SC DEPARTMENT *of*
ENVIRONMENTAL
SERVICES

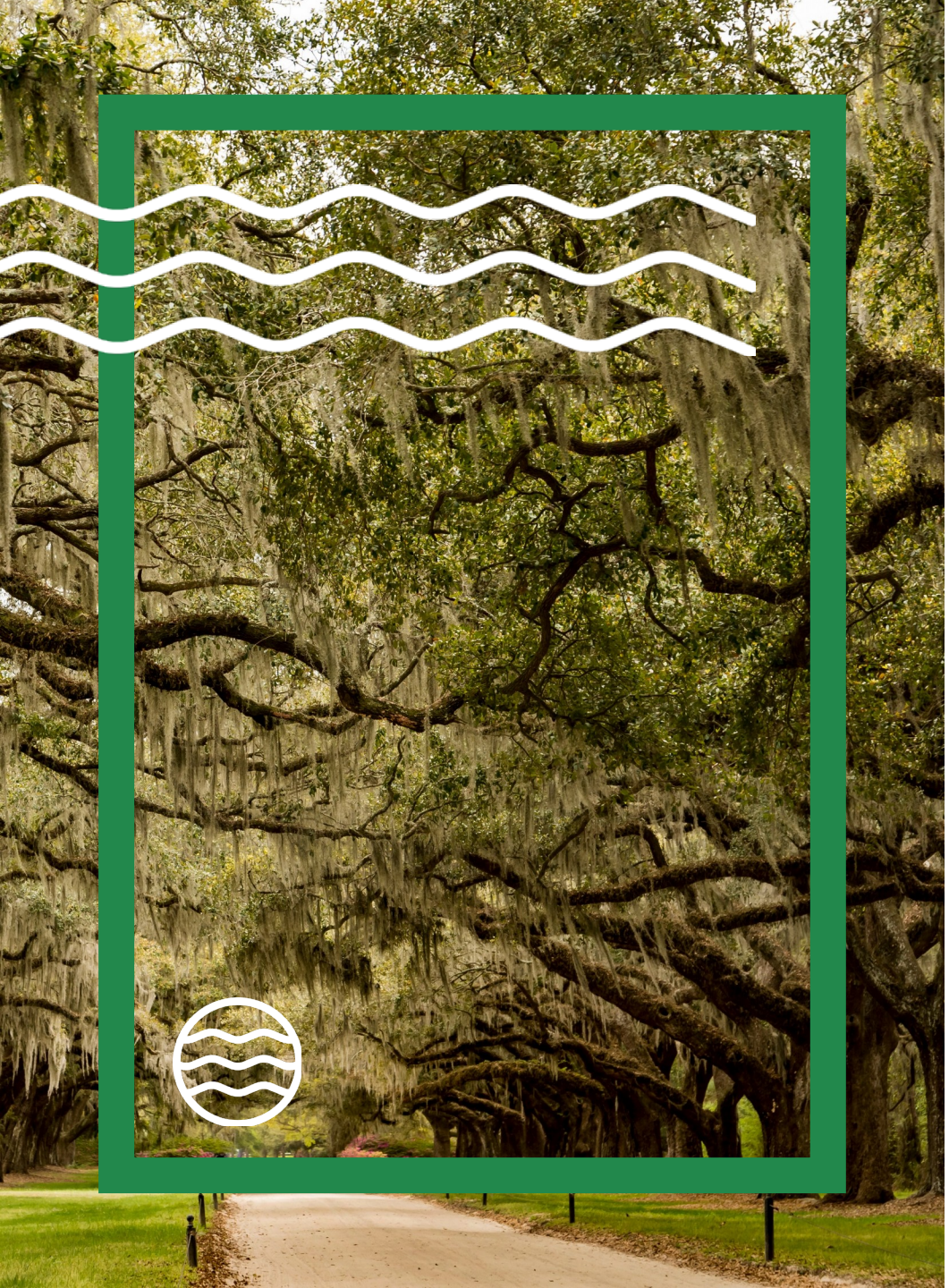
From Conflict to Compliance: Streamlining Final Inspections in South Carolina's OSWW Program

Michael Hayes

October 26, 2026

Disclaimer

Materials being presented represent my own opinions, and do NOT reflect the opinions of NOWRA.



Agenda

- Introduction
- Background
- Problem
- Data Collection
- Key Findings
- Pilot Project
- Outcomes
- Cost Savings
- Next Steps
- Conclusion

Introduction

-Michael Hayes, Division Director of OSWW Field Operations (Field Ops)

-18 years experience as regulator in the OSWW field

-This project was completed as part of the South Carolina Certified Program Manager (CPM).



Purpose

The purpose of this presentation is to communicate why a structured final inspection scheduling system is needed, how it was tested, and how adopting it statewide will increase compliance, reduce costs, and strengthen environmental protection.



Background

South Carolina's Environmental Agency

The South Carolina Department of Environmental Services (SCDES) is charged with overseeing the protection and preservation of South Carolina's environment and natural resources.

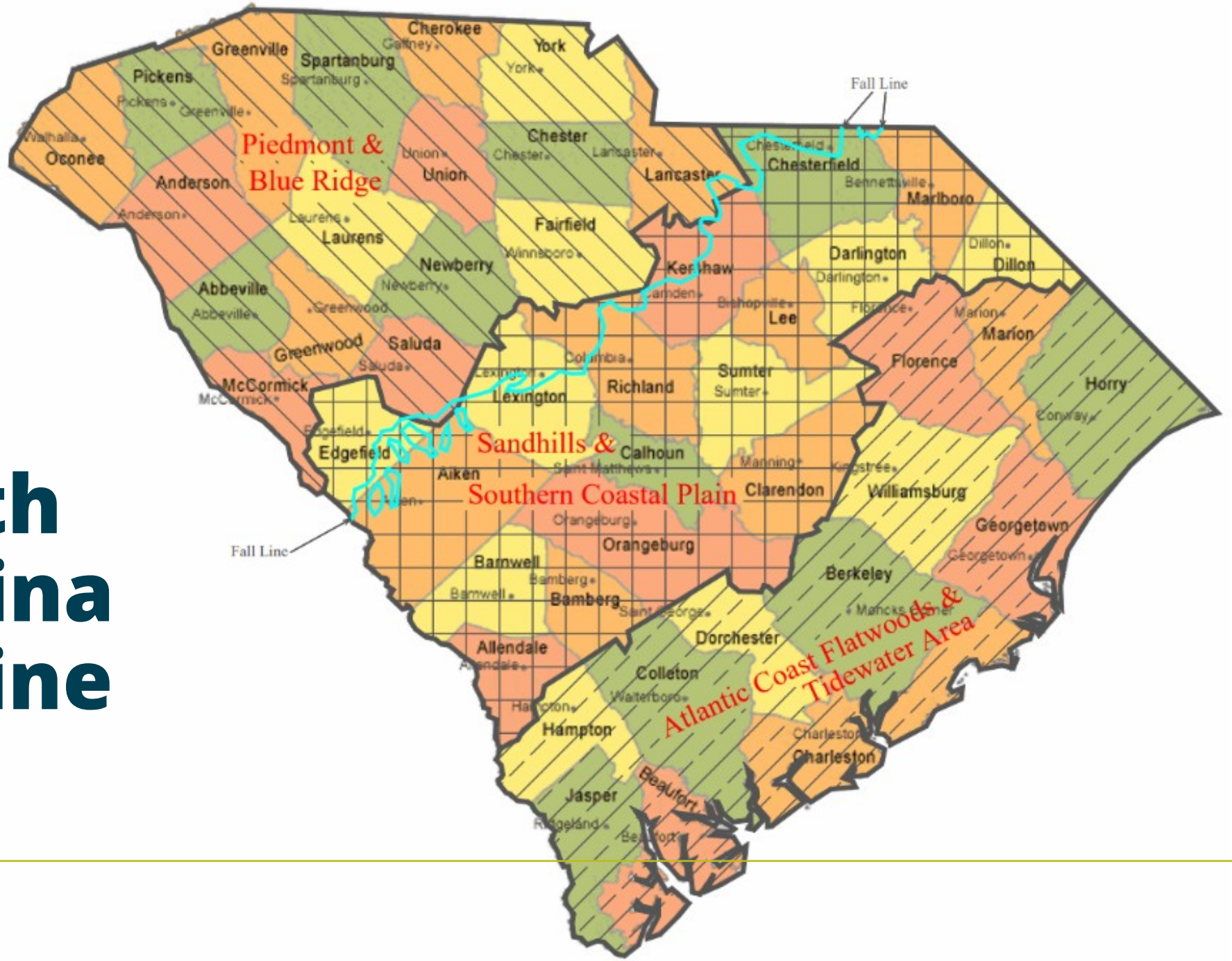
- Created on July 1, 2024, when the South Carolina Department of Health and Environmental Control was split.
- SCDES comprises five bureaus, with Bureau of Regional and Laboratory Services housing the Onsite Wastewater (OSWW) Program.

South Carolina's Onsite Wastewater Program

South Carolina's Onsite Wastewater (OSWW) Program enforces Regulation 61-56.

- Protects the health of families and communities by ensuring safe wastewater treatment and disposal.
- Regulates septic system permits in areas where public treatment facilities are unavailable.
- Licenses and monitors septic tank manufacturers, pumpers, and installers across the state.

South Carolina Fall Line



SCDES Site and Soil Evaluation



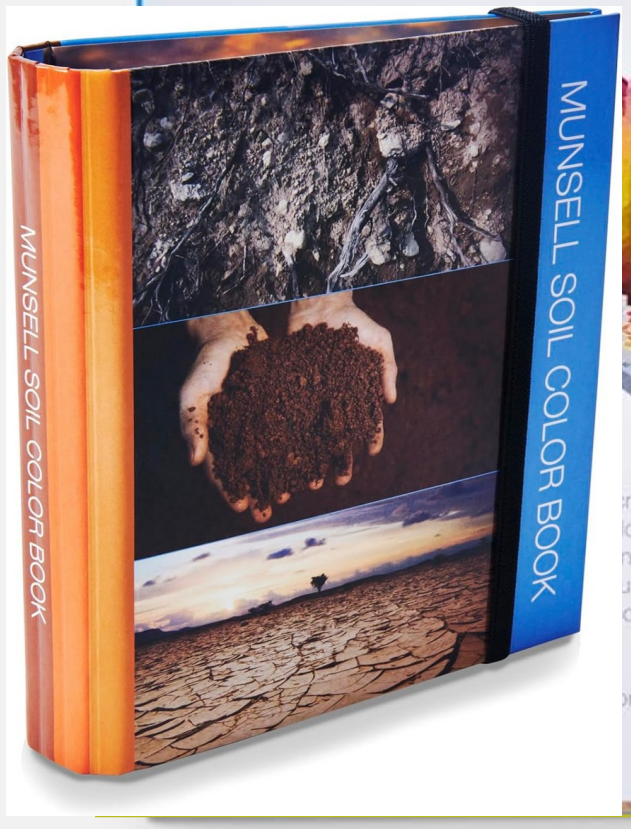


SCDES Site and Soil Evaluation



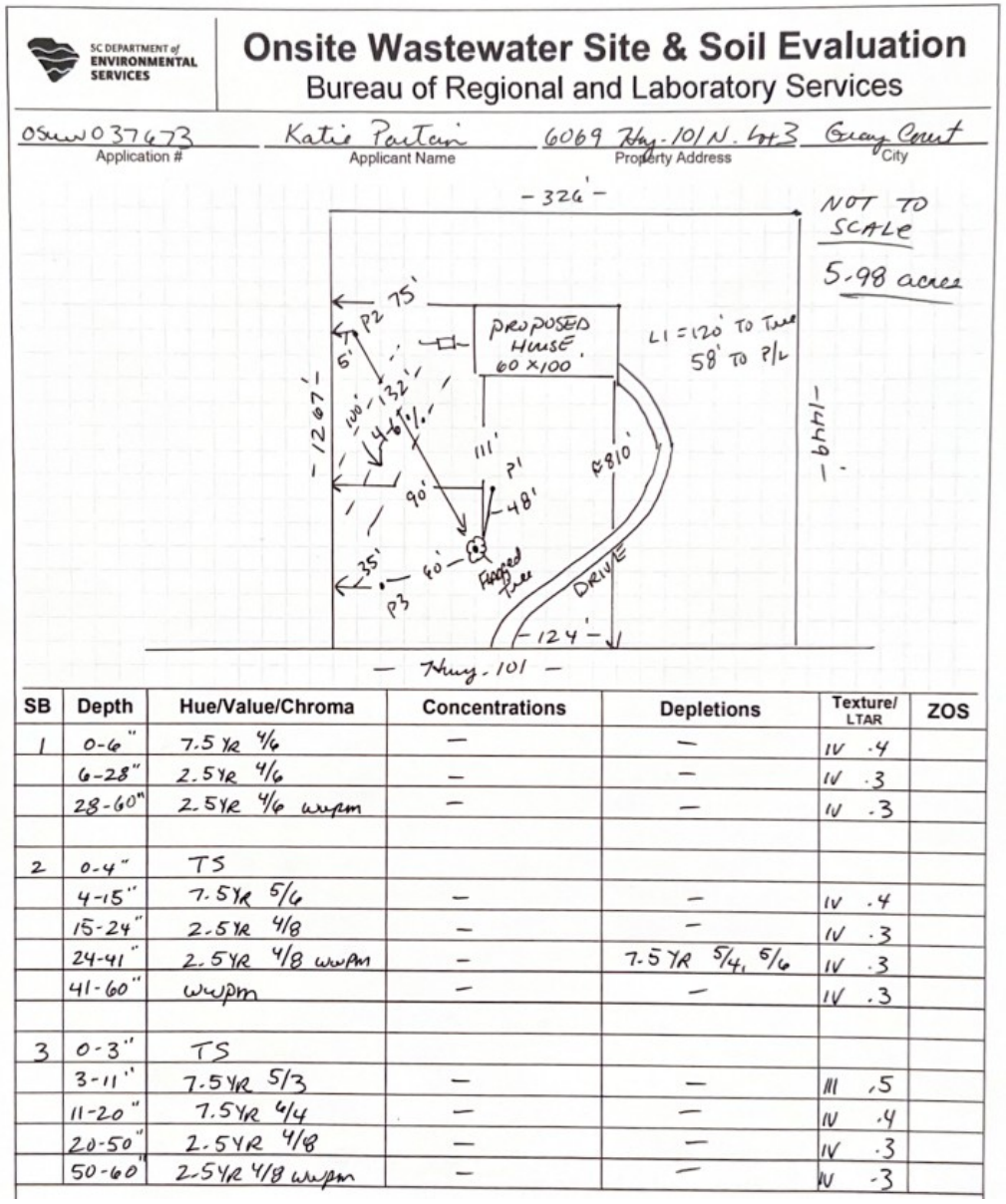


SCDES Site and Soil Evaluation



SCDES Site and Soil Evaluation

-Certified staff complete a site and soil evaluation sheet documenting their field findings



SC DEPARTMENT of ENVIRONMENTAL SERVICES

Onsite Wastewater Site & Soil Evaluation

Bureau of Regional and Laboratory Services

Application #	Applicant Name	Property Address	City
OSUW037673	Katie Partain	6069 Hwy. 101 N. Lot 3	Gray Court

SB	Depth	Hue/Value/Chroma	Concentrations	Depletions	Texture/ LTAR	ZOS
1	0-6"	7.5 YR 4/6	—	—	IV .4	
	6-28"	2.5YR 4/6	—	—	IV .3	
	28-60"	2.5YR 4/6 wvpm	—	—	IV .3	
2	0-4"	TS				
	4-15"	7.5YR 5/6	—	—	IV .4	
	15-24"	2.5YR 4/8	—	—	IV .3	
	24-41"	2.5YR 4/8 wvpm	—	7.5YR 5/4, 5/6	IV .3	
	41-60"	wvpm	—	—	IV .3	
3	0-3"	TS				
	3-11"	7.5YR 5/3	—	—	III .5	
	11-20"	7.5YR 4/4	—	—	IV .4	
	20-50"	2.5YR 4/8	—	—	IV .3	
	50-60"	2.5YR 4/8 wvpm	—	—	IV .3	

SCDES Construction Permit

SC DES

PERMIT TO CONSTRUCT
Onsite Wastewater System

Permit ID: OSWW050886 v1.0
County: Orangeburg

Site: Dogwood Lane Orangeburg, SC 29118
Type Facility: Residential
Subdivision:
Block: Lot:

Site Address:
Dogwood Drive
Orangeburg, SC 29118

Program Code: CONVENTIONAL
System Code: 002 ALTERNATIVE PRODUCT
TM #: 176-00-07-036
Water Supply: Municipal

PERMIT TO CONSTRUCT SYSTEM SPECIFICATIONS

Daily Flow (gpd): 360
No. Bedrooms: 3
LTAR (g/d/ft²): 0.5

Tank Sizes (gal): Septic Tank: 1000 Pump Chamber: Grease Trap:
Trenches: Length (ft): 180 Width (in): 36 Max. Depth (in): 30 Agg. Depth (in): *
Min Pump Capacity: GPM at ft. of Head

SPECIAL INSTRUCTIONS/CONDITIONS

THIS PERMIT IS SITE SPECIFIC. ANY CHANGES TO THE SYSTEM MUST BE APPROVED BY SCDES. ALTERNATIVE TRENCH PRODUCTS APPROVED UNDER STATE RULES AND REGULATIONS MAY BE SUBSTITUTED. ANY UNAPPROVED CHANGES WILL VOID THIS PERMIT.

Installers must contact the local SCDES office by 10:00 AM the day prior to installation in order to schedule a time for the final inspection. If a Department representative does not arrive within 30 minutes of the scheduled time, the installer may conduct the final inspection. When a contractor self-inspection occurs, the installer must complete SCDES form 3978, Approval to Operate Contractor Self-Inspection. The installer must submit the SCDES form 3978 within 2 business days of the completion of installation.

Self-installations require a pre-construction conference with a Department representative.

- ***At the request of the applicant, the permit has been written specifically for the use of an alternative product with 25% reduction for replacement of 14" aggregate. No further reductions in linear length are allowed and the system must be installed by a licensed septic contractor that is certified by the product manufacturer.***

- *All applicable setbacks set forth in Regulation 61-56 apply.*
- *No part of the system shall be installed within seventy-five (75) linear feet of the critical areal line or the mean high water elevation of an impounded or natural body of water, including streams, canals, and retentions ponds.*
- *Maximum Trench Depth not to exceed ___30___ inches. Place lines on contour and use serial distribution if needed.*

PERMIT TO CONSTRUCT SYSTEM DIAGRAM

See System Diagram on page 2 of this document.

Issued/Revised By:

Date: April 06, 2026

SCDES 1781 (01/2014)

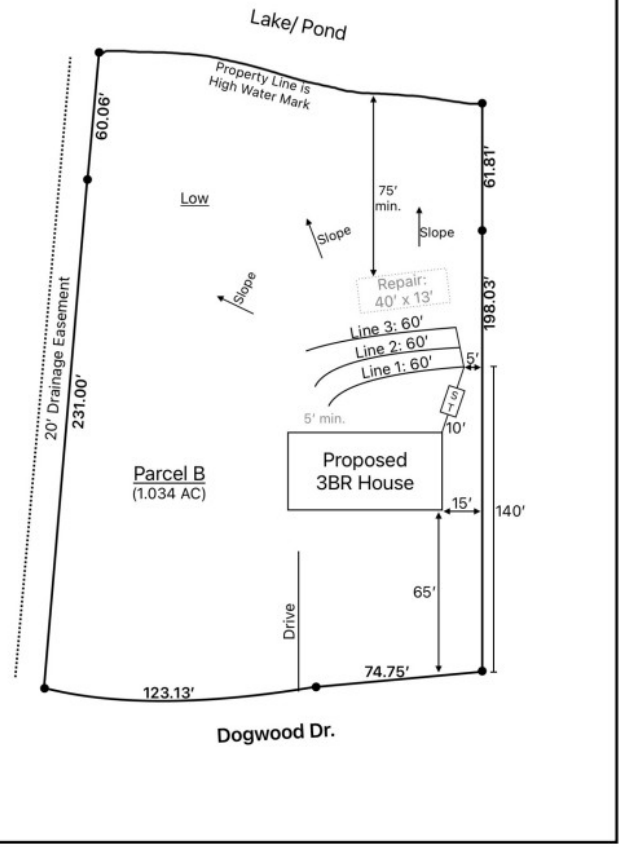
This Permit is Appealable Under the Administrative Procedures Act.
This Permit will Expire and Become Null and Void Five (5) Years from the Issuance Date.
There may be an Additional Fee for Changes in this Permit that Require a Site Reevaluation.

SC DES

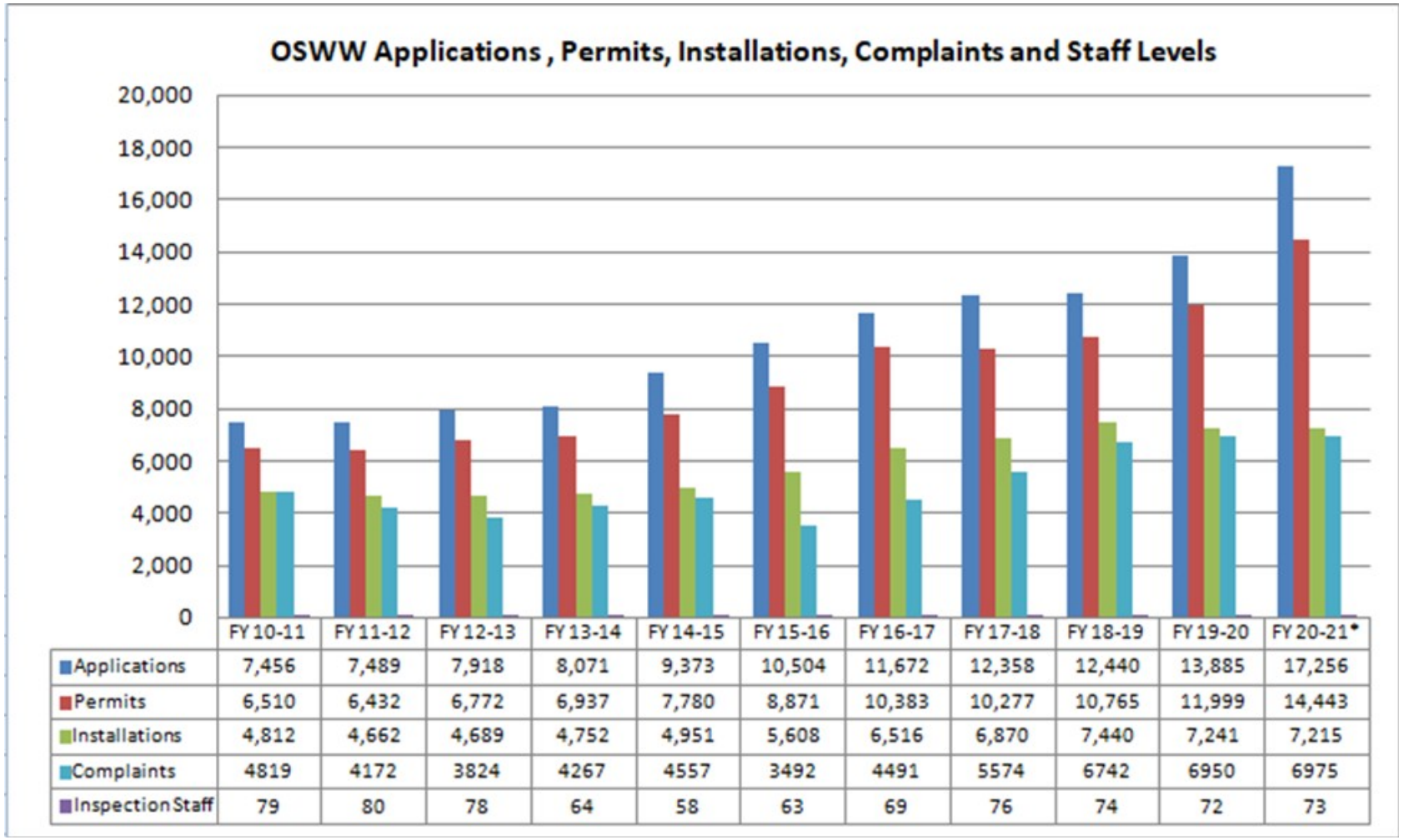
PERMIT TO CONSTRUCT
Onsite Wastewater System

Site: Dogwood Lane Orangeburg, SC 29118
Permit ID: OSWW050886 v1.0
County: Orangeburg

PERMIT TO CONSTRUCT SYSTEM DIAGRAM



Historical Information



	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21*
Applications	7,456	7,489	7,918	8,071	9,373	10,504	11,672	12,358	12,440	13,885	17,256
Permits	6,510	6,432	6,772	6,937	7,780	8,871	10,383	10,277	10,765	11,999	14,443
Installations	4,812	4,662	4,689	4,752	4,951	5,608	6,516	6,870	7,440	7,241	7,215
Complaints	4819	4172	3824	4267	4557	3492	4491	5574	6742	6950	6975
Inspection Staff	79	80	78	64	58	63	69	76	74	72	73

Staffing

25
New FTEs Approved

Granted by the SC State Legislature in July 2023 to address chronic understaffing.

2024
Spring Deployment

New staff began contributing meaningfully to final inspections in Spring 2024.

8–10
Months to Certify

Each new employee requires 8–10 months of training before contributing to final inspections.

South Carolina's OSWW Program

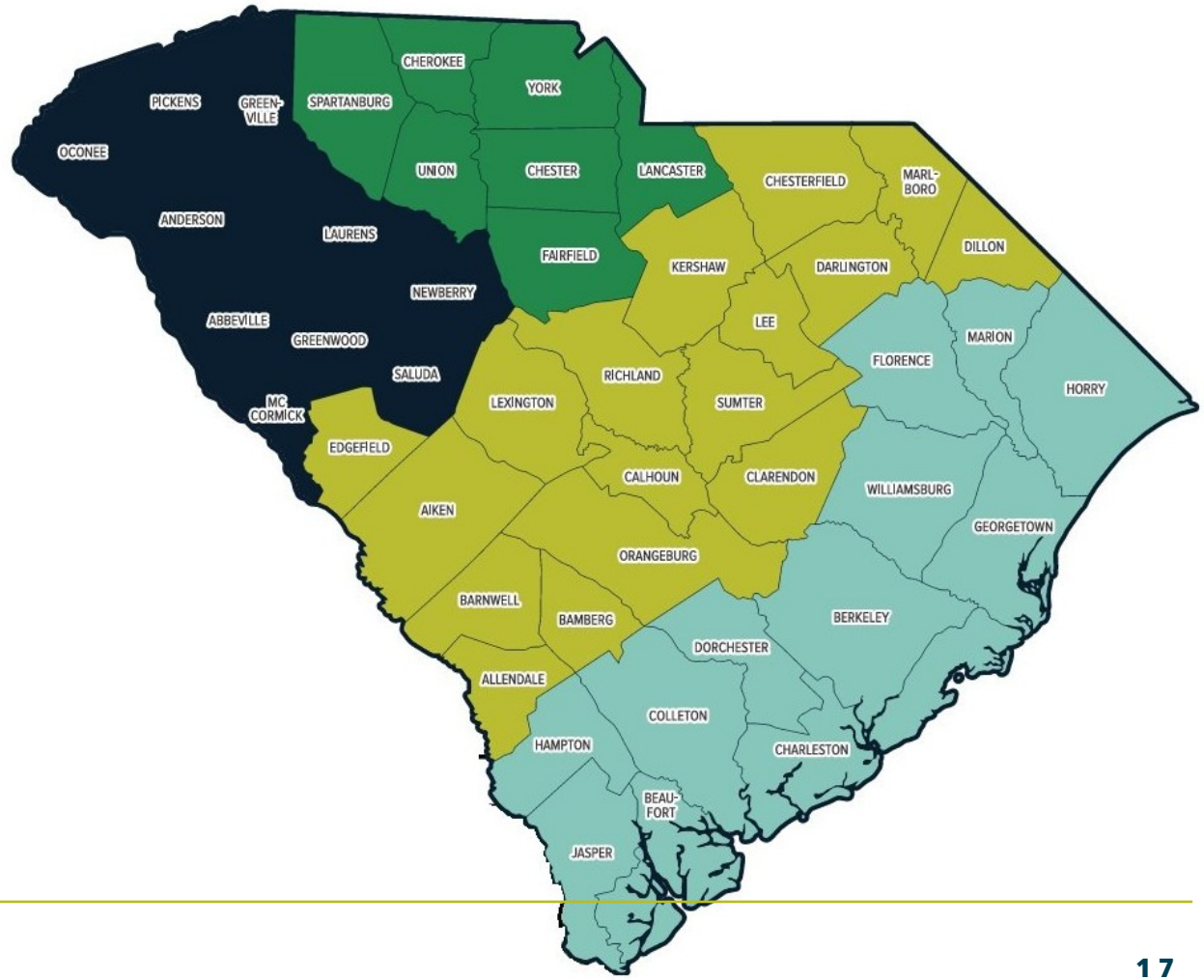
-Two Divisions

- -Division of OSWW
- -Division of OSWW Field Operations

-120 Staff

- -Permitting
- -Administration
- -Management

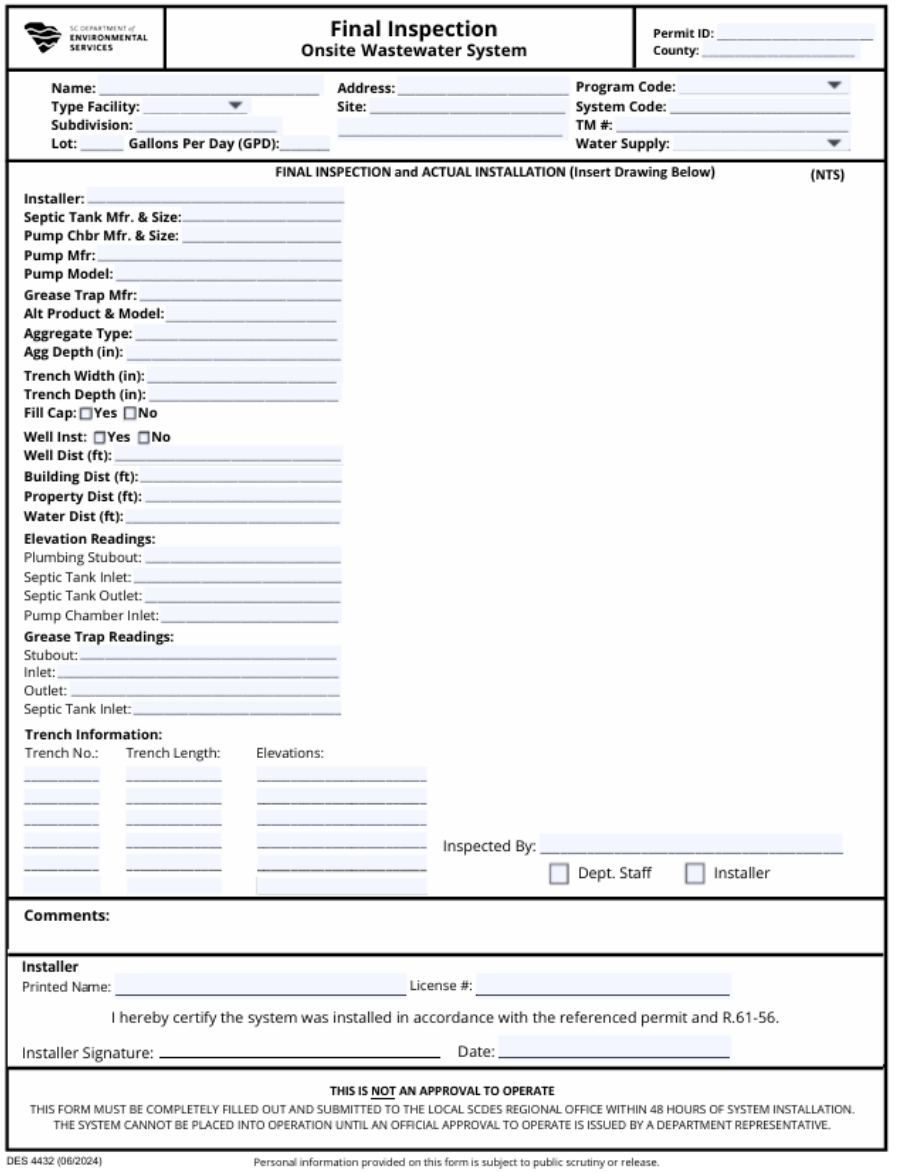
-Five Permitting Pathways



Permitting Options

Option	Soil Evaluation	Design	Permit Issued By
Option 1	SCDES	SCDES	SCDES
Option 2	Professional Soil Classifier	Professional Engineer	SCDES
Option 3	Professional Soil Classifier	Professional Soil Classifier	SCDES
Option 4	Professional Soil Classifier	SCDES	SCDES
Option 5	Professional Soil Classifier or SCDES	Professional Engineer	SCDES

Contractor Self-Inspections



SC DEPARTMENT of ENVIRONMENTAL SERVICES

Final Inspection
Onsite Wastewater System

Permit ID: _____
County: _____

Name: _____ Address: _____ Program Code: _____
Type Facility: _____ Site: _____ System Code: _____
Subdivision: _____ TM #: _____
Lot: _____ Gallons Per Day (GPD): _____ Water Supply: _____

FINAL INSPECTION and ACTUAL INSTALLATION (Insert Drawing Below) (NTS)

Installer: _____
Septic Tank Mfr. & Size: _____
Pump Chbr Mfr. & Size: _____
Pump Mfr: _____
Pump Model: _____
Grease Trap Mfr: _____
Alt Product & Model: _____
Aggregate Type: _____
Agg Depth (in): _____
Trench Width (in): _____
Trench Depth (in): _____
Fill Cap: ☐ Yes ☐ No

Well Inst: ☐ Yes ☐ No
Well Dist (ft): _____
Building Dist (ft): _____
Property Dist (ft): _____
Water Dist (ft): _____

Elevation Readings:
Plumbing Stubout: _____
Septic Tank Inlet: _____
Septic Tank Outlet: _____
Pump Chamber Inlet: _____

Grease Trap Readings:
Stubout: _____
Inlet: _____
Outlet: _____
Septic Tank Inlet: _____

Trench Information:

Trench No.:	Trench Length:	Elevations:

Inspected By: _____
☐ Dept. Staff ☐ Installer

Comments:

Installer
Printed Name: _____ License #: _____

I hereby certify the system was installed in accordance with the referenced permit and R.61-56.

Installer Signature: _____ Date: _____

THIS IS NOT AN APPROVAL TO OPERATE

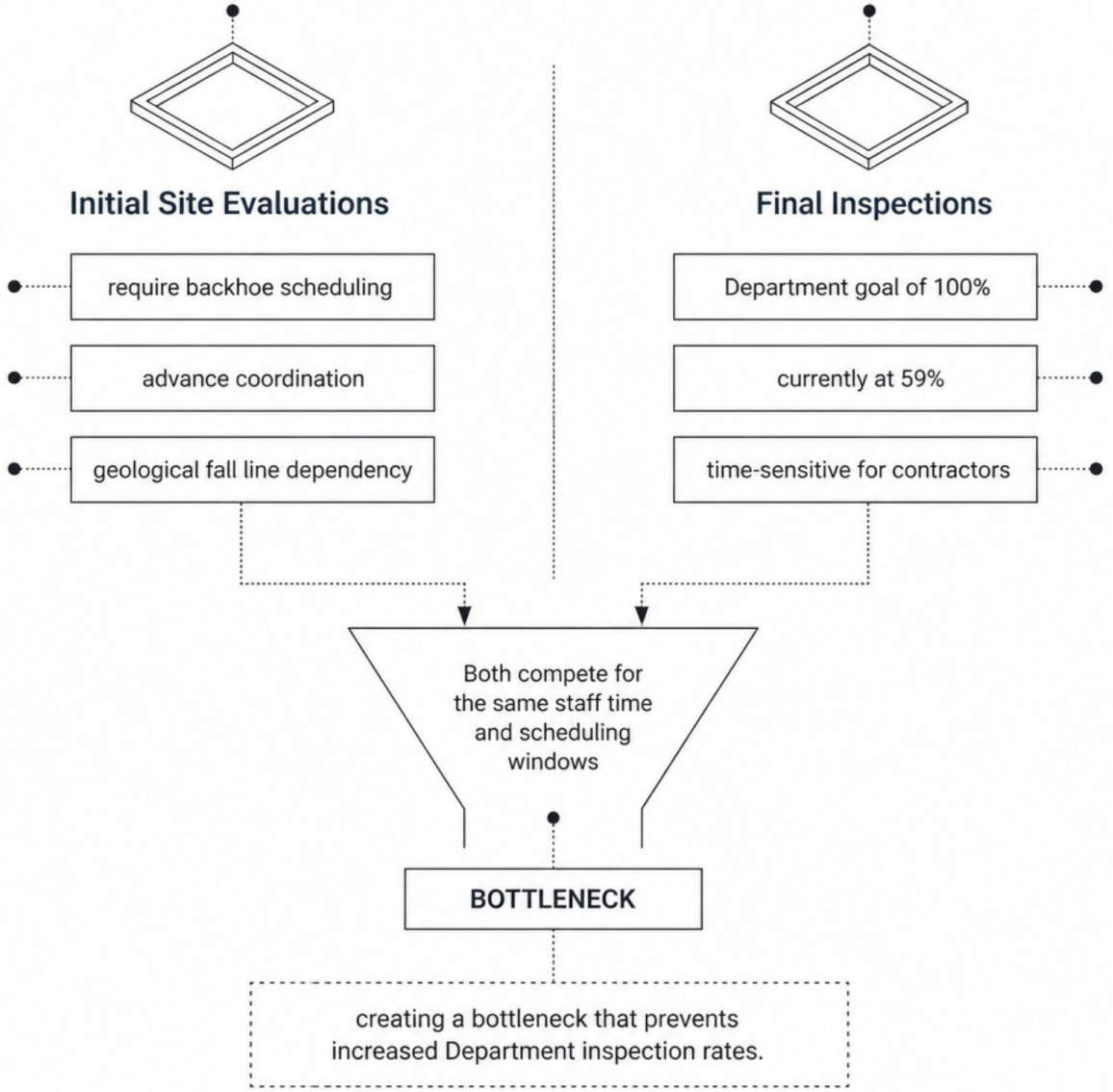
THIS FORM MUST BE COMPLETELY FILLED OUT AND SUBMITTED TO THE LOCAL SCDES REGIONAL OFFICE WITHIN 48 HOURS OF SYSTEM INSTALLATION. THE SYSTEM CANNOT BE PLACED INTO OPERATION UNTIL AN OFFICIAL APPROVAL TO OPERATE IS ISSUED BY A DEPARTMENT REPRESENTATIVE.

DES 4432 (06/2024)

Personal information provided on this form is subject to public scrutiny or release.

Problem

What is the conflict?



Problem Statements

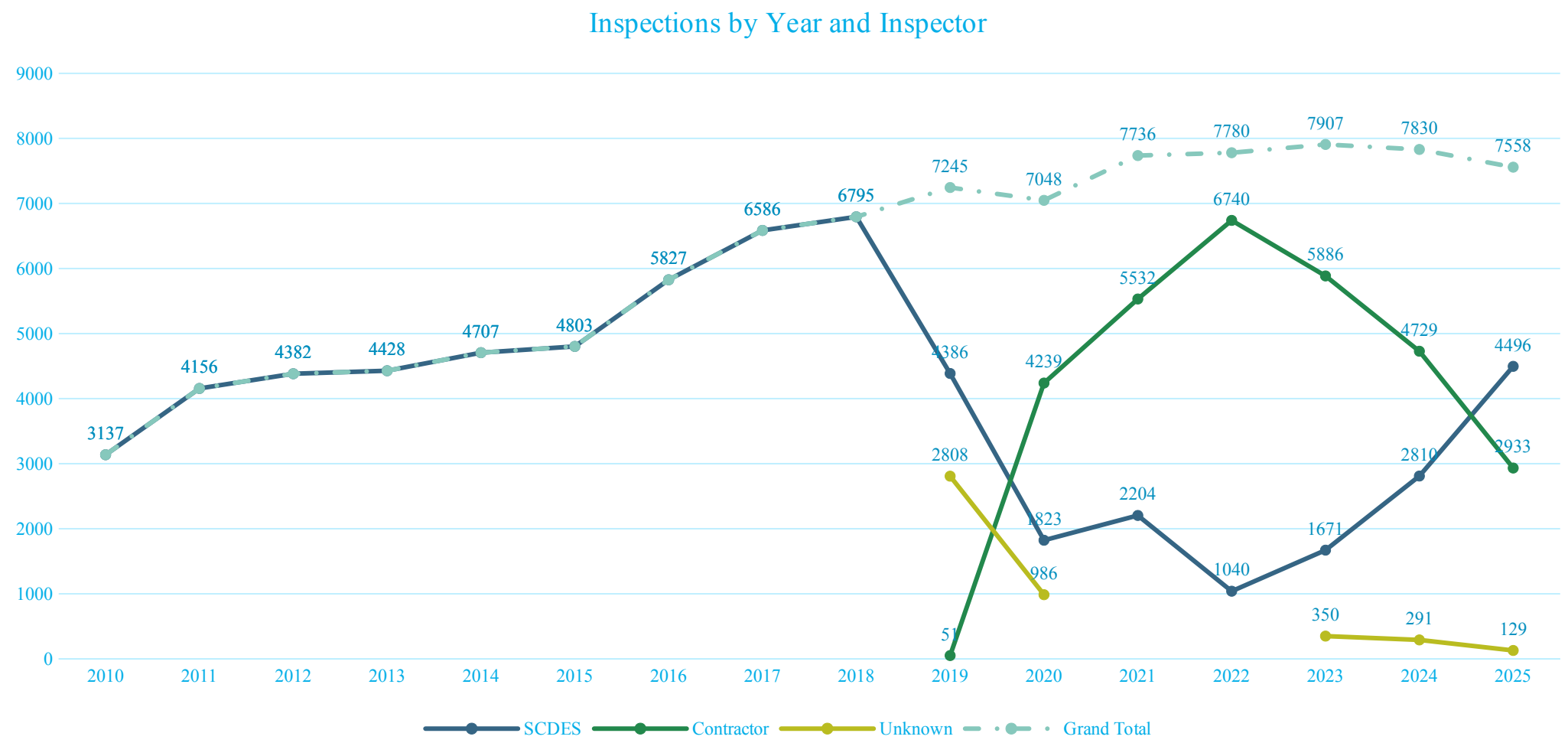
- Scheduling conflicts between initial site evaluation and final inspections, especially above the fall line, reduce efficiency and delay services.
- Improving final inspection scheduling increases regulatory compliance, protects public health and the environment, and reduces costs for installers and homeowners.
- Despite a statutory requirement to inspect 3% of systems, SCDES currently inspects 59% and aims for 100% while achieving a 15-day turnaround time on Permits to Construct.

Data Collection

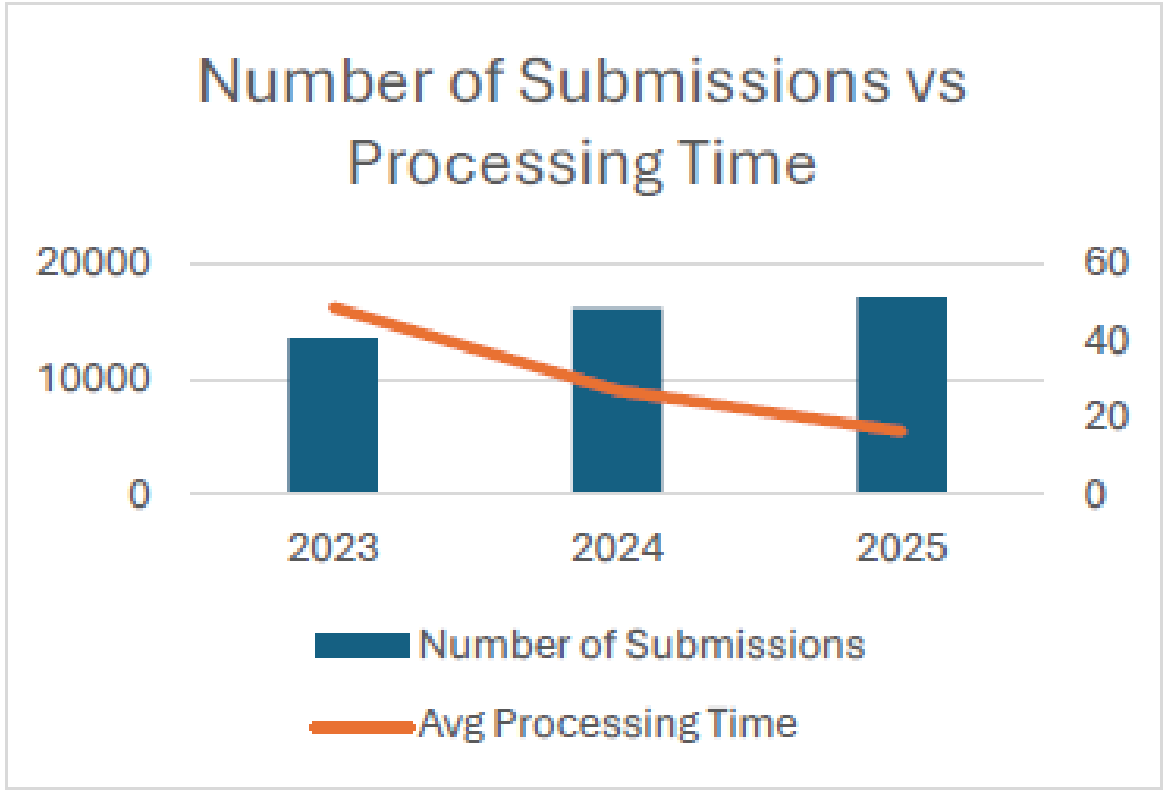
Final Inspections by Year and Inspector

Calendar Year	Inspections By Contractor	Inspections by SCDES	UNKNOWN	Grand Total
2010		3137		3137
2011		4156		4156
2012		4382		4382
2013		4428		4428
2014		4707		4707
2015		4803		4803
2016		5827		5827
2017		6586		6586
2018		6795		6795
2019	51	4386	2808	7245
2020	4239	1823	986	7048
2021	5532	2204		7736
2022	6740	1040		7780
2023	5886	1671	350	7907
2024	4729	2810	291	7830
2025	2933	4496	129	7558
Grand Total	30110	63251	4564	97925

Final Inspections by Year and Inspector

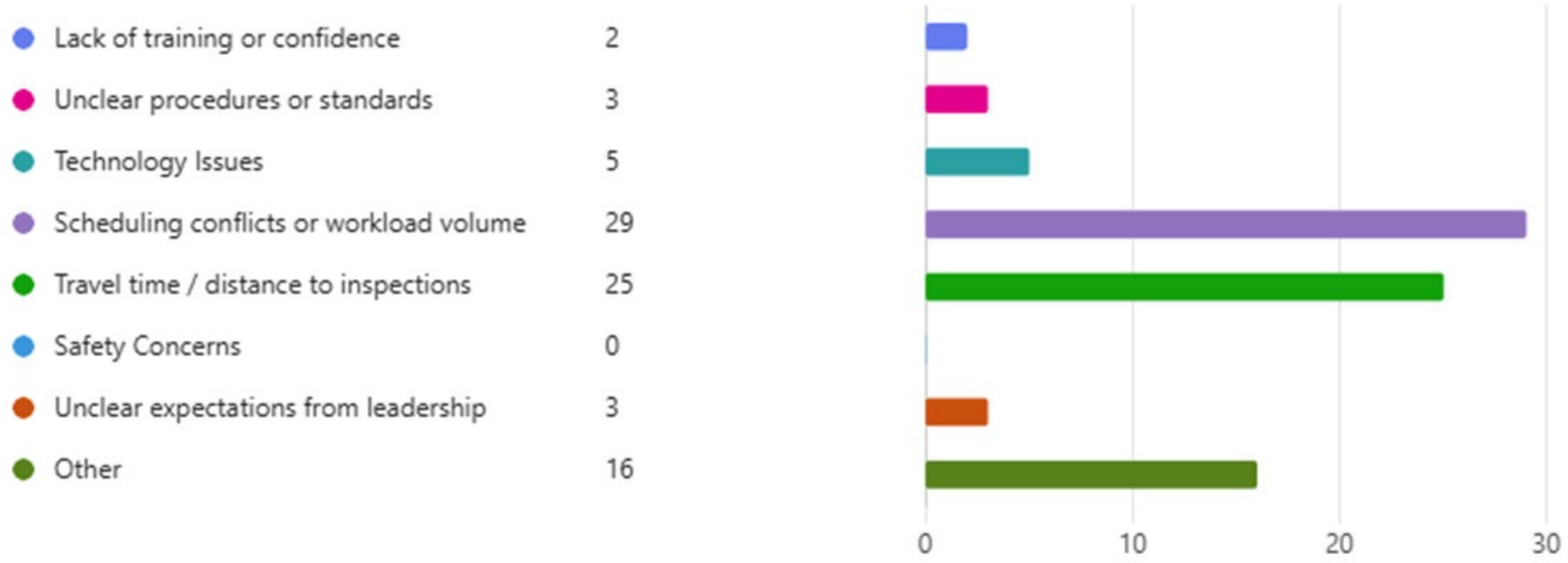


Submissions vs Processing Times



Staff Concerns

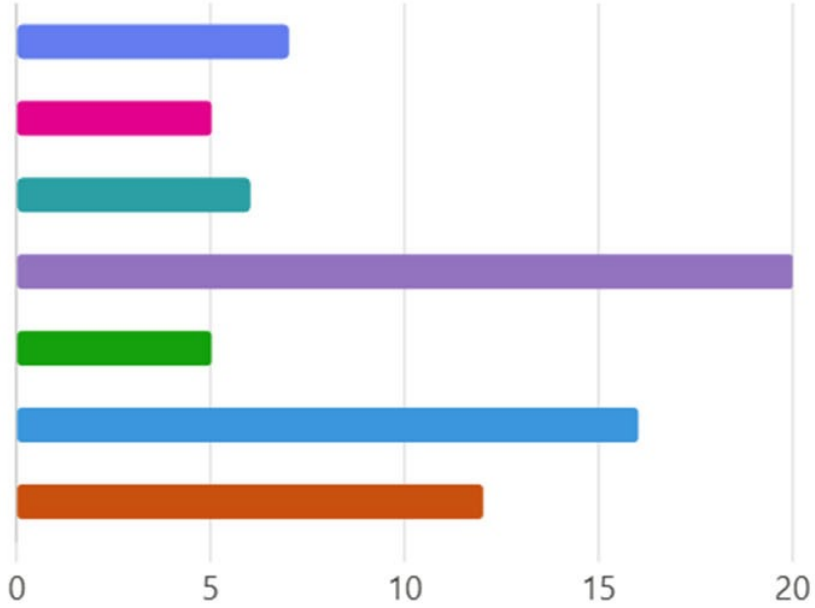
2. Which of the following reasons have prevented you from completing Department inspected final inspections? (Select up to 3 reasons)



Staff Concerns

4. What tools or resources would improve your ability to perform final inspections? (Select up to 3 resources)

Better equipment	7
More clear guidance documents	5
Improved communication with leadership	6
Better access to GIS/maps	20
Scheduling assistance	5
Additional staff or redistributed workload	16
Other	12



SCDES Staff Feedback

- When questioned about the tools or resources needed to improve their ability to perform final inspections, only 7% of respondents felt “Scheduling assistance” would be helpful.
- However, the top barriers identified in the previous survey questions were logistical concerns. These responses indicate a potential need.

SCDES Enforcement

An interview was conducted with a SCDES Enforcement Officer

- Interacted with 175 Cases during the 2025 calendar year (70 of which were self-inspections).
- Self-inspection violations come in multiples (Two installers had 31 combined self-inspections with violations).
- One subdivision, with at least 63 inspected lots, was found to have septic systems installed without final inspections scheduled.

SCOWA Feedback

- Self-inspections have increased environmental protection.
  - 65% disagreed
  - 20% were neutral
  - 15% agreed
- When installers were asked whether self-inspections increase administrative work for their businesses:
  - 21 agreed
  - 19 were neutral
  - 26 disagreed

SCOWA Feedback

Average Time to Complete One Self-Inspection			
Category	**Responses**	**Midpoint (min)**	**Total**
<30 min	13	15	195
30–45	16	38	608
45–60	22	53	1166
1–2 hrs	12	90	1080
>2 hrs	3	120	360
	66	316	3409
3409/66 = 52 minutes			

SCOWA Feedback

Average Repair Cost Range Survey			
Range	Midpoint (M)	Count (C)	Weighted (M*C)
$0-$999	$500	2	$1,000
$1,000 - $2,499	$1,750	4	$7,000
$2,500 - $3,999	$3,250	24	$78,000
$4,000 - $5,499	$4,750	20	$95,000
$5,500 - $6,999	$6,250	8	$50,000
$7,000 - $8,499	$7,750	5	$38,750
$8,500 - Greater	8500	2	$17,000
		65	$286,750
$286,750/ 65 = $4412 estimated average repair cost			
*All dollar amounts rounded to nearest whole number.			

Pilot Project

Pilot Project

- The objective of the pilot was to assess the impact of assigning a fixed number of final inspection slots per day based on staffing.
- Counties selected are based on location, above the geological fall line and below the geological fall line. Each county, or group of counties, will receive a fixed number of inspection time slots each day based on staff levels and workload trends.

Pilot Project

- 4-week timeline
- Inspection staff were not aware this pilot was taking place
- Two Program Coordinators (administrative staff) and their managers were aware

Pilot Project

County	Office	Max Drive Time (One-way)	# of Inspectors	Earliest Start				Latest Start Time		Limit per Office per Day
Lexington	Columbia	45	5	10:30 AM	12:00 PM	1:30 PM	3:00 PM	3:30 PM		10
Richland	Columbia	45	5	10:00 AM	11:30 AM	1:00 PM	2:30 PM	3:30 PM		
Lee	Sumter	30	3	10:00 AM	11:15 AM	12:30 PM	1:45 PM	3:00 PM		6
Sumter	Sumter	30	3	10:00 AM	11:15 AM	12:30 PM	1:45 PM	3:00 PM		
Clarendon	Sumter	60	3	10:00 AM	11:30 AM	1:00 PM	2:30 PM	3:30 PM		
Darlington	Sumter	60	3	10:00 AM	11:30 AM	1:00 PM	2:30 PM	3:30 PM		
Kershaw	Sumter	60	3	10:00 AM	11:30 AM	1:00 PM	2:30 PM	3:30 PM		
Chesterfield	Sumter	90	3	10:00 AM	11:45 AM	1:30 PM	3:00 PM			
Dillon	Sumter	90	3	10:00 AM	11:45 AM	1:30 PM	3:00 PM			
Marlboro	Sumter	90	3	10:00 AM	11:45 AM	1:30 PM	3:00 PM			
Abbeville	Greenwood	45	3	10:00AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	18
Greenwood	Greenwood	45	3	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	
Laurens	Greenwood	45	3	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	
McCormick	Greenwood	45	3	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	
Saluda	Greenwood	45	3	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	
Newberry	Greenwood	45	3	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	

Pilot Project

County	Office	Max Drive Time (One-way)	# of Inspectors	Earliest Start				Latest Start Time		Limit per Office per Day
Lexington	Columbia	45	5	10:30 AM	12:00 PM	1:30 PM	3:00 PM	3:30 PM	[redacted]	10
Richland	Columbia	45	5	10:00 AM	11:30 AM	1:00 PM	2:30 PM	3:30 PM		
Lee	Sumter	30	3	10:00 AM	11:15 AM	12:30 PM	1:45 PM	3:00 PM	[redacted]	
Sumter	Sumter	30	3	10:00 AM	11:15 AM	12:30 PM	1:45 PM	3:00 PM		

Outcomes

Pilot Summary

Period: December 15th - January 9th

Experimental Group	Year	Regional Office	$N_{Inspectors}$	N_{Insp_Weight}	$N_{Insp_Weight_Process}$	N_{ATOs}	$N_{Self\text{-}Insp}$	$\%N_{Self\text{-}Insp}$	N_{Insp}	$\%N_{Insp}$	N_{Insp_Weight}	$\%N_{Insp_Weight}$	$N_{Insp_Weight_Process}$	$\%N_{Insp_Weight_Process}$
Control Period (Known Known)	2024	Greenwood	4	0.33	0.33	27	9	33%	18	67%	11	42%	11	42%
	2024	Sumter	3	0.25	0.25	45	34	76%	11	24%	9	19%	9	19%
	2024	Columbia	5	0.42	0.42	42	37	88%	5	12%	14	34%	14	34%
	2024	**Total**	**12**	**1.00**	**1.00**	**114**	**80**	**70%**	**34**	**30%**	**34**	**30%**	**34**	**30%**
Theoretical Period (Unknown Unknown)	2025	Greenwood	3	0.13	0.27	40	17	43%	23	58%	10	24%	20	50%
	2025	Sumter	3	0.13	0.27	53	27	51%	26	49%	10	18%	20	38%
	2025	Columbia	5	0.22	0.45	47	22	47%	25	53%	16	34%	34	72%
	2025	**Total**	**11**	**0.48**	**1.00**	**140**	**66**	**47%**	**74**	**53%**	**35**	**25%**	**74**	**53%**

Control Group	Year	Regional Office	$N_{Inspectors}$	N_{Insp_Weight}	$N_{Insp_Weight_Process}$	N_{ATOs}	$N_{Self\text{-}Insp}$	$\%N_{Self\text{-}Insp}$	N_{Insp}	$\%N_{Insp}$	N_{Insp_Weight}	$\%N_{Insp_Weight}$
Control Period (Known Known)	2024	Wallhala	2	0.29	0.12	20	3	15%	17	85%	11	54%
	2024	Aiken	3	0.43	0.18	49	30	61%	19	39%	16	33%
	2024	Orangeburg	2	0.29	0.12	22	20	91%	2	9%	11	49%
	2024	**Sub Total**	**7**	**1.00**	**0.41**	**91**	**53**	**58%**	**38**	**42%**	**38**	**41.8%**
Theoretical Period (Known Unknown)	2025	Wallhala	2	0.20	0.12	27	0	0%	27	100%	13	47%
	2025	Aiken	5	0.50	0.29	51	26	51%	25	49%	32	63%
	2025	Orangeburg	3	0.30	0.18	19	7	37%	12	63%	19	101%
	2025	**SubTotal**	**10**	**1.00**	**0.59**	**97**	**33**	**34%**	**64**	**66%**	**64**	**66%**
	2024 - 2025	**Total**	**17**	**2.00**	**1.00**	**188**	**86**	**46%**	**102**	**54%**	**102**	**54%**

Pilot Summary

- During the pilot, the experimental group increased Department inspected finals by 76% during the theoretical period compared to the control period.
- This equates to a 53% increase in Department inspected finals when applied across the state.

Conclusion

Project Summary

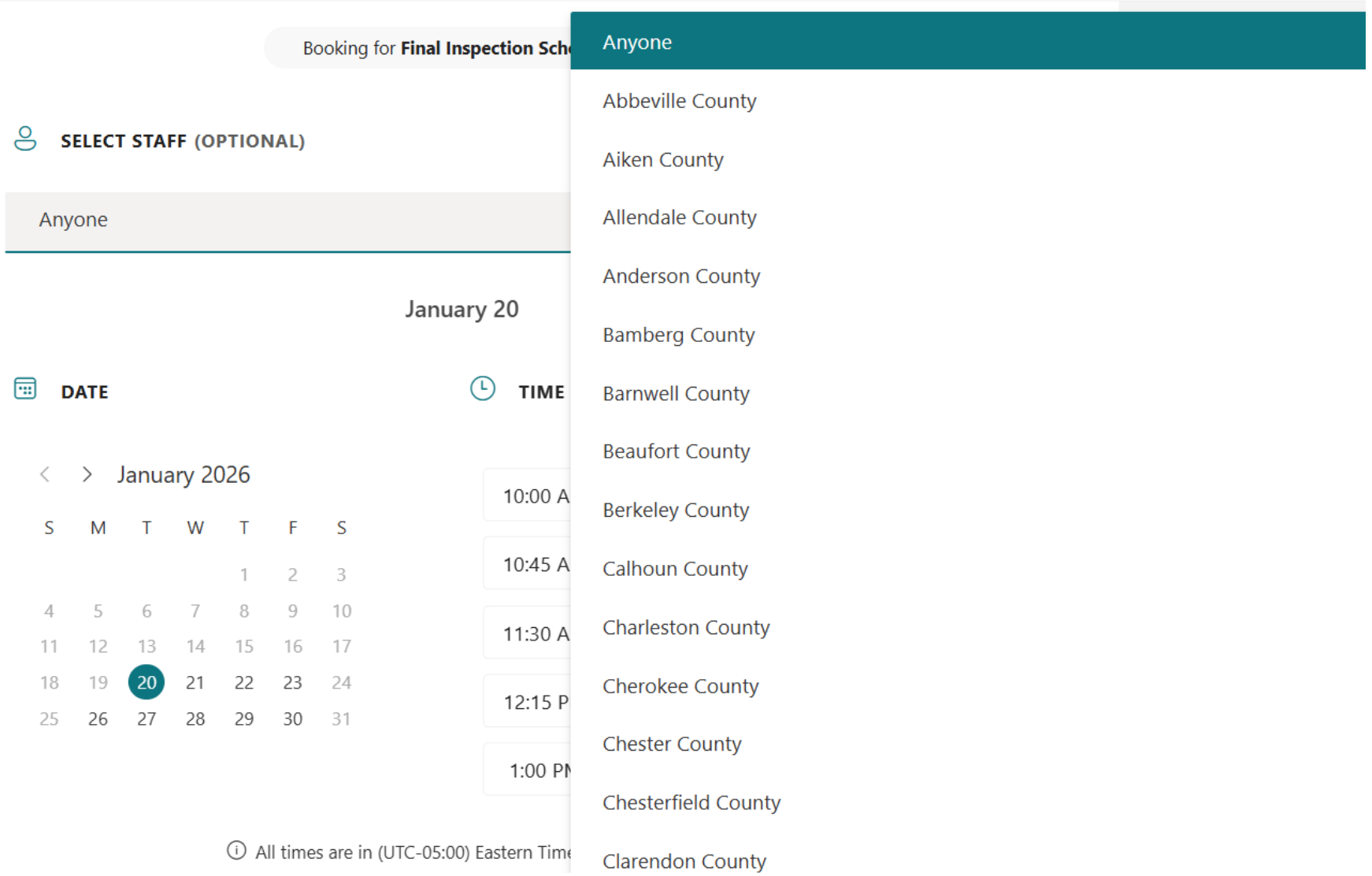
- Self-inspections are projected to decrease from 2,993 to 743
- Enforcement interactions are projected to decrease from 70 to 18
- These improvements are expected to generate an estimated $278,830 in administrative and repair cost savings in 2026 and strengthen environmental protection

Cost Savings Summary

Potential Cost Savings with Implementation of the Final Inspection Scheduler		
	2025	**2026**
Final Inspections Requested	7,429	7,429
Total Self-Inspections (2026 reflects the 53% increase from the process improvement)	2933	743
Number of self-inspections that OSWW enforcement interacted with (2.4%)	70	18
Average Cost of a repair	$4,412	$4,412
Average time to complete one self-inspection (in hours)	1	1
Median per hour rate of septic system servicer	$22.56	$22.56
Number of Self-Inspections that OSWW interacted with x Average Repair Cost	$308,840	$79,416
Total cost to complete one self-inspection (Hourly Rate) x Number of Self-inspections	$66,168.48	$16,762.08
Total costs	$375,008	$96,178
Potential Savings compared to 2025	$278,830	

Next Steps

Microsoft Bookings Scheduler



Bamberg County

January 20 with Bamberg County

DATE

January 2026

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

TIME

10:00 AM	10:15 AM	10:30 AM
10:45 AM	11:00 AM	11:15 AM
11:30 AM	11:45 AM	12:00 PM
12:15 PM	12:30 PM	12:45 PM
1:00 PM	1:15 PM	1:30 PM

All times are in (UTC-05:00) Eastern Time (US & Canada)

First and last name

Add any special requests

Email *

Email

Invalid email format. Enter a valid email address: it can include letters, numbers, apostrophe, underscores, hyphens, or dots (but not starting with a dot), followed by @ and a valid domain like example.com.

Phone number *

Add your phone number

PROVIDE ADDITIONAL INFORMATION

License Number *

Add your answer here

Permit Number *

Add your answer here

Will this septic install require a pump?

Septic Install Inspection Request

Wed 1/7/2026 3:00 PM - 3:45 PM

No location has been added

Your appointment will be with Lexington County.

SC DES BRLS-OSWW (Trial)
2600BullCR2280
(803) 898-3432
https://www.des.sc.gov/permits-regulations/septic-tanks

Manage booking
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https://outlook.office.com/book/Trial@scenv365.onmicrosoft.com/id/otHVBFxhJkuh3EFJsN3oZDn3Iw2bmupLrv5lj794Trc1?isAnonymous=true

Additional Information

This Booking Service is for non-engineered OSWW systems installed by SC DES licensed septic contractors. For engineered systems, please contact PSC-PE-Permits@des.sc.gov . For self-installs, questions or concerns, please contact BRLS-OSWW-Field-Admin@des.sc.gov . "Final Certification Sheet" D-4432.pdf "Certification of Pump System Electrical Connections" D-4362.pdf Additional Resources: Septic Tanks - Regulation, Forms, Fact Sheets | South Carolina Department of Environmental Services|

Additional Information

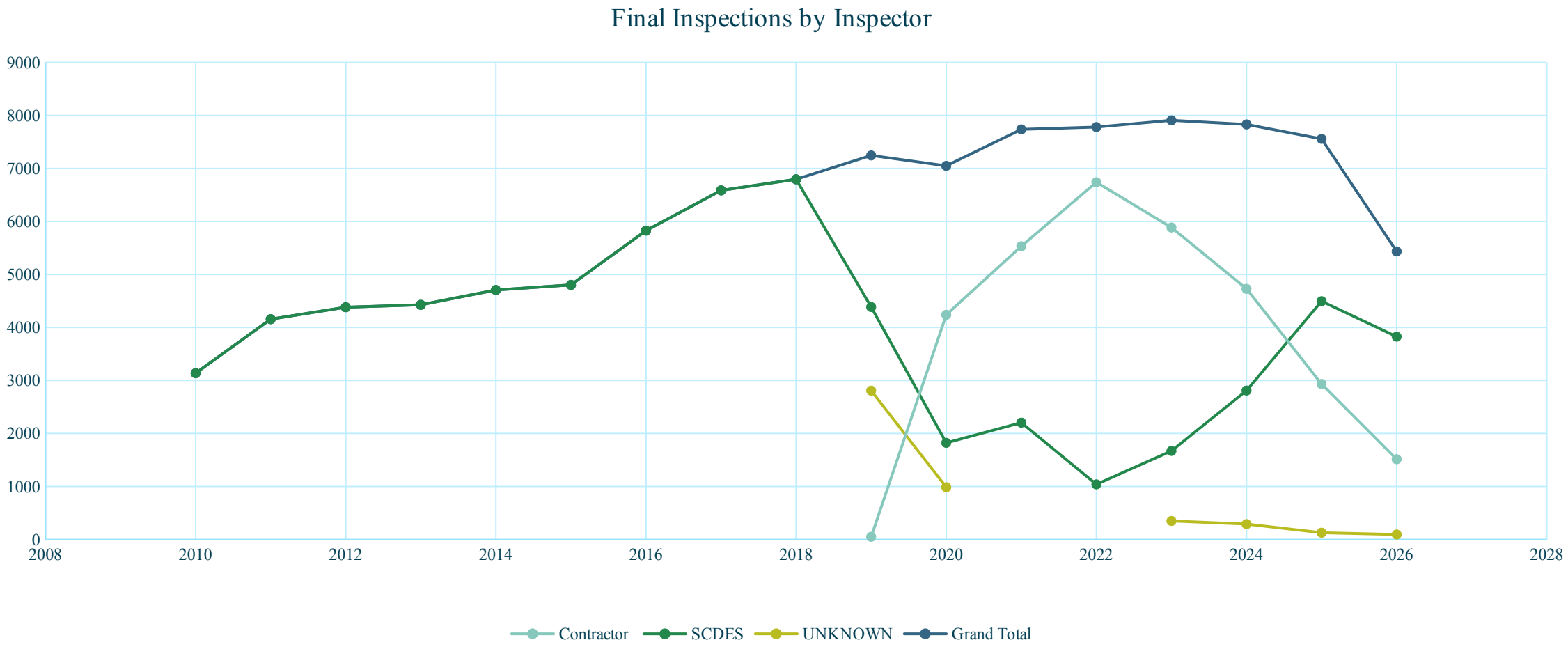
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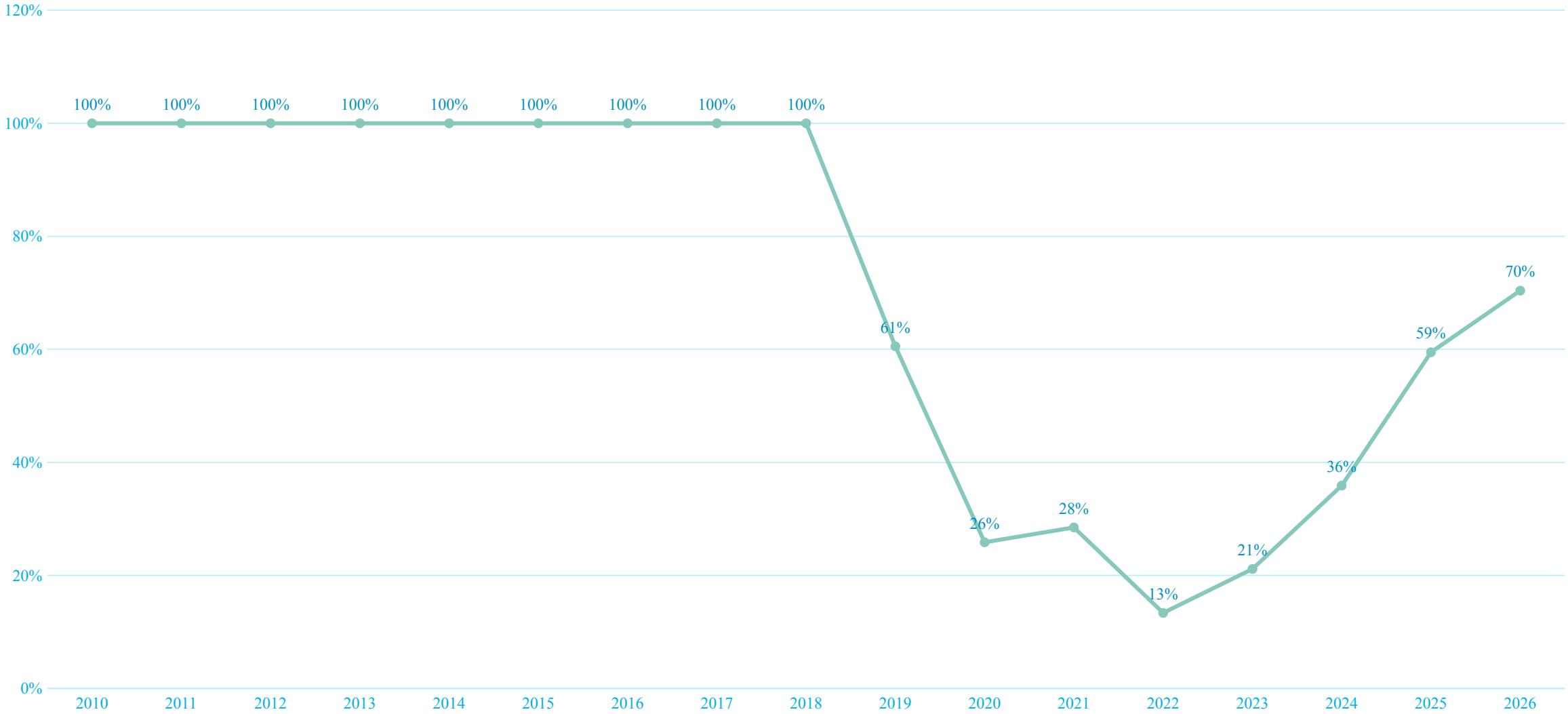
"Final Certification Sheet" D-4432.pdf
"Certification of Pump System Electrical Connections" D-4362.pdf

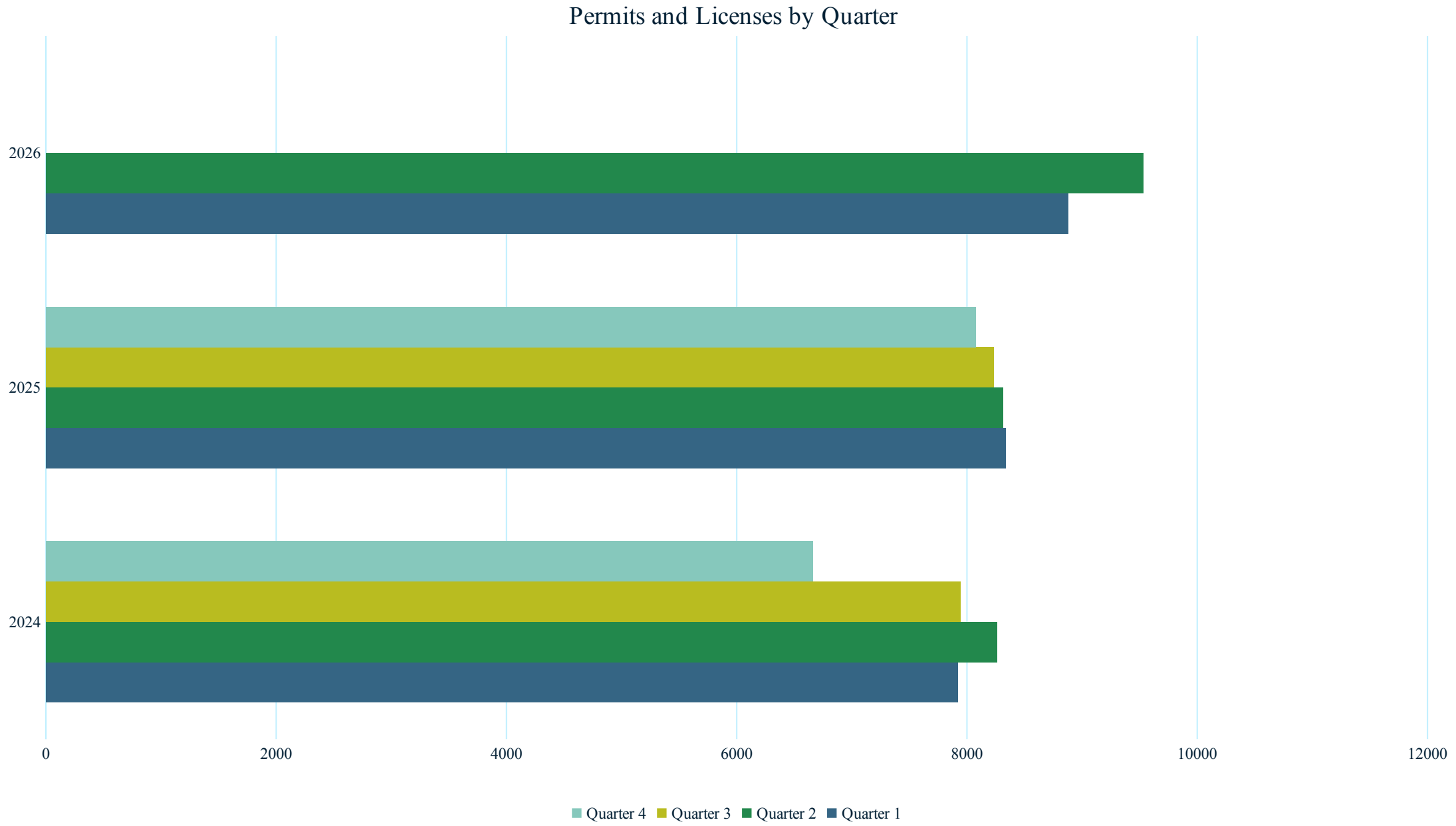
Additional Resources: Septic Tanks - Regulation, Forms, Fact Sheets | South Carolina Department of Environmental Services

Final Inspection Numbers



Percent SCDES Inspected




Permits and Licenses by Quarter
2026
2025
2024
0
2000
4000
6000
8000
10000
12000
Quarter 4
Quarter 3
Quarter 2
Quarter 1

SC DEPARTMENT *of* ENVIRONMENTAL SERVICES

Get in touch

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