

Steering Committee Presentation

Regional Solid Waste Planning Study

The City of Alpine, Texas

Alpine City Hall
100 North 13th Street, Alpine, Texas
March 25, 2008

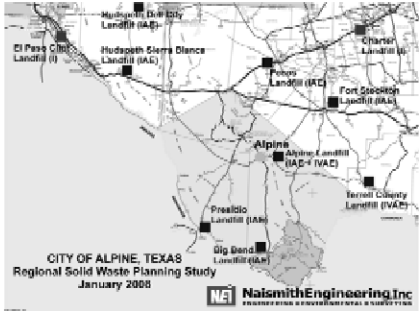
Administrative Items

- Project Contacts
 - City of Alpine – Mr. Chuy Garcia – City Manager
 - Naismith Engineering, Inc. – Mr. Grant A. Jackson, P.E., Project Engineer
- Review of Communication Procedures
- Project Website:
<http://www.neionline.com/Alpine-MSW.files/Alpine-MSW.htm>
- Future Meeting Possibilities
 - Fourth Tues. or Thurs.
 - Second Tues. or Thurs.

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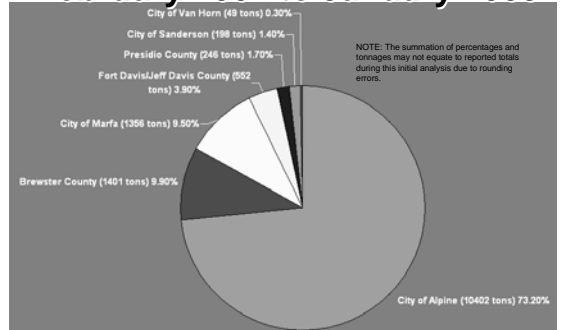
Project Area



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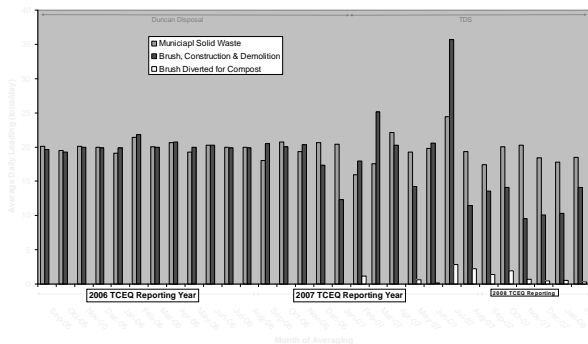
Origin of Waste to Alpine Landfill February 2007 to January 2008



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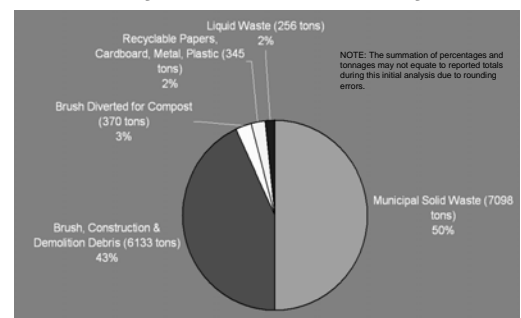
Alpine Landfill Average Daily Loading September 2005 through February 2008



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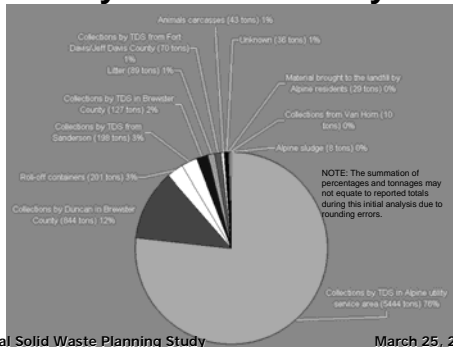
Waste Characterization February 2007 to January 2008



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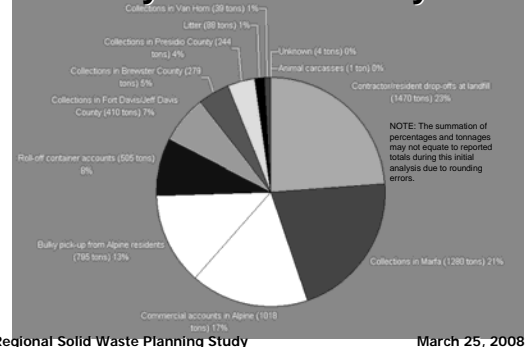
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MSW Collection Source February 2007 to January 2008



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Brush, Constr./Demo. Debris February 2007 to January 2008



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Basis for Comparison

- Residential Rates:
 - Generation: 5–8 #/person/day
 - Household: 2.6 persons
 - Monthly: 396-632#/mo
 - $\$26.63 / 632\# / 2000\# / t = \$84.23/t$
- Commercial Rates:
 - Billing: \$5/cy-pickup
 - With Utilization at 75% & weight at 400#/cy, Rate Would Be: $\$5 / ((400/2000) \times 0.75) = \$33.33/t$

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Alternatives

- **Alternative 1:** Send excess waste to other facilities using collection trucks
- **Alternative 2:** Implement an aggressive recycling program
- **Alternative 3:** Build a transfer station at the Alpine landfill and transport excess waste to other facilities
- **Alternative 4:** Upgrade the existing landfill to Type I with No Waste Limit

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Alternative 1: Excess Waste to Other Facilities Using Collection Trucks

- Once limits of 20 tpd MSW & 20 tpd B&CD exceeded, excess waste transported to other facilities in collection vehicles
- Transport Cost is significant factor:
 - Charter landfill – Odessa: 143 mi. x 2 x \$1.74/mi. = \$497.64 / 20 t = \$24.88/t
 - Clint landfill - El Paso: 198 mi. x 2 x \$1.74/mi. = \$689.04 / 20 t = \$34.45/t
- Does Not Include:
 - Disposal: \$27-\$30/t (Total: \$52-\$55/t)
 - Equipment Replacement: \$1/mi. (\$108,040/yr)
- Problem: Incr. Cap. < 70 t-yrs

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Alternative 2: Implement an Aggressive Recycling Program

- Existing Recycling Program:
 - Primarily Commercial/Institutional
 - 2007: 715t (370t–B&C/D, 345t–Other) – 5%
- Reduce disposal rates into existing landfills by reusing or recycling certain materials.
 - Cardboard, paper, plastics, metals.
- Public education, support, and participation is critical.
 - Source separation of recyclable materials at individual homes and businesses.
 - Additional containers and collection methods needed.

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Alternative 2 (Cont'd)

- Regional Estimates of "Recyl-ables":
 - Paper: 10-20%
 - Plastic: 3-5%
 - Metals: 1-5%
 - Totals: Up to 2,000 tpy @ 50% recov. (14% Reduction in Disposal)
- Industry Estimates: \$45-\$60/t
 - Collection: \$25-\$35/t
 - Transport: \$20-\$25/t

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Alternative 3: Transfer Station

- Construct a transfer station at the existing Alpine landfill facility.
- Waste is temporarily stored for eventual transfer to other disposal facilities (Odessa, El Paso).
- Will require TCEQ permitting
- Cost Ranges (\$58 - \$75/tpd)
 - Development/Constr. - \$10-\$20/tpd
 - Transport - \$20 - \$25/tpd
 - Disposal - \$28-\$30/tpd

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Alternative 4: Upgrade Existing Landfill

- Restrictions to addn. Arid Exempt (AE) landfill cells at existing facility
- Upgrade to Type I: fewer restrictions but significantly higher costs
- Will require TCEQ authorization and permitting
- Incremental Costs (\$22 - \$34/tpd)
 - Permitting - \$2 - \$4/t
 - Development/Constr. - \$10 - \$15/t
 - Addn. Operating Costs - \$10 - \$15/t

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Preliminary Comparison

Alternative	Base Cost	Incr. Cost.	Total Cost.
1 Off-site	\$84	\$25	\$109
	\$34	\$25	\$59
2 Recycle	\$84	\$45	\$129
	\$34	\$45	\$79
3 Transfer	\$84	\$30	\$114
	\$34	\$30	\$64
4 Upgrade	\$84	\$25	\$109
	\$34	\$25	\$59

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Questions



- Naismith Engineering
- Grant A. Jackson, P.E. (gjackson@naismith-engineering.com)
- Tom Brown (tbrown@naismith-engineering.com)

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