



U.S. DEPARTMENT OF  
**ENERGY**



## Saltstone Disposal Units (SDUs) 7-12

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*SRS Citizens Advisory Board*

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## Purpose

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- Provide an update of SDU construction status
- Provide an update on relocation future SDUs
- Provide the schedule of SDU project completion
- **Reinforce that SDU's are integral infrastructure within the Liquid Waste program.**

# Saltstone Disposal Unit (SDU) Fact Sheet

## SDU 6 Project Data

- Liner installation complete December 15, 2016
- Successfully passed 41' hydrostatic leak tightness test December 28, 2016
- Received Approval to Commence Operations (CD-4) May 2017
- Currently receiving grout from Saltstone Production Facility
- Final Total Project Cost ~\$125M

## SDU 6 – May 2017



## SDU Key Performance Parameters (KPPs)

- Provide Saltstone grout containment capacity of no less than 30 million gallons (Mgal).
- Provide infrastructure capable of delivering Saltstone grout at 100 gallons per minute minimum
- Install a single leak detection system in accordance with the Z-Area Industrial Solid Waste Landfill Permit requirements

## Key Physical Characteristics

- Tank Dimensions = 375' Avg. ID X 43' Tall
- Volume = 32.8 M gallons (Filled to 41' height)
- Tank Concrete = ~13,018 cu yds
- Wall Panels = 25 @ 24" base / 10" top
- Floor Area = 110,000 sq ft
- Columns = 208 @ 24" diameter
- Roof Coating System to reflect solar absorption & minimize thermal stress
- 7 layers of prestress cables = 289 miles
- Liner panels average size = 11' X 41" X 3mm thick
- 7,000 liner pieces installed
- Piping = 2,400 linear feet and 17 valves
- HEPA filters = 4 Passive ventilation units

## SDUs 7-12

- SDUs 7 - 12 will be designed and constructed incorporating lessons learned from successful completion of SDU 6, including use of the Cell liner
- Remaining SDUs are being built in three projects:
  - SDU 7, SDU 8/9 and SDU 10 - 12



**Prior SDU Siting**



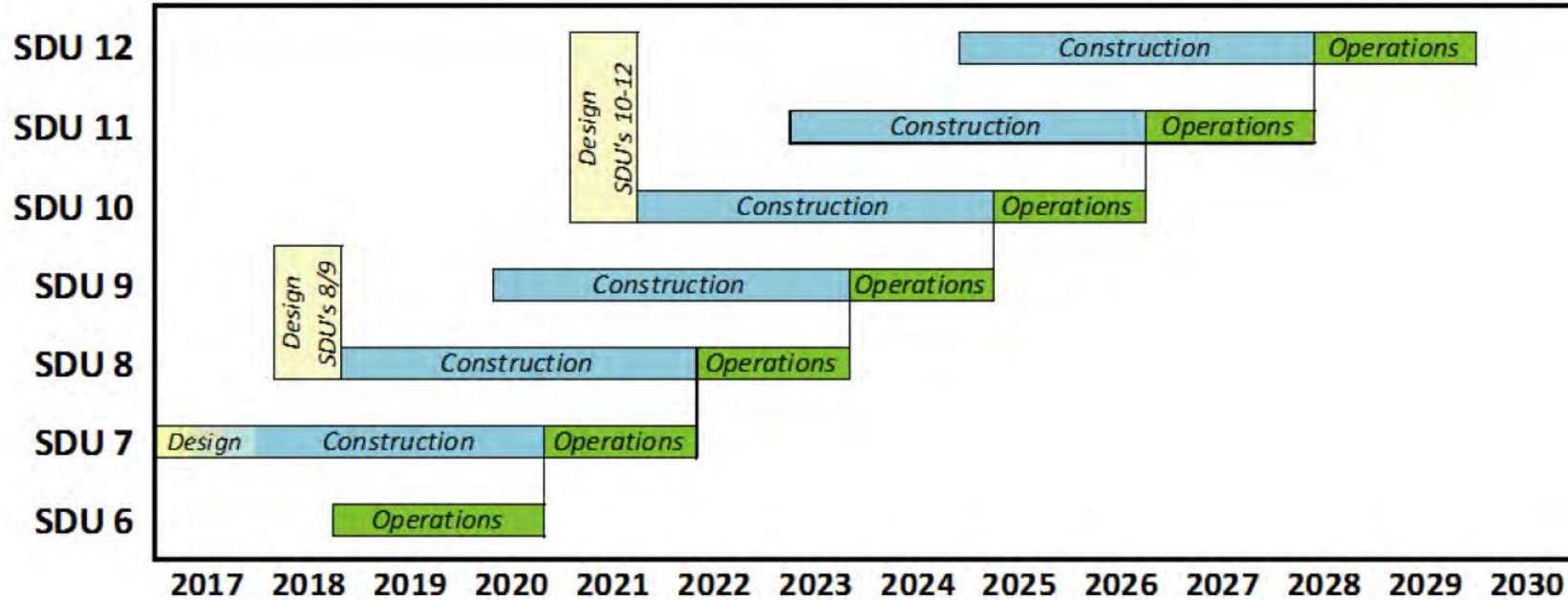
**Current SDU Siting**

### **For Each SDU (7 – 12):**

- **Complete site preparation activities**
- **Design and construct a 375 ft. in diameter, 43 ft. high 32 million gallon cylindrical disposal cell (large tank), based on American Water Works Association (AWWA) design criteria.**
  - Robust reinforced concrete design, including the incorporation of 289 miles of cable wrapped around the cell to strengthen it.
- **Balance of Plant (BOP) - Design and construct all infrastructure to tie the SDU into the Saltstone Production Facility (SPF):**
  - Grout distribution system
  - Drain water system
  - Modular instrument/Electrical equipment skid (MIEES)
  - Temperature monitoring
  - Power, cameras, lighting
  - Facility tie-ins

# Saltstone Disposal Unit Schedule

Based on Liquid Waste System Plan Revision 20, Adjusted to Reflect the October 2016 Salt Dispute Resolution Agreement



Project	Design		SDU	Construction		Operations	
	Start	Finish		Start	Finish	Start	Finish
SDU 6			SDU 6			Oct 2018	Oct 2020
SDU 7	Jun 2017	Dec 2017	SDU 7	Sep 2017	Oct 2020	Nov 2020	Apr 2022
SDU 8/9	Mar 2018	Oct 2018	SDU 8	Nov 2018	Apr 2022	May 2022	Oct 2023
			SDU 9	May 2020	Oct 2023	Nov 2023	Mar 2025
SDU 10-12	Feb 2021	Sep 2021	SDU 10	Oct 2021	Mar 2025	Apr 2025	Sep 2026
			SDU 11	Apr 2023	Sep 2026	Oct 2026	May 2028
			SDU 12	Dec 2024	May 2028	Jun 2028	Dec 2029

## **SDU 7 Project is currently under construction**

- **Cost**

- Total Project Cost - \$159M
  - Includes cost and schedule contingency

- **Schedule**

- Completed Site preparation (CD-3A) – September 2018
  - Completed Mud Mats and Mud Mat liner – November 2018
    - Lower and Upper Mud Mats complete
    - Defense in-depth liner – provides secondary containment in accordance with KPPs
  - Started Construction (CD-2/3) – November 2018
    - Cell floor formwork underway
    - First floor placement January 2019
  - Approve Start of Operations (CD-4) – October 2022
- **Note: This date includes estimated schedule contingency of 23 months however, the project is focused on the target date of November 2020 to meet LWSP Rev. 20 need date.**

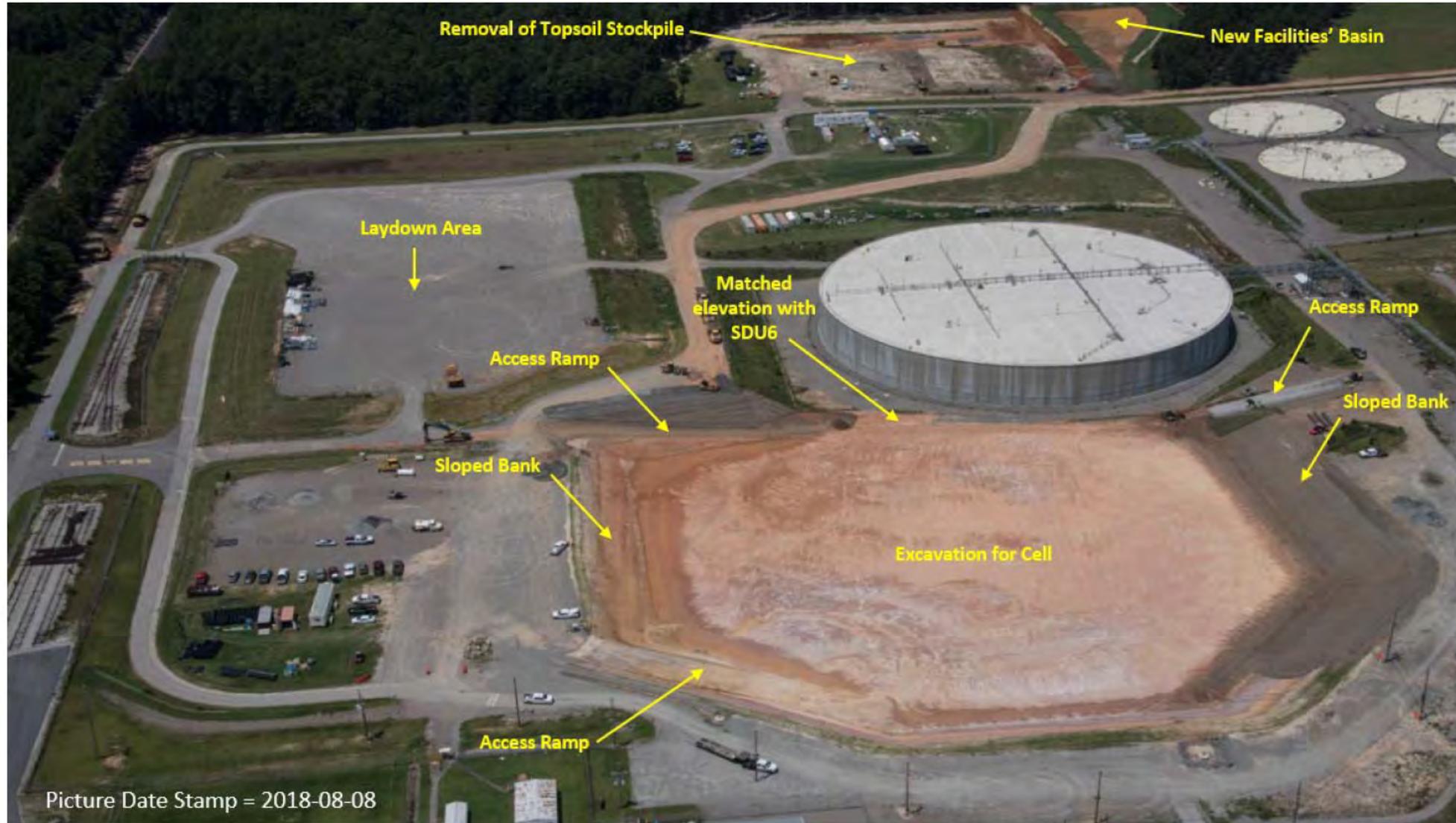
## Secretary Perry Breaks Ground on SDU 7 2/1/18



## SDU 7 Site Preparation (6/2018)



# SDU 7 Site Perparation (8/2018)



## SDU 7 Lower Mud Mat Installation (9/2018)



## SDU 7 HDPE Liner Installation (10/2018)



# SDU 7 HDPE Liner Installation (10/2018)



## SDU 7 Final Upper Mud Mat Placement (11/2018)



## SDU 6 and SDU 7 Completed Mud Mat – Cell Formwork Beginning

Photo Date: Dec. 4, 2018



## SDUs 8/9 and 10-12 Status

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- **SDU 8/9**

- **Mission Need and Alternative Selection/Cost Range Approved (CDs 0 and 1)**
  - Total Cost: \$350M (High Range estimate)
  - Schedule: March 2025 (includes 20 months contingency)
- **Design currently underway**
- **Baseline Approval (CD-2) and Start of Construction (CD-3) anticipated in March 2019**

- **SDU 10-12**

- **Mission Need and Alternative Selection/Cost Range Approved (CDs 0 and 1)**
  - Total Cost: \$600M (High Range estimate)
  - Schedule: June 2028 (includes 20 months contingency)
  - Design start planned in 2019
  - Construction start planned in 2021

- **We are building off the success of SDU6 and incorporating lessons learned**
- **We have a plan for construction that is integrated with the LWSP, Rev. 20**
- **We need sustained funding to meet our construction timeline.**
- **SDU's are integral infrastructure within the Liquid Waste program.**
- **We realize the greatest schedule efficiencies and lowest cost when we build SDUs as we have planned - moving crews from one SDU to the next as we complete a phase; i.e. When Mud Mat on SDU 8 is done we then move to SDU 9, then to SDU 10 etc.**

