8, 2023	March 20, 2023	March 8, 2023	March 20, 2023	July 11, 2023	July 21, 2023	0%	79 days													
81	Hydromulching & Seeding	9 days	9 days	March 31, 2022	April 13, 2023	March 31, 2023	April 13, 2023	July 14, 2023	July 26, 2023	0%	66 days													
131	Access Culvert	151 days	7.64 days	June 29, 2022	March 3, 2023	June 29, 2022	March 3, 2023	June 29, 2022	September 1, 2023	95%	115 days													
145	Backfill with Hydromulch - Access Culvert	3 days	3 days	March 1, 2023	March 3, 2023	March 1, 2023	March 3, 2023	August 2, 2023	August 4, 2023	0%	97 days													
82	Siphon 25 - Station 279+00 to 274+50	141 days	11.41 days	August 18, 2022	April 7, 2023	August 18, 2022	April 7, 2023	August 18, 2023	September 1, 2023	92%	93 days													
95	Intake Structure	117 days	31.5 days	September 26, 2022	April 7, 2023	September 26, 2022	April 7, 2023	September 26, 2023	September 1, 2023	73%	93 days													
109	Install Recycled Crushed Concrete Base - Intake Structure Siphon 25	5 days	5 days	March 31, 2023	April 7, 2023	March 31, 2023	April 7, 2023	August 28, 2023	September 1, 2023	0%	93 days													
110	Discharge Structure	103 days	15.22 days	October 18, 2022	April 7, 2023	October 18, 2022	April 7, 2023	October 18, 2023	September 1, 2023	85%	93 days													
123	Install Recycled Crushed Concrete Base - Discharge Structure Siphon 25	5 days	5 days	March 31, 2023	April 7, 2023	March 31, 2023	April 7, 2023	August 28, 2023	September 1, 2023	0%	93 days													
204	Canal Levee Improvements	199 days	81.61 days	September 19, 2022	August 8, 2023	September 19, 2022	August 8, 2023	September 19, 2023	September 1, 2023	59%	16 days													
212	STA 259+50 To STA 252+50	82 days	68.88 days	November 15, 2022	March 31, 2023	November 15, 2022	March 31, 2023	November 15, 2023	September 1, 2023	16%	97 days													
214	Compact Fill Areas - STA 252+50	21 days	21 days	March 1, 2023	March 31, 2023	March 1, 2023	March 31, 2023	August 2, 2023	September 1, 2023	0%	97 days													
215	STA 248+00 To STA 244+00	13 days	13 days	March 8, 2023	March 27, 2023	March 8, 2023	March 27, 2023	August 14, 2023	September 1, 2023	0%	101 days													
216	Grade Canal - STA 244+00	4 days	4 days	March 8, 2023	March 13, 2023	March 8, 2023	March 13, 2023	August 14, 2023	August 17, 2023	0%	101 days													
217	Compact Fill Areas - STA 244+00	5 days	5 days	March 14, 2023	March 20, 2023	March 14, 2023	March 20, 2023	August 21, 2023	August 28, 2023	0%	101 days													
218	Place 24" Concrete Riprap - STA 244+00	4 days	4 days	March 21, 2023	March 27, 2023	March 21, 2023	March 27, 2023	August 29, 2023	September 1, 2023	0%	101 days													
219	Reservoir Road	109 days	88.17 days	November 16, 2022	May 15, 2023	November 16, 2022	May 15, 2023	November 16, 2023	August 4, 2023	19%	51 days													
256	STA 84+00 To STA 94+50	109 days	27.76 days	November 16, 2022	May 15, 2023	November 16, 2022	May 15, 2023	November 16, 2023	August 4, 2023	75%	51 days													
261	Backfill with Top Soil - STA 94+50	4 days	0.4 days	February 20, 2023	March 1, 2023	February 20, 2023	March 1, 2023	February 20, 2023	July 26, 2023	90%	94.6 days													
249	STA 48+00 To STA 84+00	50 days	29.23 days	February 20, 2023	May 5, 2023	February 20, 2023	May 5, 2023	February 20, 2023	July 26, 2023	42%	51 days													
254	Backfill with Top Soil - STA 84+00	4 days	4 days	March 17, 2023	March 22, 2023	March 17, 2023	March 22, 2023	July 14, 2023	July 19, 2023	0%	75 days													
242	STA 34+00 To STA 48+00	39 days	39 days	March 1, 2023	April 28, 2023	March 1, 2023	April 28, 2023	May 18, 2023	July 19, 2023	0%	51 days													
243	Remove 3" of Vegetation - STA 48+00	2 days	2 days	March 1, 2023	March 2, 2023	March 1, 2023	March 2, 2023	May 18, 2023	May 19, 2023	0%	51 days													
244	Install Fill Material - STA 48+00	2 days	2 days	March 3, 2023	March 7, 2023	March 3, 2023	March 7, 2023	June 21, 2023	June 22, 2023	0%	68 days													
245	Place Geotextile Layer - STA 48+00	3 days	3 days	March 8, 2023	March 10, 2023	March 8, 2023	March 10, 2023	June 23, 2023	June 27, 2023	0%	68 days													
246	Install Articulated Concrete Blocks - STA 48+00	6 days	6 days	March 13, 2023	March 20, 2023	March 13, 2023	March 20, 2023	June 28, 2023	July 6, 2023	0%	68 days													
247	Backfill with Top Soil - STA 48+00	4 days	4 days	March 21, 2023	March 27, 2023	March 21, 2023	March 27, 2023	July 7, 2023	July 12, 2023	0%	68 days													
235	STA 14+00 To STA 34+00	32 days	32 days	March 3, 2023	April 20, 2023	March 3, 2023	April 20, 2023	May 22, 2023	July 12, 2023	0%	51 days													
236	Remove 3" of Vegetation - STA 34+00	2 days	2 days	March 3, 2023	March 7, 2023	March 3, 2023	March 7, 2023	May 22, 2023	May 23, 2023	0%	51 days													
237	Install Fill Material - STA 34+00	3 days	3 days	March 8, 2023	March 10, 2023	March 8, 2023	March 10, 2023	June 13, 2023	June 15, 2023	0%	60 days													
238	Place Geotextile Layer - STA 34+00	3 days	3 days	March 13, 2023	March 15, 2023	March 13, 2023	March 15, 2023	June 16, 2023	June 20, 2023	0%	60 days													
239	Install Articulated Concrete Blocks - STA 34+00	6 days	6 days	March 16, 2023	March 23, 2023	March 16, 2023	March 23, 2023	June 21, 2023	June 28, 2023	0%	60 days													
240	Backfill with Top Soil - STA 34+00	4 days	4 days	March 27, 2023	March 30, 2023	March 27, 2023	March 30, 2023	June 29, 2023	July 5, 2023	0%	60 days													

Project: South Canal Improvem  
Date: March 9, 2023

Task

Split

Milestone

Summary

Project Summary

Inactive Task

Inactive Milestone

Inactive Summary

Manual Task

Duration-only

Manual Summary Rollup

Manual Summary

Start-only

Finish-only

External Tasks

External Milestone

Deadline

Progress

Manual Progress

critical



South Canal Improvements Program Phase 2 - February Update

1 Month Look ahead

ID	Task Name	Duration	Remaining Duration	Start	Finish	Early Start	Early Finish	Late Start	Late Finish	% Complete	Total Slack	2022	J	M	M	J	S	N	2023	J	M	M	J	S
227	Alternate Road	25 days	25 days	March 8, 2023	April 13, 2023	March 8, 2023	April 13, 2023	May 24, 2023	July 5, 2023	0%	51 days													
228	Remove 3" of Vegetation - Alternate Road	2 days	2 days	March 8, 2023	March 9, 2023	March 8, 2023	March 9, 2023	May 24, 2023	May 26, 2023	0%	51 days													
229	Install Fill Material - Alternate Road	3 days	3 days	March 10, 202	March 14, 202	March 10, 2023	March 14, 2023	May 30, 2023	June 1, 2023	0%	51 days													
230	Place Geotextile Layer - Alternate Road	3 days	3 days	March 15, 202	March 17, 202	March 15, 2023	March 17, 2023	June 2, 2023	June 6, 2023	0%	51 days													
231	Install Recycled Crush Concrete Base - Alternate Road	4 days	4 days	March 20, 202	March 23, 202	March 20, 2023	March 23, 2023	June 12, 2023	June 15, 2023	0%	51 days													
232	Install Articulated Concrete Blocks - Alternate Road	7 days	7 days	March 27, 202	April 5, 2023	March 27, 2023	April 5, 2023	June 16, 2023	June 26, 2023	0%	51 days													
220	STA 00 To STA 14+00	22 days	22 days	March 10, 202	April 12, 2023	March 10, 2023	April 12, 2023	May 30, 2023	July 3, 2023	0%	51 days													
221	Remove 3" of Vegetation - STA 14+00	2 days	2 days	March 10, 202	March 13, 202	March 10, 2023	March 13, 2023	May 30, 2023	May 31, 2023	0%	51 days													
222	Install Fill Material - STA 14+00	3 days	3 days	March 14, 202	March 16, 202	March 14, 2023	March 16, 2023	June 1, 2023	June 5, 2023	0%	51 days													
223	Place Geotextile Layer - STA 14+00	3 days	3 days	March 17, 202	March 21, 202	March 17, 2023	March 21, 2023	June 6, 2023	June 13, 2023	0%	51 days													
224	Install Articulated Concrete Blocks - STA 14+00	5 days	5 days	March 22, 202	March 29, 202	March 22, 2023	March 29, 2023	June 14, 2023	June 20, 2023	0%	51 days													
225	Backfill with Top Soil - STA 14+00	4 days	4 days	March 30, 202	April 5, 2023	March 30, 2023	April 5, 2023	June 21, 2023	June 26, 2023	0%	51 days													
155	Siphon 26 - Station 252+50 to 238+00	100 days	100 days	March 1, 2023	August 4, 202	March 1, 2023	August 4, 2023	March 1, 20...	September 1, ...	0%	0 days													
156	N.Battlebell Road 1st Closure - Siphon 26	12 days	12 days	March 1, 2023	March 17, 202	March 1, 2023	March 17, 2023	April 24, 2023	May 9, 2023	0%	34 days													
159	Demolition	74 days	74 days	March 1, 2023	June 26, 2023	March 1, 2023	June 26, 2023	March 1, 20...	July 21, 2023	0%	0 days													
160	Install Care of Water diversion channel - Siphon 26	7 days	7 days	March 1, 2023	March 10, 202	March 1, 2023	March 10, 2023	March 1, 20...	March 10, 2023	0%	0 days													
161	Ground/Surface Water Control - Siphon 26	74 days	74 days	March 1, 2023	June 26, 2023	March 1, 2023	June 26, 2023	March 29, 2...	July 21, 2023	0%	18 days													
162	Remove 2-42" RCPs - Siphon 26	4 days	4 days	March 17, 202	March 22, 202	March 17, 2023	March 22, 2023	March 17, 2...	March 22, 2023	0%	0 days													
163	Repair/Relocate Existing Utilities - Siphon 26	4 days	4 days	March 23, 202	March 29, 202	March 23, 2023	March 29, 2023	May 1, 2023	May 4, 2023	0%	24 days													
164	Remove Existing Driveways - Siphon 26	3 days	3 days	March 30, 202	April 4, 2023	March 30, 2023	April 4, 2023	May 5, 2023	May 9, 2023	0%	24 days													
157	N.Battlebell Road 2nd Closure - Siphon 26	12 days	12 days	March 17, 202	April 5, 2023	March 17, 2023	April 5, 2023	March 28, 2...	April 13, 2023	0%	6 days													
167	Intake Structure	55 days	55 days	March 23, 202	June 20, 2023	March 23, 2023	June 20, 2023	March 23, 2...	September 1, ...	0%	0 days													
168	Excavation - Intake Structure - Siphon 26	5 days	5 days	March 23, 202	March 30, 202	March 23, 2023	March 30, 2023	March 23, 2...	March 30, 2023	0%	0 days													
169	Install Cement Stabilized Sand - Intake Structure - Siphon 26	6 days	6 days	March 31, 202	April 10, 2023	March 31, 2023	April 10, 2023	April 6, 2023	April 13, 2023	0%	3 days													
170	Lay 2-60" CCFRPM Pipes - Discharge Structure - Siphon 26	6 days	6 days	March 31, 202	April 10, 2023	March 31, 2023	April 10, 2023	April 6, 2023	April 13, 2023	0%	3 days													
182	Discharge Structure	53 days	53 days	March 31, 202	June 23, 2023	March 31, 2023	June 23, 2023	March 31, 2...	September 1, ...	0%	0 days													
183	Excavation - Discharge Structure - Siphon 26	5 days	5 days	March 31, 202	April 7, 2023	March 31, 2023	April 7, 2023	March 31, 2...	April 7, 2023	0%	0 days													

Project: South Canal Improvem

Date: March 9, 2023

Task

Split

Milestone

Summary

Project Summary

Inactive Task

Inactive Milestone

Inactive Summary

Manual Task

Duration-only

Manual Summary Rollup

Manual Summary

Start-only

Finish-only

External Tasks

External Milestone

Deadline

Progress

Manual Progress

critical

## 10. Conclusion

This update reflects progress throughout R&T Ellis Excavating Inc has progressed in the schedule, and becomes ahead of substantial completion date. R&T has progressed with the Fabrication & Delivery of Articulated Concrete Blocks. First Station of the Canal Levee Improvements is finished on February. For Siphon 25, the Ground/Surface Water Control is completed as well as placing geotextile, concrete riprap installation, Stop logs, and staff gauges, then the Backfilling. Wallisville Road underground starts with the driveway culverts. The project is still ahead of the baseline schedule by 33 days.

Furthermore, the project exhibit works in open areas throughout its total duration which requires having specific calendars to match the working conditions of weather days, environmental safety, and traffic road closures. This is reflected in the schedule as demonstrated in the detailed sequencing operations of the schedule and this narrative report.

All the detailed information about the project is discussed in the above sections. The overall strategy is to have the schedule match the construction logic along with maintaining it ahead of schedule and under budget.