

OSSF SUITABILITY PLAN

Murphy's Dairy Subdivision — Phase 2 37 Lots, +139

Acres

Limestone County, Texas



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Murphy's Dairy Subdivision – Phase 2 OSSF

Suitability Plan

Introduction

The subject site consists of approximately 139 acres with 37 proposed lots, located in the Pedro Varela Survey in Limestone County, Texas. The property lies west of and adjacent to the Limestone County Airport. The two proposed entrances to the subdivision are located off LCR 463 (Forest Glade Road), approximately 0.71 miles and 0.85 miles, respectively, south of FM 1633.

Topographic and Physical Features Evaluation

The property is generally flat with slopes of less than 5% and drains to the southeast. No channels or watercourses were observed during the site visit, nor are any evident in the available aerial imagery of the site.

Three stock ponds were observed on the property. The ponds have approximate surface areas of 0.2 acres, 0.4 acres, and 0.5 acres respectively. Pursuant to 30 TAC 285, a 75 foot buffer is required between soil absorption systems and streams, lakes, rivers, and creeks. Based upon site observations and the proposed lot sizes in the subdivision, the 75 foot buffer from the features noted above should not pose a significant difficulty to the installation of a residential scale OSSF's in the subdivision if the stock ponds remain. Additionally, the developer or individual property owners may choose to decommission the stock ponds upon development of the property, eliminating the setback requirement. Topography of the site is shown on Figure 1.

Soil Evaluation

Soil types at the site were determined by consulting the United States Department of Agriculture, Natural Resource Conservation Service Web Soil Survey. Soils at the site are comprised of a single soil series, Rader fine sandy loam, 1 to 3% slopes (map symbol RaA).

Six soil bores were completed at the site. In-field textural analyses of the soils were conducted for all borings. Bore holes were advanced with a hand auger to a depth of 5 feet or to a restrictive horizon which could not be penetrated. The locations of the soil bores are shown on Figure 2, and the results of textural analyses of the soils from the bores are summarized in Table 1.

Floodplain Evaluation

Floodplain evaluation of the site was completed by examination of FEMA Panel 48293C0200C, effective date September 16, 2011. This panel shows that no portion of the site is within the area of the 1% flood. A floodplain map is included as Figure 3.

Water Service

Water service to the site will be provided via a combination of private water wells and a public water supply system (Whiterock S.U.D). Careful pre-planning should be undertaken to ensure that all applicable minimum separation distances from OSSF components are maintained while also reserving adequate space for proposed improvements and OSSF treatment and disposal.

These planning activities include site selection of water wells, OSSF treatment tanks, and OSSF disposal area, as well as the manner in which any water wells are completed. Specifically, it is recommended that any water wells at the site be completed per 16 TAC 76.100 (b) (1).

Completion of wells, as specified in this section of the Texas Administrative Code, reduces the separation distance between private water wells and potential contamination sources from 100 feet to 50 feet.

Available Disposal Area

Adequate area for the on-site disposal of treated effluent must be maintained for the installation of residential OSSF systems on the lots of this subdivision. The area required for each system depends on the water usage of the facilities being served, the soil type, and the disposal type. A certain amount of area of each lot at the subject site will be unavailable for disposal. These unavailable areas include, but are not limited to, impervious areas such as building pads, driveways, and sidewalks. Per 30 TAC 285, separation distances required from surface water bodies (75 feet), property lines (5 feet), and wells (50 feet to 100 feet) also contribute to area unavailable for disposal. Additional separation distances may be required for other improvements not specifically listed here.

Overall Suitability

The layout of the subject site appears to be suitable for the installation of a properly sized and designed individual OSSF system to service each residential structure, respectively, constructed on the lots of the subdivision. As with any facility utilizing an OSSF, careful planning is required to meet all applicable regulations.

Limitations

This suitability plan is intended to serve as a general evaluation of the suitability of OSSF treatment and disposal options for the subject site. This suitability plan is not intended to serve

as an OSSF design or site plan. Proper sizing, placement, and design of all site improvements are the responsibility of the property owners. Given the number of variables that must be considered for each potential installation, any specific combination of treatment and disposal must be designed by a qualified professional. Construction of any improvements, including the completion of water wells and the installation of any on-site sewage treatment and disposal systems, must be coordinated with the input of qualified professionals.

Table 1: Soil Bore Results and Suitability

Soil Bore	Depth (Inches)	Textural Class	Drainage (Mottles/Water Table)	Restrictive Horizon	Comments	Disposal Options			
						Conventional	Spray	LPD	Drip
1	0 - 12	2	No	No		Yes	Yes	Yes	Yes
	12 - 36	3	No	No					
	36 - 44	2	No	No					
	44 - 60	1B	No	No					
2	0 - 8	1B	No	No	Limestone Marl	Yes	Yes	Yes	Yes
	8 - 36	3	No	No					
	36 - 42	3	No	No					
	42 - 60	2	No	No					
3	0 - 8	1B	No	No		No	Yes	Yes	Yes
	8 - 28	3	No	Rock o 2s'					
4	0 - 26	1B	No	No		No	Yes	Yes	Yes
	26 - 40	4	No	No					
	40 - 48	3	No	Rock o 4s'					
5	0 - 12	1B	No	No		Yes	Yes	Yes	Yes
	12 - 48	3	No	No					
	48 - 60	2	No	No					
6	0 - 16	1B	No	No		Yes	Yes	Yes	Yes
	16 - 48	3	No	No					
	48 - 60	2	No	No					