

## Research the Research



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### Summary and goal:

This project pertains to Topic 2.3.2 of the 2023 Texas Onsite Grant Program (TOGP) Request for Grant Applications (RFGA). The aim of this project is to create a database with a high-volume content of literature relating to On-Site Sewage Facilities (OSSFs). The importance of finding literature is to provide a wide array of resources to help educate the public, be instrumental towards research, structure policies and regulations, and industry. With gathering publications, this has the potential to make these resources more widely available and enhance the feasibility for searching of desired publication(s). Once the database is made, the final process is to broadcast the materials on a public page where it should be widely accessible.

### Objectives:

- 1) Expand on subjects to include more variety of publications
- 2) In-depth search for materials across a variety of sources, as shown in Table 1, but not limited to:

Table 1: Sources for material publications

Source Name
Texas A&M University Library Resources
Texas Commission on Environmental Quality (TCEQ)
American Society of Agricultural and Biological Engineers (ASABE)
National Onsite Wastewater Recycling Association (NOWRA)

- 3) Create a Standard Query Language (SQL) database that allows for easy storage and retrieval of selected material(s) through the TCEQ website. Figure 1 shows a current version of the database presented on a webpage.

Figure 1: Database Webpage

**OSSF DOCUMENT DATABASE**

[\[For an advanced search, click here\]](#)

[\[For a search by keyword, click here\]](#)

Subject:

Source:

InformationID	InformationName	Authors	Publisher	PublishDate	Source	Subject	Keywords	Abstract Summary	Filepath	file
1	On-Site Sewage Facilities (OSSF) Workshop	Texas Commission on Environmental Quality (Listed as TNRCC)	Texas Commission on Environmental Quality (TCEQ)	2001-05-23	Texas A&M University Library Resources	Versions of Texas OSSF regulations and guidance document	workshop, rules, Title 30 TAC Chapter 285	Slide presentation reviewing rule process and OSSF rule changes. Title 30 Texas Administrative Code Chapter 285 included.	<a href="#">[Upload File]</a>	<a href="#">[view]</a>
2	On-site Sewage Facilities (OSSF) Collected Regulatory Guidance	Texas Commission on Environmental Quality (Listed as TNRCC)	Texas Commission on Environmental Quality (TCEQ)	1999-11-01	Texas A&M University Library Resources	Versions of Texas OSSF regulations and guidance document	TAC Chapter 285, Texas Health and Safety Code Chapter 36, TNRCC, regulatory guidance	A handbook addressing various categories. A reproduction of Texas Administrative Cod (TAC), Chapter 285 and a reproduction of Chapter 366 of Texas Health and Safety Code are included.	<a href="#">[Upload File]</a>	<a href="#">[view]</a>
3	On-Site Sewage Facility Rules Compilation	Texas Commission on Environmental Quality	Texas Commission on Environmental Quality (TCEQ)	2009-01-01	Texas A&M University Library Resources	Versions of Texas OSSF regulations and guidance document	TCEQ, rules compilation, Chapter 285, Chapter 366, health & safety code, occupational licenses and registrations, TAC	Includes: Chapter 366, Health & Safety Code On-Site Sewage Disposal Systems, Title 30, TAC Chapter 285 On-Site Sewage Disposal Facilities; Title 30, TAC Chapter 30 Occupational Licenses and Registrations Subchapters A and G	<a href="#">[Upload File]</a>	<a href="#">[view]</a>
4	Design and Operation of Land application systems from a Water, Nitrogen & Sals Balance Approach	Clifford B. Fedler, Runbin Duan, John Borrelli, Cary Green	Texas Commission on Environmental Quality (TCEQ)	2008-12-01	TCEQ	Treatment and Disposal Methods	Nitrogen contamination, pollution, Midland, Houston, clay soil, irrigation, runoff, leachate	Land application of wastewater has been considered as one of the pathways to reduce the pressure on fresh water resources that are used for irrigation throughout the world. Two concerns with land application of wastewater are the potential of nitroge... <a href="#">[Full Summary/Abstract]</a>	<a href="#">[Upload File]</a>	<a href="#">[view]</a>
5	Speaking the Same Language: A Glossary for the Decentralized Wastewater Treatment Field	Nancy Deal, John Buchanan, Kim Farrell-Poe, Mark Gross, David Gustafson, David Kalen, Bruce Leskar	American Society of Agricultural and Biological Engineers (ASABE)	2007-10-20	ASABE	Concepts and Fundamentals	glossary, wastewater treatment, onsite wastewater treatment	Onsite/decentralized terminology originated and evolved on the state or regional level in conjunction with regulatory or Agricultural Engineering Extension activities. Adapting terminology from one locale to match that used in another is increasingly... <a href="#">[Full Summary/Abstract]</a>	<a href="#">[Upload File]</a>	<a href="#">[view]</a>
6	Advancing the Science and Engineering of Onsite Wastewater Systems	Robert L. Siegrist	American Society of Agricultural and Biological Engineers (ASABE)	2001-03-11	ASABE	Concepts and Fundamentals	Onsite wastewater treatment, research and development, standard of practice	Onsite wastewater systems represent a necessary and appropriate component of the wastewater systems infrastructure in the U.S. In contrast to disposal oriented systems of the past, current and future systems are focused on advanced treatment that is... <a href="#">[Full Summary/Abstract]</a>	<a href="#">[Upload File]</a>	<a href="#">[view]</a>
7	A Model for Soil Oxygen Delivery to Wastewater Infiltration Surfaces	J. Erickson, E. J. Tyler	American Society of Agricultural and Biological Engineers (ASABE)	2001-03-11	ASABE	Methods of drain-field wastewater reduction	Biochemical oxygen demand, Biofilms, Flux, Onsite wastewater bed, Wastewater Absorption, Wastewater infiltration, Wastewater loading, soils	Soil could accept onsite wastewater at rates two to three orders of magnitude higher than the current design loading rates if a clogging mat at the wastewater infiltration surface was limited or not present. The clogging mat controls system design. L... <a href="#">[Full Summary/Abstract]</a>	<a href="#">[Upload File]</a>	<a href="#">[view]</a>
8	Soil Clogging in a Subsurface	J. Jmad, B. Leskar, G. Sabbagh	American Society of Agricultural and			Methods of drain-	Subsurface drip irrigation,	Changes in soil water retention, pore size distribution, and saturated hydraulic conductivity due to wastewater application by	<a href="#">[Upload</a>	

- 4) Implementation of query tools allows narrowing down of searches by specific features. This includes an advanced search option where multiple features such as title, subject, keyword, subject, and source can be selected, such as shown in Figure 2:

Figure 2: Advanced Search option

**ADVANCED SEARCH**

Title:

Keyword:

Subject:

Source:

- 5) Create a user-privilege where there are view-only privileges and another type of user that can edit and view. Allows for outside collaboration.

**Deliverables:**

- 1) Multiple pages for broadcasting the database to view, upload, and query materials
- 2) Documentation on the database operation and use
- 3) Quarterly progress reports and a final report