

Company Name SCRA/AOAAAPrinted on **07/26/2013**Project Bluegill Pond AMD ProjectSite Name Sites 40A, 40B, 40C**AMDTREAT**

AMD TREAT

ANOXIC LIMESTONE DRAIN (ALD)

ALD Name Site 39 Pond Conversion to ALD

SIZING METHODS Select One

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|-----------------------------|--------------|--|
| 1. Tons of Limestone Needed | 8 | ☐ ALD Based on Acidity Neutralization |
| 2. Tons of Limestone Needed | 1,319 | ☐ ALD Based on Retention Time |
| 3. Tons of Limestone Needed | 450 | ☒ ALD Based on Tons Limestone Entered |
| 4. Tons of Limestone Needed | 3,772 | ☐ ALD Based on Dimensions Entered |

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|---------------------|----------------------|-------|
| 5. Retention Time | <input type="text"/> | hours |
| 6. Limestone Needed | 450 | tons |
| 7. Top Length ALD | <input type="text"/> | ft |
| 8. Top Width ALD | <input type="text"/> | ft |

☐ **Opening Screen Water Parameters**
Influent Water Parameters that Affect ALD

Calculated Acidity
 mg/L

Alkalinity
 mg/L

- ☐ Calculate Net Acidity (Acid-Alkalinity)
- ☒ Enter Net Acidity manually
- Net Acidity (Hot Acidity)
 mg/L

Design Flow
 gpm

Typical Flow
 gpm

Total Iron
 mg/L

Aluminum
 mg/L

Manganese
 mg/L

- | | | |
|--|--|---------|
| 9. System Life | <input type="text"/> | years |
| 10. Limestone Purity | <input type="text" value="85.00"/> | % |
| 11. Limestone Efficiency | <input type="text"/> | % |
| 12. % Void Space of Limestone Bed | <input type="text" value="43.00"/> | % |
| 13. Limestone Depth | <input type="text" value="3.00"/> | ft |
| 14. Density of Loose Limestone | 94.30 | lbs/ft3 |
| 15. Limestone Unit Cost | <input type="text" value="25.00"/> | \$/ton |
| 16. Limestone Placement Unit Cost | <input type="text" value="10.00"/> | \$/yd3 |
| 17. Soil Cover Depth | <input type="text" value="1.00"/> | ft |
| 18. Length to Width Ratio | <input type="text" value="2.00"/> : <input type="text" value="1"/> | |
| 19. Excavation Unit Cost | <input type="text" value="5.50"/> | \$/yd3 |
| 20. Soil Replacement Unit Cost | <input type="text" value="5.00"/> | \$/yd3 |
| 21. Liner Unit Cost | <input type="text" value="2.50"/> | \$/yd2 |
| 22. Total Length of Effluent / Influent Pipe | <input type="text" value="150.00"/> | ft |
| 23. Unit Cost of Pipe | <input type="text" value="20.00"/> | \$/ft |
| ☒ 24. Clearing and Grubbing? | | |
| ☒ 25a. Land Multiplier | <input type="text" value="1.5"/> | ratio |
| ☐ 25b. Clear/Grub Acres | <input type="text"/> | acres |
| 26. Clear and Grub Unit Cost | <input type="text" value="1800"/> | \$/acre |

ALD Sizing Summaries

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|--------------------------------|----------------|-------|
| 27. Top Width | 39.88 | ft |
| 28. Top Length | 79.76 | ft |
| 29. Limestone Surface Area | 3,181.3 | ft2 |
| 30. Limestone Volume | 353 | yd3 |
| 31. Excavation Volume | 471.3 | yd3 |
| 32. Clear & Grub Area | 0.10 | acres |
| 33. Liner Area | 804 | ft2 |
| 34. Theoretical Retention Time | 5.11 | hrs |

ALD Cost Summaries

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|------------------------------|---------------|----|
| 35. Limestone Cost | 11,250 | \$ |
| 36. Excavation Cost | 2,592 | \$ |
| 37. Limestone Placement Cost | 3,534 | \$ |
| 38. PipeCost | 3,000 | \$ |
| 39. Liner Cost | 2,011 | \$ |
| 40. Clear and Grub Cost | 197 | \$ |
| 41. Soil Replacement Cost | 589 | \$ |

42. Total Cost	23,175	\$
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Record Number 1 of 1