

Lift Station #16 Rehabilitation

SEWER-19-001

Feasibility Report Presentation

February 2, 2021

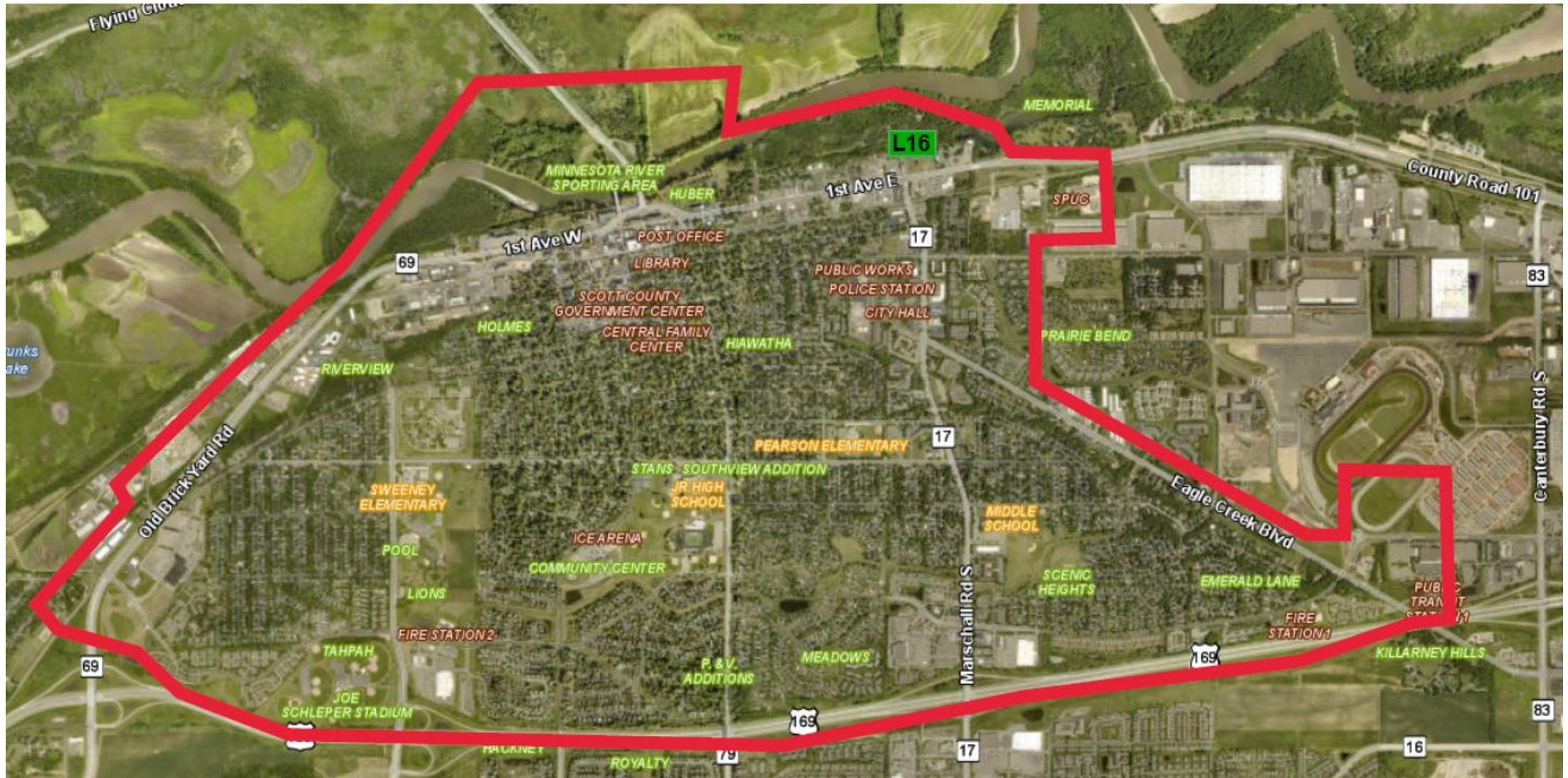


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Project Location & Service Area



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Capital Improvement Program

- City Initiated Program
- Sanitary Sewer Fund
- Maintain Aging Sanitary Sewer Infrastructure
- Lift Station #16 Rehabilitation Sewer-19-001

Capital Improvement Plan City of Shakopee, Minnesota

2021 *thru* 2025

Department Sanitary Sewer Fund
Contact Public Works Director
Type Improvement
Useful Life 20
Category Sanitary Sewer
Priority 1 Critical for Safety/Preservati
Status Active

Project # Sewer-19-001
Project Name Lift Station #16 Rehabilitation

Accounting Code 5856/6856

Fund Sanitary Sewer Fund

Total Project Cost: \$2,732,000

Description

A feasibility study was completed in 2020 to determine a detailed scope and cost for the rehabilitation needs of L-16. Needed improvements include pumps, motors and controls, interior coating applications, ARC Flash improvements, building repairs, live well improvements, integration of the old lift house live well as a backup, demo of the old L-16 building, and emergency pumping improvements and levee repair. Emergency replacements of the grinder and one of the primary pumps occurred in 2020.

Justification

The ageing infrastructure (20+ years for many of the components) of L-16 must be kept in a high state of repair due to the significance and importance of this lift station, that serves a substantial portion of the community. The old building is not used, and the condition is such, demolition is in order. The wet well is used for storage in a backup situation and would be preserved.

Prior	Expenditures	2021	2022	2023	2024	2025	Total
142,000	Construction/Maintenance	1,227,000	159,000			905,000	2,291,000
	Engineering/Administration	160,000	21,000			118,000	299,000
Total	Total	1,387,000	180,000			1,023,000	2,590,000

Prior	Funding Sources	2021	2022	2023	2024	2025	Total
142,000	Sanitary Sewer Fund	1,387,000	180,000			1,023,000	2,590,000
Total	Total	1,387,000	180,000			1,023,000	2,590,000

Budget Impact/Other



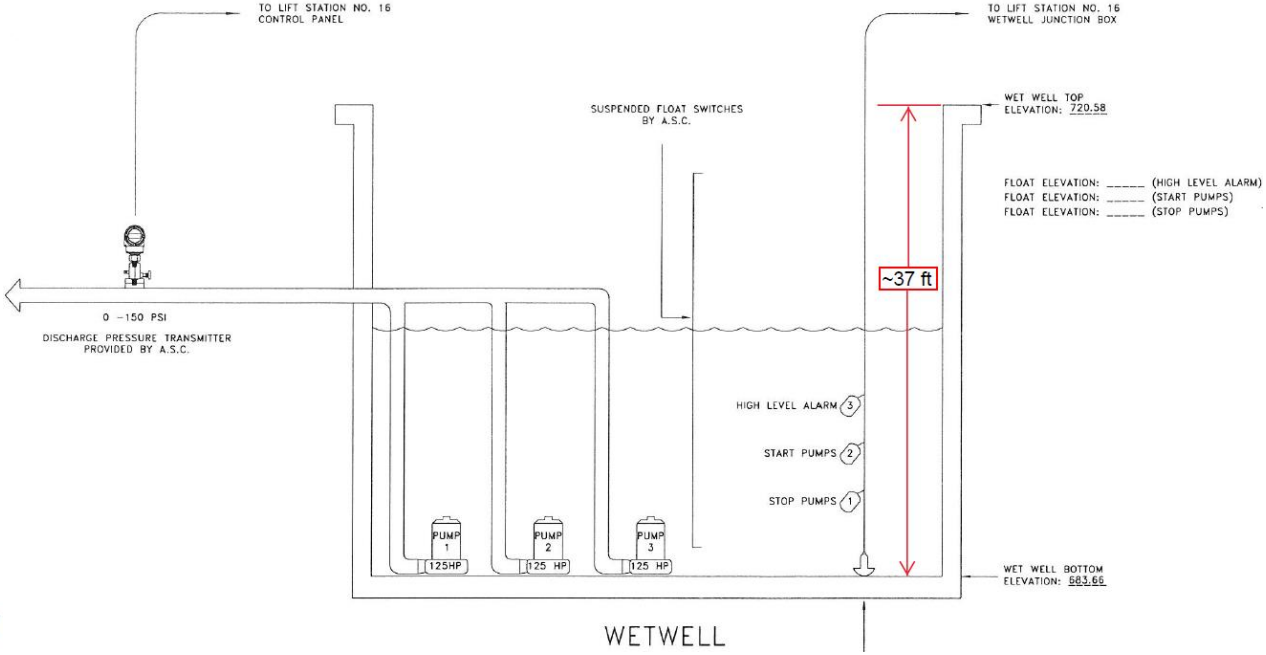
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Existing Conditions

- Pumps
- Flow Meter
- Electrical
- Mechanical
- Old Lift Station
- Levee



Phase I Completed 2020

- Bypass Pump (Sewer-20-016)
Purchased
- Grinder Pump (“Muffin Monster”)
Replaced
- Pump #3 Replaced

Shakopee - Lift Station No. 16 Rehabilitation Project Opinion of Probable Project Cost (Phase I - 2020)

Item	Opinion of Probable Cost	Notes
Mobilization, Bonds, Insurance		
Demolition		
Site Work/Bypass Pumping	\$100,000	Purchase new diesel pump (under separate CIP item)
Levee Rehabilitation		
Process Piping	\$40,000	Purchase and installation of new grinder (completed)
Pumps	\$50,000	Purchase and installation of first new pump (completed)
Structural		
Architectural		
Mechanical		
Electrical		
Instrumentation & Controls		
Generator		
Subtotal	\$190,000	
ELA (15%)		
Construction Contingencies (15%)		
Total Opinion of Probable Cost	\$190,000	



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New Grinder Pump



New Bypass Pump



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Phase II

Shakopee - Lift Station No. 16 Rehabilitation Project Opinion of Probable Project Cost (Phase II - 2021)

Item	Opinion of Probable Cost	Notes
Mobilization, Bonds, Insurance	\$113,000	
Demolition	\$104,000	Demolish existing above grade building and fill in wet/dry wells
Site Work/Bypass Pumping	\$129,000	Permanent buried bypass piping
Levee Rehabilitation	\$129,000	Levee repair (to be completed as a separate project)
Process Piping	\$259,000	New valves and flow meter including existing FM valves
Pumps	\$207,000	2 New pumps, discharge elbows, and guide rails
Structural	\$78,000	Slab repair and old wet well improvements
Architectural	\$145,000	Miscellaneous coatings and old wet well repair
Mechanical	\$0	
Electrical	\$41,000	Electrical connections
Instrumentation & Controls	\$41,000	New instruments and pump control additions
Generator	\$0	
Subtotal	\$1,246,000	
ELA (15%)	\$187,000	
Construction Contingencies (15%)	\$187,000	
Total Opinion of Probable Cost	\$1,620,000	



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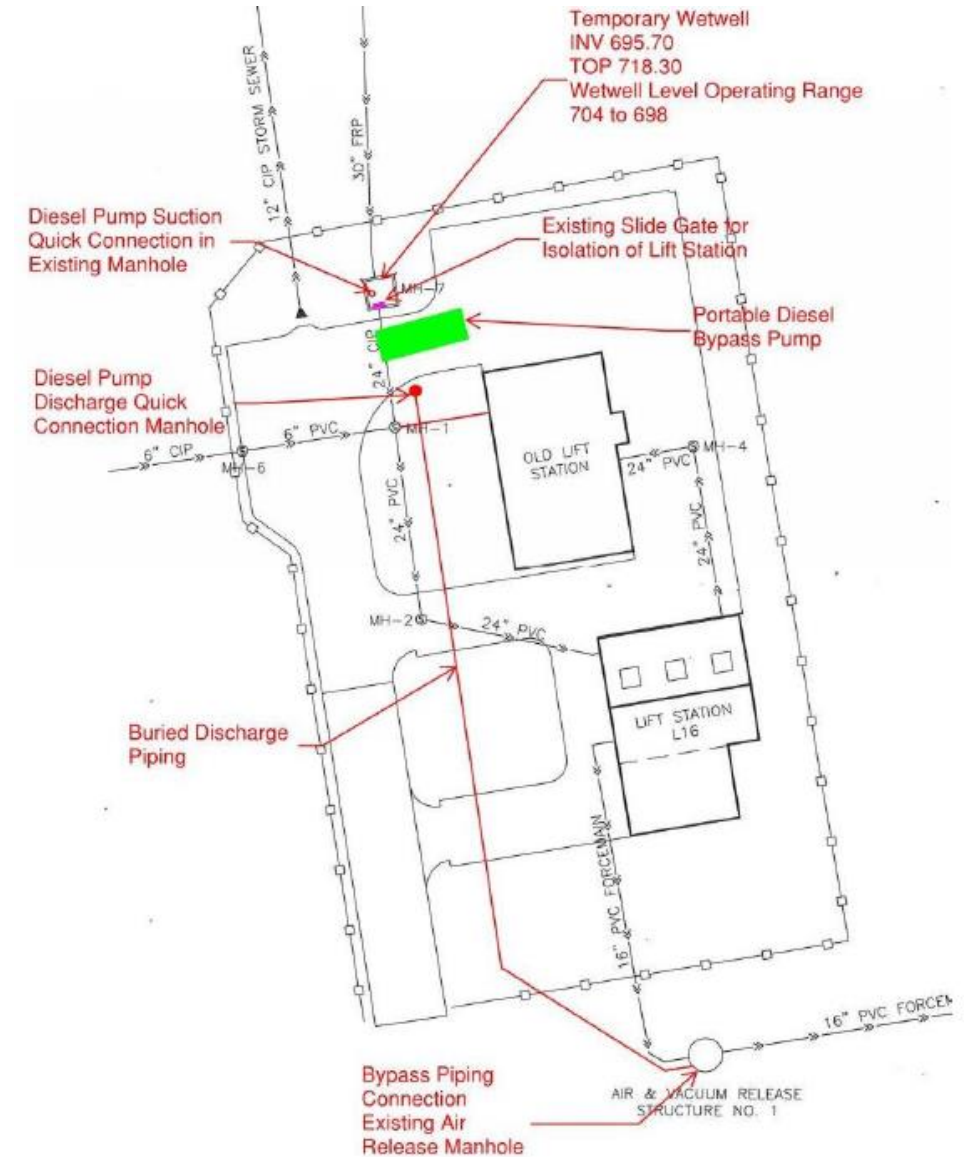
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Above Grade Portion of Old Lift Station (Not Being Used)



Emergency Bypass Plan



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Phase III

Shakopee - Lift Station No. 16 Rehabilitation Project Opinion of Probable Project Cost (Phase III - 2025)

Description	Opinion of Probable Cost	Notes
Mobilization, Bonds, Insurance	\$85,000	
Demolition	\$30,000	Demo existing electrical and mechanical
Site Work/Bypass Pumping	\$0	
Levee Rehabilitation	\$0	
Process Piping	\$0	
Pumps	\$0	
Structural	\$0	
Architectural	\$0	
Mechanical	\$238,000	HVAC upgrade (Equipment Replacement)
Electrical	\$534,000	Electrical service, MCC, and VFD upgrade
Instrumentation & Controls	\$48,000	Miscellaneous controls
Generator	\$0	New generator
Subtotal	\$935,000	
ELA (15%)	\$140,000	
Construction Contingencies (15%)	\$140,000	
Total Opinion of Probable Cost	\$1,215,000	



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PH II & III

- Combine PH II & PH III
- Economy of Scale
 - Cost Savings = ~\$250,000
- Professional Services Agreement w/ AE2S
 - Design & Bidding Services = \$189,000
 - Construction Services = \$101,000

	CIP (2021 & 2025)	Feasibility Report
	Budget	Budget
COSTS		
Construction Cost	\$1,938,000.00	\$1,950,000.00
Contingency	\$194,000.00	\$195,000.00
Subtotal	\$ 2,132,000.00	\$2,145,000.00
Eng/Admin/Legal	\$278,000.00	\$330,000.00
Total Estimated Project Cost	\$ 2,410,000.00	\$2,475,000.00
FUNDING		
Sanitary Sewer Fund	\$ 2,410,000.00	\$2,475,000.00
Total Funding	\$ 2,410,000.00	\$2,475,000.00



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Forcemain

Shakopee - Lift Station No. 16 Redundant Parallel Forcemain Project Opinion of Probable Project Cost (2027)

Description	Opinion of Probable Cost	Notes
Mobilization, Bonds, Insurance	\$147,000	
Bituminous Restoration	\$64,000	
Connections to Existing System	\$13,000	
12" PVC DR18 FM (8,500 lf)	\$1,081,000	Directionally drilled
Erosion Control	\$64,000	
Traffic Control	\$32,000	
Air Release/Cleanout Manholes	\$382,000	
Subtotal	\$1,783,000	
ELA (15%)	\$267,000	
Construction Contingencies (15%)	\$267,000	
Total Opinion of Probable Cost	\$2,317,000	



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Phase IV

Shakopee - Lift Station No. 16 Rehabilitation Project Opinion of Probable Project Cost (Phase IV - 2030+)

Description	Opinion of Probable Cost	Notes
Mobilization, Bonds, Insurance	\$84,000	
Demolition	\$28,000	Demo roof and miscellaneous arch
Site Work/Bypass Pumping	\$42,000	Generator pad and driveway improvements
Levee Rehabilitation	\$0	
Process Piping	\$0	
Pumps	\$0	
Structural	\$212,000	Miscellaneous structural improvements
Architectural	\$212,000	Miscellaneous architectural improvements
Mechanical	\$0	
Electrical	\$14,000	Miscellaneous electrical
Instrumentation & Controls	\$21,000	Miscellaneous controls
Generator	\$310,000	
Subtotal	\$923,000	
ELA (15%)	\$138,000	
Construction Contingencies (15%)	\$138,000	
Total Opinion of Probable Cost	\$1,199,000	



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Whispering Oaks Decommissioning Plan

Capital Improvement Plan City of Shakopee, Minnesota

2021 *thru* 2025

Project # Sewer-21-003
Project Name Decommissioning Whispering Oaks Lift Station

Accounting Code

Fund Sanitary Sewer Fund

Description

Decommission the Whispering Oaks Lift Station. This lift station was taken out of service in 2018 as part of the Whispering Oaks gravity sanitary sewer extension project. A feasibility study was performed in 2020 to identify salvagable components and to plan the removal of the lift station.

Justification

Lift station is no longer needed.

Department Sanitary Sewer Fund
Contact Public Works Director
Type Unassigned
Useful Life
Category Sanitary Sewer
Priority 3 Less Important/Future Consi
Status Active

Total Project Cost: \$75,000

Expenditures	2021	2022	2023	2024	2025	Total
Other	75,000					75,000
Total	75,000					75,000

Funding Sources	2021	2022	2023	2024	2025	Total
Sanitary Sewer Fund	75,000					75,000
Total	75,000					75,000

Budget Impact/Other

Cost TBD based on AE2E feasibility yet to be completed.



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Whispering Oaks Decommissioning Plan



Description	Opinion of Probable Cost
Materials to Salvage	
Mechanical	\$500
Structural	\$900
Electrical / Instrumentation & Controls	\$500
Salvage Total	\$1900
Materials to Remove and Dispose	
Site Improvements	\$2500
Mechanical	\$1000
Structural	\$3500
Electrical / Instrumentation & Controls	\$300
Removals Total	\$7300
Materials to Abandon	
Forcemain Pipe	\$25,200
Structural	\$7500
Abandonments Total	\$32,700
Site Restoration	\$5000
Subtotal	\$46,900
Construction Contingencies (10%)	\$4690
Total Opinion of Probable Construction Cost	\$51,590

Preliminary Project Schedule

City Council Receives Feasibility Report, Authorizes the Project and Orders Preparation of Plans and Specifications	February 2, 2021
City Council Approves Plans and Specs, Authorizes Advertisement for Bids	August 2021
City Receives and Opens Project Bids	September 2021
City Council Considers Award of Contract	September 2021
Start Project Construction	October 2021
Construction Substantially Complete	Spring 2022



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