**SCREENING STUDY
FOR WASTE BIOMASS TO ETHANOL
PRODUCTION FACILITY USING THE AMOCO
PROCESS IN NEW YORK STATE**

Appendices to the Final Report

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NYSERDA's primary mission is to carry out a broad program of energy research, development and demonstration projects designed to develop and apply efficient technologies to help ensure that New York has secure and economical future supplies of energy, while protecting environmental values and promoting economic growth.

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 - Maintaining the portion of the site not being used in the Demonstration Project, including the shut-down low-level radioactive waste disposal area.**
- Issuing tax-exempt bonds to finance facilities for electric and gas utilities and energy projects for private companies.**
- Constructing and operating facilities for disposal of low-level radioactive wastes produced in New York State, once the disposal method and site decisions have been made by the State Low-Level Radioactive Waste Siting Commission and approvals have been issued by State regulatory authorities.**
- Managing a 365-acre portion of a Superfund clean-up site in Malta, 20 miles north of Albany. Part of the site was once owned by the Federal government. Portions of it have been used by the Federal government and its contractors since the 1940s for activities that have included rocket engine and fuel testing, weapons testing, and space research.**

For more information, contact the Technical Communications Unit, NYSERDA, 2 Empire State Plaza, Suite 1901, Albany, New York 12223-1253, (518) 465-6251.

**State of New York
George E. Pataki,
Governor**

**Energy Research and Development Authority
F. William Valentino,
President**

**New York State
Energy Research and Development Authority**

Two Empire State Plaza, Suite 1901 • Albany, New York 12223-1253
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A NYSERDA Report in Brief

Report: Screening Study to Site a Biomass-to-Ethanol Production Facility
Report 95-13

Project Manager: Judy Jarnefeld

Contractor: Stone & Webster Engineering Corporation

Background: In 1994, the New York City Department of Sanitation (NYCDS) intended to solicit proposals for a City-based recycling facility using mixed waste paper. Because Amoco was interested in manufacturing ethanol from biomass, it proposed to do a siting screen in NYC, after which the study was expanded to include upstate locations as well.

Objectives: The objective was to identify and evaluate two sites in New York City and three sites in other New York State urban centers that would be appropriate for construction and long-term operation of a financially attractive and environmentally sound waste biomass-to-ethanol production facility using Amoco's biomass conversion technology (the "Amoco Process").

R&D Results: Siting information was gathered and used to identify two sites in New York City: Arthur Kill and Procter & Gamble, and 23 sites in four upstate urban centers (Buffalo, Rochester, Syracuse, and Albany). Many site and business issues applied generically to all areas of the State. For example, process requirements affecting site selection and economic evaluation included minimum feedstock supply and quality; product and waste yields; emission characteristics; acreage and preferred shape of site; generic equipment costs; and utility, chemical, transportation, and storage requirements. Community issues included zoning, permitting, and environmental impacts.

Minimum feedstock supply for an economical plant was determined to be 500 tons/day (tpd). Wood, paper sludge, and yard waste were considered as supplements. Feedstocks in each of the four upstate regions were available to support a 500-tpd plant, but no larger; New York City could support a plant twice that size. Financial evaluations included cost of site work, utility hookups, and tipping fees. Capital costs were similar for all feedstocks studied. For both upstate and New York City, two approaches were studied: on-site oxidation of the solid by-product to generate energy, or transportation off site. In New York City, total capital cost, including the process island, balance of plant, site improvements, and land costs, were \$139 million for on-site and \$102 million for off-site oxidation. For a 1000-tpd plant in NYC, economies of scale provide costs of \$223 million and \$169 million, respectively. Upstate, the costs are \$113 to \$117 million with on-site oxidation, and \$84 to \$88 million without oxidation. (Labor costs varied among regions.) For Syracuse, the most economical upstate region, a biomass tipping fee of \$35.59/ton was required to reach an ethanol sale price of \$1.20/gallon. In New York City, \$38/ton is needed to reach \$1.20/gallon at the 500-tpd size, while only \$6/ton is needed for the 1000-tpd plant.

The NYCDS solicitation has not yet been issued, as markets for scrap paper have changed since 1994. This change in plans makes construction of an ethanol facility by Amoco in New York City unlikely, as paper supplies would be difficult to secure without NYCDS aid. Upstate results, without economic development incentives, also did not appear compelling.

Copies Available: A limited number of copies of the full report are available from New York State Energy Research and Development Authority, 2 Empire State Plaza, Suite 1901, Albany, New York 12223-1253; (518) 465-6251, ext. 241.

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PROCESS IN NEW YORK STATE**

Appendices to the
Final Report

Prepared for

**THE NEW YORK STATE
ENERGY RESEARCH AND DEVELOPMENT AUTHORITY**

Project Manager
Judy Jarnefeld

and

**NATIONAL RENEWABLE ENERGY LABORATORY
AMOCO
NYNEX
CHAMPION INTERNATIONAL
STONE & WEBSTER DEVELOPMENT CORPORATION**

Prepared by

STONE & WEBSTER ENGINEERING CORPORATION

One Penn Plaza
250 West 34th Street
New York, NY 10119-2998

Project Manager
Henry Gastwirth

3163-ERTER-ER-94

NYSERDA
Report 95-13- *Apps*

August 1995

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MASTER

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ABSTRACT

This report evaluates the economic feasibility of locating biomass-to-ethanol waste conversion facilities in New York State. Part I of the study evaluates 74 potential sites in New York City and identifies two preferred sites on Staten Island – the Proctor & Gamble and the Arthur Kill sites – for further consideration. Part II evaluates upstate New York and determines that four regions surrounding the urban centers of Albany, Buffalo, Rochester, and Syracuse provide suitable areas from which to select specific sites for further consideration. A separate appendix provides supplemental material supporting the evaluations.

A conceptual design and economic viability evaluation were developed for a minimum-size facility capable of processing 500 tons per day (tpd) of biomass consisting of wood or paper, or a combination of the two for upstate regions. The facility would use Amoco's biomass conversion technology and produce 49,000 gallons per day of ethanol and approximately 300 tpd of lignin solid by-product. For New York City, a 1000-tpd processing facility was also evaluated to examine effects of economies of scale.

The reports evaluate the feasibility of building a biomass conversion facility in terms of city and state economic, environmental, and community factors. Given the data obtained to date, including changing costs for feedstock and ethanol, the project is marginally attractive. A facility should be as large as possible and located in a New York State Economic Development Zone to take advantage of economic incentives. The facility should have on-site oxidation capabilities, which will make it more financially viable given the high cost of energy.

KEY WORDS

Amoco biomass to ethanol conversion process

Recycling recovered paper

Minimum facility requirements

Site selection

ACKNOWLEDGEMENTS

We gratefully acknowledge the substantive contribution of research, technical input, and funding or cost sharing made to this study by the following organizations and personnel:

Stone & Webster Engineering Corporation

Henry Gastwirth
Dr. Ernest Zabolotny

Stone & Webster Development Corporation

Hope Hartley Stidstone

The New York State Energy Research and
Development Authority (The Energy Authority)

Judy Jarnefeld

National Renewable Energy Authority (NREL)

Dianne Koepping

Amoco

Joseph Masin

Champion International Corporation

Richard Piela

NYNEX

John Balaguer
John Halenar

**SCREENING STUDY FOR WASTE BIOMASS TO ETHANOL
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PART IV.

APPENDICES

June 20, 1994

Henry Gastwirth
Stone & Webster Engineering Corporation
250 West 34th Street
New York, New York 10119-2998

PROCESS DESIGN CONCERNS AND WOOD FEED MATERIAL BALANCE

I have completed estimates of the remaining design questions addressed in Task 1.1. The maximum moisture content of the paper that will not downgrade the ethanol product rate is about 60%. There is no preferred shape to the site parcel, but a rectangular plot would probably be easier on which to arrange process piping. There are no particular soil drainage characteristics needed, but the underlying soil should be able to support the weights of process equipment. No process equipment has an unusually high loading requirement.

There are no special utility needs. Some of the tankage in the process is used to grow yeast aerobically, so a power outage for any substantial period of time would force the yeast into anaerobic, non-growth metabolism. This could reduce the ethanol yield. Another concern from a prolonged power outage would be settling of the contents of the fermenter vessels. The agitation supplied in our design is capable of maintaining the vessels in suspension, but may not be sufficient to re-suspend a tank that has settled out. Appropriate standby equipment with steam drives may be appropriate in these services if power reliability is suspect at a site. There are no special transportation, water hardness, or storage requirements for our process. Some materials stored in the process, like the feed paper and the concentrated ethanol, are flammable, and some chemicals used have other materials handling safety requirements, but appropriate containment technologies have been incorporated into our design.

Also attached are the material balance and utility estimates for a 500 ton per day (dry basis) plant fed with wood chips. Please let me know if there are any other concerns for the timely completion of this siting study.

Sincerely,

Joseph Masin

cc: R. H. Walker

ATTACHMENT 2-2

June 13, 1994

H. Gastwirth
Stone & Webster Engineering Corporation
250 West 34th Street
New York, New York 10119-2998

STREAM COMPOSITIONS

I have estimated stream compositions for your use in assessing emissions and the heating value of the solids by-product. The following table gives flow rates in pounds per hour for the 500 Ton per day plant design transmitted previously.

<u>Components</u>	<u>Waste Solids</u>	<u>Scrubbed Fermenter Offgas</u>	<u>Anaerobic Gas</u>	<u>Distillation Vent</u>	<u>Discard Water</u>
Garbage	4900				100
Ash	3000				1700
Lignin	7000				100
Furfural & acetaldehyde	100				500
Calcium sulfate	400				
Cell mass	4400				100
Ethanol				65	
Carbon dioxide		12500	1150	150	
Oxygen		28200			
Nitrogen		98700			
Methane			1750		
Water	<u>10200</u>	<u> </u>	<u>450</u>	<u>30</u>	<u>47600</u>
Total	<u>30200</u>	139400	3350	245	50000

The estimated heating value of the waste solids is 4100 Btu per pound (wet basis) or 6100 Btu per pound (dry basis). Another byproduct is a fusel oil liquid stream that is only about 10 pounds per hour. The only other emissions from the ethanol plant are fugitive emissions from unloading, shredding, and loading operations that can be minimized by proper equipment design and operation.

We have estimated that a complete grass roots plant will require about 86 workers: 10 in office/management, 5 in lab, 6 in engineering, 55 hourly workers, and 10 in shipping/receiving/security. I am working on the other items that you requested.

Sincerely,

Joseph Masin

cc: R. H. Walker

ATTACHMENT 2-3

Technology Overview

A process plant for converting cellulosic material to ethanol requires several steps. We propose the following combination of process steps to give the most effective, reliable, and economical performance:

- (1) Feed storage, handling and preparation. This step is strongly dependent on the feedstock chosen. The feed must be cleaned and delivered to the process in a form suitable for further processing. Key concerns are to minimize water use and to remove contaminants that would be detrimental to downstream steps. Dry shredding or chipping are proposed for this project.
- (2) Pretreatment. This step hydrolyses hemicellulose, exposes cellulose to further processing, and sterilizes the feed. Pretreatment will also physically disrupt the structure of the feedstock, creating high surface area for attack by hydrolysis agents. Amoco has developed unique pretreatment technology that optimizes process conditions and maximizes the ultimate ethanol yield.
- (3) Hydrolysis. In this operation, cellulose is converted to glucose. Acid and cellulase enzyme are used to accomplish hydrolysis. Hydrolysis may be combined with pretreatment in some processes, but is combined with fermentation (SSF) in this proposal.
- (4) Fermentation of glucose to ethanol using microorganisms. Normally, about half of the glucose mass in the feed is converted to carbon dioxide, half to ethanol, and small amounts to microorganism cell mass. This technology is similar to that used to convert corn starch into ethanol.

Fermentation of five carbon sugars like xylose to ethanol will be considered where the feedstock composition indicates that this may be economical, although such dual-fermentation processes have not been operated at large scale.

- (5) Ethanol recovery. Distillation is proposed, using technology commonly employed by the corn-to-ethanol industry, followed by the use of molecular sieves to break the water-ethanol azeotrope.
- (6) Solid-liquid separation. Depending on the composition of the initial feedstock, unreacted solids can be burned for process heat and power, disposed of as a solid fuel or waste, or dried and sold for animal feed. We propose either burning the solids or selling them as fuel for others, depending on site specifics.
- (7) Water cleanup and disposal or reuse. Most water is recycled, but any discharged will meet Clean Water Act standards.
- (8) Production of fermentation microorganisms and/or cellulase enzyme. These operations will not be included at a high cost urban site; either microorganisms or enzymes can be purchased.

Amoco has demonstrated all of these steps both in the laboratory and at its pilot plant with a variety of paper and agricultural waste feed stocks. The steps chosen for this project are superior to alternative technologies.

Review of Alternative Technologies

A wide variety of processes have been proposed for biomass-to-ethanol conversion over the past 20 years; none have proven economically attractive. Ethanol produced for motor fuel today is made from corn starch. The process steps for using this feedstock are very similar to those contemplated for

cellulose conversion, but starch is much easier to hydrolyze than cellulose. The enzyme needed to hydrolyze starch is low in cost and available from several commercial sources. Hemicellulose is not hydrolyzed, so fermentation of five-carbon sugars is not a factor with corn processing. The major drawback to the use of corn is that it is a relatively expensive feedstock, in terms of both purchase cost and the energy input required to grow it. Low-cost cellulose from paper or agricultural wastes has the potential to displace corn as the feedstock of choice for ethanol production.

The appeal of being able to manufacture transportation fuels from newable or waste biomass has resulted in substantial research on processes to make ethanol from raw materials other than starch and naturally occurring sugars. Although many of the proposed processes can be made to function in the laboratory, none to date have met the economic, environmental, and operability standards necessary if a process is to be commercially viable. We believe that the proposed combination of steps in this project may meet these desired criteria on a site specific basis.

The hurdles to commercial viability are generally found in the pretreatment, hydrolysis, and fermentation areas described above. Pretreatment techniques proposed and attempted in the past have included the use, in various combinations, of acids, bases or other chemicals, heat, and enzymes. Past shortcomings of the proposed pretreatments are:

- * The use of acids, bases, or chemicals in other than catalytic quantities creates either an environmental problem or substantial recovery expense.
- * The use of heat as a pretreatment is well known, but published results are inadequate from an economic viewpoint, not reproducible, or covered by patents to which licenses are not available. Furthermore, the use of heat, either alone or in combination with acids, bases, or chemicals must be carefully controlled to avoid the formation of undesirable, or even toxic, byproducts which can have a severe impact on process economics and commercial viability.
- * Enzymatic pretreatment has not evolved sufficiently to provide an economic basis for pretreatment since the reaction rates are very slow thus adding to process expense, and the byproducts are viewed by many as greenhouse gases and thus not environmentally benign.

Hydrolysis, if accomplished using strong acids, bases, or other chemicals, suffers from the same drawbacks enumerated in the preceding discussion of pretreatment techniques. Enzymes can provide an environmentally benign approach to hydrolysis, but historically their use has added too much to processing costs. Amoco has access to low cost enzyme technology through its alliance with Iogen Corporation.

The simultaneous hydrolysis and fermentation (SSF) of sugars in a single unit operation has been advocated by NREL, and has advantages over sequential hydrolysis and fermentation operations in enzymatic hydrolysis since it helps avoid feedback inhibition caused by the buildup of intermediate sugar dimers, and keeps the availability of fermentable sugars at low levels allowing favored organisms to out-compete tramp organisms. Since the practice in effect maintains the favored organism on the "edge of starvation", precision of process control is critical when using this technique, and negative SSF experiences are sometimes reported. Amoco has experience with high precision process control through its operation of petroleum refineries and chemical manufacture plants.

Fermentation processes are complicated by the variety of sugars released when biomass is hydrolyzed. The mix of five carbon and six carbon sugars, as well as the species within each of these two classes, varies from feedstock to feedstock. Amoco, by virtue of its analytical laboratory and its CRADA with NREL, is able to identify all fermentable sugars in a feed stock. Since the economics of a biomass-to-ethanol process are strongly affected by the percent of total sugars converted to valuable products and byproducts, many approaches to the conversion of mixed sugar streams to ethanol have been investigated. Ethanol producing organisms survive best and are most productive when

consuming the sugars to which their metabolic processes are suited. For some organisms the preferred sugar mix reduces to a single type of sugar; for some it is a mixture of a few types.

Three approaches to the conversion of broad spectrum sugar mixes have been tried: mixed cultures of organisms, genetically modified organisms with the metabolic pathway constructed to handle a variety of sugars, and the conversion of non-fermentable sugars to fermentable compounds.

- Mixed cultures present process control problems, since an environment, usually suboptimum for either organism, must be created and maintained that allows the desirable organism types to survive, but does not encourage the growth of undesirable tramp organisms.
- Genetically modified organisms (bacteria, but not necessarily yeasts) generally have reduced vitality, and thus provide an opportunity for undesirable organisms to take over the fermentation, consume the available sugar, and destroy project profitability. Much of the work on genetically modified bacteria has been focused on enteric organisms like *E. coli*, and *Klebsiella*, and *Erwinia* species. Since these organisms do not belong to the Generally Regarded as Safe (GRAS) category established by the Food and Drug Administration and the Environmental Protection Agency, their use in full-scale facilities may meet with resistance from local populations. Genetically modified bacteria like NREL's modified *Z. mobilis* or yeasts like those being developed by Purdue that qualify for GRAS status are less likely to have local acceptance problems.
- The conversion of non-fermentable sugars to fermentable compounds (e.g. xylose to xylulose) has been described in the literature and accomplished in the laboratory, but to achieve these types of transformations either requires an additional fermentation operation or, if achieved catalytically, is generally limited by unfavorable equilibrium constraints.

A recent independent study of the most discussed processes for biomass conversion to ethanol (Pacific International Center for High Technology Research, 1994) determined that the SSF process advocated by NREL generated the lowest cost per gallon of produced ethanol; the Amoco process is a derivative of the NREL process, modified to incorporate Amoco's unique skills and capabilities. It should be suitable for the proposed New York sites.

ATTACHMENT 2-3a

Amoco Corporation

Amoco Research Center

P.O. Box 3011

Naperville, Illinois 60568-7011

Alternative Feedstock Development Department

Fax: 708-420-5169

August 17, 1994

Henry Gastwirth
Stone & Webster Engineering Corporation
250 West 34th Street
New York, New York 10119-2998

PROCESS CAPITAL COST BREAK DOWN

I have attempted to break down the capital cost estimate that I gave you into the categories listed in the Task 2 Statement of Work. The capital cost estimates that we have for our process were not broken down according to those categories, and the process equipment has also changed somewhat since we had a complete cost estimate made. Thus, this break down should be considered approximate. If we get any capital cost information as a result of the work that Stone & Webster is doing on the Weyerhaeuser contract, we will confirm and/or update this break down then.

<u>Directs</u>	<u>MM\$</u>	<u>Indirects</u>	<u>MM\$</u>
Site Work	0.0	Construction Indirects	3.7
Concrete	3.7	Start-Up	0.0
Structural	2.5	Construction Mgt.	1.4
Equipment	12.4	Engineering	5.2
Piping	3.1	Contingency	6.2
Electrical	2.5	Env. Permitting	2.3
Buildings	0.0	Insurance	0.4
Instruments	1.8	Taxes	0.6
Insulation	1.2	Plant Closure	0.0
Land	0.0	Subtotal	19.8
Subtotal	27.2	Total	47.0

Please call me if this break down does not appear to match your experience, and we can come up with a reasonable set to meet the requirements of Task 2.

Sincerely,

Joseph Masin

cc: R. H. Walker

ATTACHMENT 2-4
BASES OF ESTIMATES
BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY
WITH ON-SITE OXIDATION
PART 1 - NY CITY PROJECT EVALUATION

1. Process Island Cost adjusted to New York City Cost.

Escalation - 1994 \$47,000,000 @ 2.9% = 1,363,000
 Total Cost after Escalation - \$47,000,000 + 1,363,000 = \$48,363,000
 Assume Labor @ one-third of Total Cost - \$48,363,000/3 = \$16,121,000
 Labor Factor between New York City & Houston = 41.15/18.45 = 2.23
 Total Labor Cost Adjustment = \$16,121,000 @ 2.23 = \$35,949,800
 Therefore Total adjustment = \$35,950,000 - \$16,121,000 = \$19,829,000
 Total Adjusted N.Y.C. Cost = \$48,363,000 + \$19,829,000 = \$68,192,000

2. BALANCE OF PLANT

a. Admin./Control/Lab. Bldg. - assume size: 100'x100' = 10000 sf. @ \$150/sf =	\$1,500,000
Concrete Foundation - 10,000 sf @ \$12.00/sf =	\$120,000
Total	\$1,620,000
b. Maint./Shop Bldg. - assume size: 100'x100' = 10000 sf. @ \$120.00/sf =	\$1,200,000
Tools and Equipment =	\$150,000
Concrete Foundation - 10,000 sf @ \$12.00/sf =	<u>\$120,000</u>
Total	\$1,470,000
c. Plant Air Supply:	
Two (2) Compressors =	\$130,000
Air Dryers =	\$20,000
Piping assume @ 5,000' @ \$50.00/lf =	<u>\$250,000</u>
Total	\$400,000
d. Aerobic Watertreatment:	
Assume @ 150,000 gal./day @ \$10.00/gal. =	\$1,500,000
e. Chilled/Cooling Water Supply:	
Includes : Cooling Tower, Fdn., Piping @ 250' =	\$700,000
f. Boiler Feedwater (Demin.) allow:	\$400,000
g. Solid Oxidation/Power & Distribution:	\$30,000,000
h. Conveying Syst. to Oxidizer allow :	\$1,500,000

BASES OF ESTIMATES
BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY
WITH ON-SITE OXIDATION
PART 1 - NY CITY PROJECT EVALUATION

i. SITE IMPROVEMENT

1. Clearing & Grubbing :	\$50,000
2. Sewer and Drainage :	
Assume: 5300' w/g pipe @ \$150.00/lf	\$795,000
Manholes/C.B. ~ 10 ea. @ \$12,000	<u>\$120,000</u>
Total	\$915,000
3. Access Roadways & Parking :	
(4300' x 20' = 20,000) = 106,000 sf @ \$7.50 =	\$800,000
4. Piling assume whole site:	
Piles @ 225sf/pile = 436,800/225 = 2,000 ea.	
Piles = 2,000 ea @ 50' = 100,000 @ \$20.00 =	\$2,000,000
5. Dewatering allowance for excavation:	\$500,000
6. Make-up & Potable Water:	
Piping @ 5,300' @ \$100.00/lf	\$530,000
Metering & Hook-ups	<u>\$70,000</u>
Total	\$600,000
7. Sewer Hook-ups for Bathroom, etc. allow:	\$100,000
8. Fire Water : 5300 lf @ \$250/lf =	\$1,325,000
Hydrant & Misc. items =	<u>\$75,000</u>
Total	\$1,400,000
9. Sprinkler System whole site plus Standpipe	
200,000 sf @ \$5.00/sf =	\$1,000,000
10. Fencing & Misc. Site work allow:	\$270,000
11. Site Lighting :	
436800 sf @ \$1.20 =	\$510,000

j. MARK-UPS:

Start-up Cost = 1.5%
Engineering = 10%
Contingency = 20%

ATTACHMENT 2-5
BASES OF ESTIMATES
BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY WITHOUT OXIDATION
PART 1 - NY CITY PROJECT EVALUATION

1. Process Island Cost adjusted to New York City Cost.
Escalation - 1994 \$47,000,000 @ 2.9% = 1,363,000
Total Cost after Escalation - \$47,000,000 + 1,363,000 = \$48,363,000
Assume Labor @ one-third of Total Cost - \$48,363,000/3 = \$16,121,000
Labor Factor between New York City & Houston = 41.15/18.45 = 2.23
Total Labor Cost Adjustment = \$16,121,000 @ 2.23 = \$35,949,800
Therefore Total adjustment = \$35,950,000 - \$16,121,000 = \$19,829,000
Total Adjusted N.Y.C. Cost = \$48,363,000 + \$19,829,000 = \$68,192,000

2. BALANCE OF PLANT

a. Admin./Control/Lab. Bldg. - assume size: 100'x100' = 10000 sf. @ \$150/sf =	\$1,500,000
Concrete Foundation - 10,000 sf @ \$12.00/sf =	\$120,000
Total	\$1,620,000
b. Main./Shop Bldg. - assume size: 100'x100' = 10000 sf. @ \$120.00/sf =	\$1,200,000
Tools and Equipment =	\$150,000
Concrete Foundation - 10,000 sf @ \$12.00/sf =	\$120,000
Total	\$1,470,000
c. Plant Air Supply:	
Two (2) Compressors =	\$130,000
Air Dryers =	\$20,000
Piping assume @ 5,000' @ \$50.00/lf =	\$250,000
Total	\$400,000
d. Aerobic Watertreatment:	
Assume @ 150,000 gal./day @ \$10.00/gal. =	\$1,500,000
e. Chilled/Cooling Water Supply:	
Includes : Cooling Tower, Fdn., Piping @250' =	\$700,000
f. Boiler Feedwater (Demn.) allow:	\$400,000
g. Power & Distribution:	\$5,000,000
h. Boiler Package :	\$1,500,000
i. Steam Turbine :	\$250,000

BASES OF ESTIMATES
BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY WITHOUT OXIDATION
PART 1 - NY CITY PROJECT EVALUATION

j. SITE IMPROVEMENT

1. Clearing & Grubbing :	\$50,000
2. Sewer and Drainage :	
Assume: 5300' w/g pipe @ \$150.00/lf	\$795,000
Manholes/C.B. - 10 ea. @ \$12,000	<u>\$120,000</u>
Total	\$915,000
3. Access Roadways & Parking :	
(4300' x 20' + 20,000) = 106,000 sf @ \$7.50 =	\$800,000
4. Piling assume whole site:	
Piles @ 225sf/pile = 436,800/225 = 2,000 ea.	
Piles = 2,000 ea @ 50' = 100,000 @ \$20.00 =	\$2,000,000
5. Dewatering allowance for excavation:	\$500,000
6. Make-up & Potable Water:	
Piping @ 5,300' @ \$100.00/lf	\$530,000
Metering & Hook-ups	<u>\$70,000</u>
Total	\$600,000
7. Sewer Hook-ups for Bathroom, etc. allow:	\$100,000
8. Fire Water : 5300 lf @ \$250/lf =	\$1,325,000
Hydrant & Misc. items =	<u>\$75,000</u>
Total	\$1,400,000
9. Sprinkler System whole site plus Standpipe	
200,000 sf @ \$5.00/sf =	\$1,000,000
10. Fencing & Misc. Site work allow:	\$270,000
11. Site Lighting :	
436800 sf @ \$1.20 =	\$510,001

k. MARK-UPS:

Start-up Cost = 1.5%
Engineering = 10%
Contingency = 20%

ATTACHMENT 2-6

DEFINITIONS OF SITING CRITERIA

June 21, 1994

Threshold Criteria

To qualify for evaluation, a site must meet all the threshold criteria.

1. Size: The site must be at least ten usable acres.
2. Shape: The shape and slope of the site must allow for the layout of a conventional single-story paper-to-ethanol facility. (For example, a very narrow site would not qualify, even if over ten acres.)
3. Natural Resources: If the site has natural resource areas, no part of the plant will be built on regulated wetlands or adjacent areas, or areas with endangered or threatened species, or sensitive habitat as listed by the New York State Department of Environmental Conservation. These areas do not count as usable acres when measuring the size of a site.
4. Availability: The site must be vacant, under-used, offered by its owner, or otherwise available. In some cases, sites that are available but already slated for other public uses will be deemed ineligible. For example, the Solid Waste Management Plan -- adopted by the City Council and approved by the New York State Department of Environmental Conservation -- calls for development of a waste-to-energy facility at the Brooklyn Navy Yard. The site of this facility would be ineligible for consideration. A site will also be ruled out if its acquisition would require state or federal legislative action or in an advanced stage of development by private, city, state, or federal agencies.
5. Zoning: The site must be located in a manufacturing zone.

Evaluation Criteria

1. Industrial waterfront designation: The 1992 *New York City Comprehensive Waterfront Plan* designates six reaches of the city's waterfront for future industrial uses and designates other reaches for non-industrial uses. It is deemed less desirable to locate a paper-to-ethanol facility at a site designated for a non-industrial use by the *Waterfront Plan*.
 - 1 = Waterfront Plan designates the area of the site for non-industrial uses.
 - 2 = Waterfront Plan designates the area for future industrial use (or does not encompass the area).
2. Site Zoning: Recognizes the advantages of industrial (M) zoning.
 - 1 = Site zoned M-1 for light manufacturing.
 - 2 = Site zoned M-2 for medium manufacturing.
 - 3 = Site zoned M-3 for heavy manufacturing.
3. Adjacent zoning: Recognizes the advantages of locating near other industrial uses and avoiding residential and pedestrian-oriented commercial zones like retail establishments.
 - 1 = Residential zone within 400 feet from site.
 - 2 = Residential zone 401 to 800 feet or retail zone within 400 feet.
 - 3 = No residential within 800 feet; retail zone 401 to 800 feet.
 - 4 = All property within 800 feet zoned industrial (M-1, M-2, or M-3).
4. Natural Resources: As stated in the threshold criteria above, no part of the plant will be built on regulated wetlands or adjacent areas, or on areas with endangered or threatened species or sensitive habitat listed by the New York State Department of Environmental Conservation. In addition, it is preferable to locate the plant away from these environmentally sensitive areas.
 - 1 = Facility would be less than 150 feet from such an area and within the jurisdiction of NYSDEC.
 - 2 = Facility would be more than 150 feet from such an area or otherwise inland of the NYSDEC jurisdictional area.

5. Residential density: The number of people living within a half mile of the site, excluding the population beyond any physical barrier. A physical barrier is a barrier such as a body of water, a major highway, or change in grade that would block foot traffic that could be affected by the facility and that would tend to form a boundary beyond which impacts such as possible unsightliness, traffic or noise would probably not affect residents.

1 = More than 20000 residents.

2 = 15001 to 20000 residents.

3 = 10001 to 15000 residents.

4 = 5000 to 10000 residents

5 = Fewer than 5000 residents

6. Sensitive receptors nearby: The number of parks, hospitals, and schools, and similar uses within a half mile of the site and within physical barriers to potential waste-to-energy impacts.

1 = More than 8 sensitive receptors within a half mile.

2 = 5 to 8 sensitive receptors within a half mile.

3 = 1 to 4 sensitive receptors within a half mile.

4 = No sensitive receptors within a half mile.

7. Rail access affords another way of moving recyclables to customers and an opportunity to reduce the possible environmental impacts of trucking.

1 = No rail lines or spurs on or adjacent to the site.

2 = Inactive rail line or spur on or adjacent to the site.

3 = Active rail line or spur on or adjacent to the site.

4 = Float bridge, pier, or bulkhead and active rail line or spur on or adjacent to the site.

8. Barge access also gives an alternative means of taking recyclables to market and an opportunity to reduce the possible impacts of trucks.

1 = Not a waterfront site or a waterfront site with neither bulkhead nor pier.

2 = Waterfront site with either bulkhead or pier.

9. Proximity to a through truck route: It is more desirable for incoming or outgoing trucks to be on or near a through truck route than to have to travel through non-designated areas.

- 1 = Over 2000 feet to a through truck route access ramp.
- 2 = Site is 1001 to 2000 feet away from a through truck route access ramp.
- 3 = Site is 0 to 1000 feet away from a through truck route access ramp.

10. Site Expansion: Extra area beyond the minimum ten acres would allow for extra parking, storage and additional equipment to be added to the process in the future. Extra area would also allow more flexibility in operations. Sites are scored on the number of usable acres as follows.

- 1 = 10 acres or less.
- 2 = 10.1 to 20 acres.
- 3 = 20.1 to 30 acres.
- 4 = More than 30 acres.

11. Development time: Development time is a factor in costs as much as the price of land acquisition. The longer it takes to acquire a site or prepare it for construction, the more costly and less desirable the site. Impediments include the following:

- Presence of occupants (who may need relocation).
- Waterfront-related permits for development such as dredging and filling.
- Unusually time-consuming land use approvals (special permits, rezoning, demapping).
- Acquisition from the federal government.
- Substantial or complex environmental cleanup.
- Multi-story demolition.

Impediments apparent at the time of evaluation will be scored as follows:

- 1 = Four or more of these impediments apply to the site.
- 2 = Any three apply.
- 3 = Any two apply.
- 4 = Any one applies.

12. Capital cost of land acquisition: Costs vary depending upon whether the site is privately or publicly owned. Private sites are sold at market rate values, while public ones potentially can be well below market rate.

- 1 = Market rate or above
- 2 = Below market rate

13. Eligibility for economic incentives programs: New businesses locating on designated sites in the city can become eligible for reductions in the costs of their utilities.

- 1 = Site not eligible for economic incentives.
- 2 = Site eligible for economic incentives.

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ATTACHMENT 2-7

TECHNICAL PAPER

IMPLEMENTATION OF A HYBRID RANKING MODEL: A CASE STUDY IN SELECTING A WASTE MANAGEMENT PLANT WITH MULTIPLE SITES

by

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Presented at
ECO WORLD '92 CONFERENCE
Washington, DC
June 14-17, 1992

TP 92-49

Stone & Webster

The purpose of the study was to select a waste management plan that included multiple sites, technologies, and capacities.

In order to reduce a large inventory of sites, potential sites were screened and ranked relying on environmental and engineering criteria. Final site selection was performed by framing over one hundred citywide sludge management plans consisting of site/technology/capacity components. These plans were ranked using a forced decision analysis approach, the Paired Comparison Technique (PCT).

The hybrid variation of the PCT ranking model, where siting and technology/capacity factors were integrated, provided a tool for selecting the best plan. The ranking process demonstrated that plans with fewer sites and technologies having larger capacities ranked higher.

Introduction

Since 1938, New York City has been disposing its sludge--the byproduct of the wastewater treatment process--in the ocean. In 1988, Congress passed the Ocean Dumping Ban Act (ODBA), which required all municipalities in the United States to cease ocean dumping and develop land-based solutions to sludge disposal.

Consequently, the city entered into a Consent Decree Enforcement Agreement with the U.S. Environmental Protection Agency (EPA) and the New York State Department of Environmental Conservation (DEC) providing a timetable for transference of sludge management from the ocean to the land. The consent decree timetable was linked to a strategic three-tiered plan, called the New York City Sludge Management Plan (SMP), which consists of an Immediate Range Plan, an Intermediate Range Plan, and a Long Range Plan.

The Immediate Range Plan pertains to the construction of dewatering facilities at eight of the city's fourteen wastewater treatment plants. All of the dewatering plants are required to be in operation by June 1992. Dewatering is considered a prerequisite to land-based sludge management because the water content of the sludge is reduced to enable manageable handling and transportation of the resulting "sludge cake".

Both the Long Range and Intermediate Range Plans relate to the development of land-based sludge management facilities for processing and/or disposal of the dewatered sludge. The development and implementation of a long term reliable city-operated plan is anticipated to take several years. Therefore, in the Intermediate Plan, private contractors will manage the sludge for an interim period, until the Long Range Plan could be fully phased in and implemented in 1998.

This paper focuses on the Long Range Plan, with emphasis on the selection process for a preferred program consisting of a defined mixture of sludge management sites, technologies, and capacities.

Overview of the Plan Selection Process

Initially, the Long Range Plan evaluation process did not indicate specific commitments to sludge management technologies, the size or number of facilities, or their location. Planning guidelines evolved from several detailed independent studies covering technologies, siting, transportation, sludge quality and quantity, regulations, and sludge markets. These studies resulted in the formulation of two important planning philosophies. First, that the preferred plan would beneficially reuse (recycle) sludge; and second, that the management and marketing of the city's sludge would occur within the city.

Having defined the guidelines for selecting a plan, the building blocks of the city's sludge management plan, the sites, the technologies, and the capacities had to be integrated into alternatives. Based on market predictions of potential users within a 50-mile radius of the city, three beneficial technologies were selected; composting, thermal drying, and chemical stabilization. A detailed evaluation of different technology types within these three beneficial categories was carried out as part of a separate task study. Another study, which looked at the amount of projected sludge production in the city in the years 2000 and 2020, indicated that the city will produce approximately 450 and 500 dry tons per day (dtd) on an average annual basis, respectively. It was agreed that alternative plans would be framed around the 2020 projections with a program capacity equal to approximately 200% of 2020 average production, i.e., 1,000 dtd.

In a third study, a pool of candidate sites was established after an exhaustive three-phased site selection process. The first phase began with a broad citywide mapping of vacant industrial land. Ideally, the sludge processing plants would be located at the source of the sludge, the eight dewatering plants. However, the vacant land remaining at all but three of the dewatering plants was inadequate. Therefore, the majority of processing capacity would have to be sited away from dewatering.

A three-acre minimum siting requirement was established, based on the area requirement for processing the dewatered sludge from the dewatering plant with the lowest capacity, using thermal drying which consumes the least amount of land. All industrially zoned vacant properties were screened from city agency property lists. An inventory of 73 sites resulted from this effort.

After advertising for properties in the New York Times and meeting with city agencies, the site inventory was consolidated to 56 sites. The 56 sites were subsequently reduced to 36 sites using three criteria: land use, transportation, and wetlands. In addition, a few sites nominated by city agencies and elected officials were included.

In the second phase of the site selection process, in conjunction with a windshield survey, a more detailed list of criteria was used to screen the 36 sites, reducing the inventory to 26 sites.

In the third phase of the site selection process, a detailed environmental assessment was performed on all 26 sites and conceptual facility layouts prepared. A list of the issues addressed in the environmental assessment is shown in Attachment 1. These are categorized into six major areas of concern:

- Transportation
- Reliability, Flexibility, and Operability
- Health and Environment
- Local Regulatory Concerns
- Public Acceptability
- Constructibility

Also listed are issues used in the screening of sites in the first two phases of the site selection process. The list of issues demonstrates that as the inventory of sites was reduced, the number of criteria used in screening increased. The amount of information used to define the criteria also increased.

Following the detailed environmental assessment, 19 sites were selected for a more detailed analysis that integrated site constraints with sludge management technologies.

Framing of Plans

The process of integrating sites with technologies and capacities to form long range plan options was described as "framing alternatives". The objective of this process was to develop a plan that would adequately handle the city's projected sludge capacity in the year 2020, as well as provide product flexibility and some measure of redundancy in case of plant failures. Therefore, a plan would consist of some combination of sites, technologies, and capacities in order to provide sufficient sludge processing capability.

Both centralized and decentralized plans were framed with site/technology/capacity combinations, called components (e.g., a 27 acre site with a composter at a capacity of 95 dry tons per day). Centralization reduced the number of components in a framed plan alternative, ignoring the five borough boundaries, and utilizing larger sites and capacities with multiple technologies. In contrast, decentralized plans were borough-based, because components were framed around borough production. These plans reflected a distribution of facilities among the boroughs in terms of equity and fair share. For both the centralized and decentralized plans, single and multiple technologies were framed at individual sites.

Long Range Plan Resource Issues Used to Evaluate Sites/Technologies/Capacities

	<u>PHASE 1</u>	<u>PHASE 2</u>	<u>PHASE 3</u>
1. TRANSPORTATION			
- Rail Access.....	X	X	X
- Barge Access.....	X	X	X
- Truck Access.....	X	X	X
- Materials Movement			X
2. RELIABILITY, FLEXIBILITY AND OPERABILITY CONCERNS			
- Existing Infrastructure.....			X
- Ability to Expand			X
- Storage Capacity.....			X
- Ability to Divert			X
3. HEALTH AND ENVIRONMENTAL CONCERNS			
- Distance to Wetlands.....	X	X	X
- Vegetation Cover.....		X	X
- Vegetation Maturity.....		X	X
- Slope to Sensitive Receptors.....		X	X
- Endangered Species.....		X	X
- Significant Habitats.....		X	X
4. LOCAL REGULATORY CONCERNS			
- Zoning.....	X	X	X
- Ownership.....	X	X	X
- Fair Share			X
- Competing Uses.....	X	X	X
5. PUBLIC ACCEPTABILITY CONCERNS			
- Adjacent Property Use.....	X	X	X
- Adventitious Recreatio.....		X	X
- Buffer Features.....	X	X	X
- Distance to Parks.....	X	X	X
- Distance to Hospitals.....	X	X	X
- Residential Magnitude.....		X	X
- Demographics.....			X
- Distance to Schools.....	X	X	X
6. CONSTRUCTIBILITY			
- Presence of Drums.....		X	X
- Stained Soils.....		X	X
- Soil Organic Content		X	X
- Slope to Surface Water.....		X	X

Each of the 19 sites used in the framing of alternatives was analyzed into a finite number of technology layouts and capacities (components). By evaluating many combinations and permutations, almost 130 plans were framed. Approximately 100 of the framed alternatives were centralized, and they included most component combinations. There were fewer decentralized plans framed because borough-wide plans were framed first, ranked, and only the highest ranking ones combined into citywide plans; otherwise framing all the borough-wide plans would have resulted in hundreds of combinations.

The Paired Comparison Technique (PCT) Ranking Model

Once a range of alternative plans was defined, a system for objectively ranking the plans was devised so that the most desirable plans could undergo more detailed evaluation. The Paired Comparison Technique (PCT) was the methodology selected to rank the plans.

The PCT was developed by Dean and Nishry¹ in the mid 1960s as a model for prioritizing engineering projects from a range of alternatives. Subsequently, the approach has been used in environmental studies, and is particularly useful for site selection². The PCT (or some version of it) has also been used by the US Army Corps of Engineers and the US Department of Interior in evaluating alternatives for solid waste systems³, proposed highway alternatives⁴, and water resource assessment⁵ and planning.⁶ Stone and Webster has applied the methodology to prioritize the upgrading, rehabilitation and expansion of Long Island Rail Road parking facilities⁷.

The PCT breaks down the decision-making process so that decisions or preferences are assigned to a number of selected attributes or criteria affecting an alternative. Once alternatives are established, a list of important decision-making criteria must be defined, and relative weights of importance assigned to them. The PCT becomes useful in that only two criteria are compared against each other at any one time, and a simple positive or negative response is assigned. The term "forced decision analysis" has been coined to describe this procedure, because a decision maker is literally forced to make a decision between two alternatives. An example of the PCT and how scores are assigned to generic factors, and then how these scores are summed and the factors weighted is illustrated in Attachment 2.

The first step in using the PCT make paired comparisons between each of the criteria or factors defined to assess the project alternatives. In Attachment 2, each factor was compared to every other factor, one factor at a time, hence the term paired comparison technique. Each time a comparison is made, a score of 0 (less desirable), 1 (more desirable), or 0.5 (no distinction) is assigned. A "neutral factor" is included for comparison. This factor serves as a dummy variable, so that no factor's sum of paired comparison scores is 0. Even if a factor scored a 0 against all other factors in a category, that factor would score a 1 against the neutral factor.

Attachment 2
The Paired Comparison Technique
Assigning Weights to Project Factors

Factor (F ¹)	A1	A2	A3	A4
A2	0 1			
A3	0 1	.5 .5		
A4	1 0	1 0	1 0	
Neutral Factor	1 0	1 0	1 0	1 0
Sum (S ⁴)	2.0	3.5	3.5	1.0
Relative Weight (S/T)	0.2	0.35	0.35	0.1
Percent	20%	35%	35%	10%

TOTALS
10.0 (T ²)
1.0 ³
100%

1). $\Sigma F = 5$

2). $T = \frac{\Sigma F(\Sigma F - 1)}{2} = \frac{5 \times 4}{2} = 10$

3). Must sum to unity

4). Sum of scores divided from row and column scores

In the second step, all the scores for each factor are summed along the columns and rows. The individual summed scores for each factor are also totalled, and the relative weight calculated by dividing the factor scores by the total of the individual factor scores. This total has been designated T in Attachment 2. The sum of all the relative weights for each factor being considered should equal unity, and can be expressed as 100 percent. The total of all summed factor scores, result in the following formula: $\Sigma F(\Sigma F-1)/2$, where ΣF is equal to the number of factors considered, including the neutral factor. Factors that are weighted higher have a greater influence on the final decision. The establishment of the relative weights for the factors is usually undertaken by individuals familiar with the project and the development of information about the same factors used to compare the project alternatives.

In the third step of the PCT the relative weights for a range of factors can be used to compare alternatives by applying the factors to data related to those factors. For example, when comparing alternatives an ecological factor addressing proximity to wetlands may be established, and be defined on a three point scale (e.g., within 100, 200, or 300 feet of a wetland). By obtaining the information about proximity to wetlands for all the alternatives being considered, values can be assigned to the wetland factor for each alternative. A weighted score can be derived by multiplying the wetland factor value for each alternative with a relative weight established as described in the second step above. The weighted scores for all the factors would then be summed, and the alternative with the highest score would effectively be the most desirable. Alternatives with high data values for factors assigned high weights will tend to score well.

By methodically working through the three step PCT process, the technique provides for a method of diminishing subjectivity in selecting and ranking alternatives. However, in making the paired comparisons of factors, care should be taken in selecting a group of "experts" to make the comparisons, so as not to bias the weights. Consideration should be given to including not only those that are close to the project and highly familiar with the issues, but also to have individuals that are familiar with the issues but not the project.

Applying the PCT to the Alternative Plans

In applying the PCT to ranking the alternative framed plans, 18 significant factors were selected. These factors were called key determinant criteria and their selection was based on two qualities; first, the criteria had to be significant to the development of sludge management facilities, and second, the data associated with the criteria had to be discriminatory. The 18 key determinant criteria were divided into six primary categories, some of which were similar to the categories of issues used during the site screening process (see Attachment 1).

The criteria included both site and technology-related issues. Each of the key determinant criteria was defined, and a numerical measure incorporated into the definition to quantify the determinant. For example, the key determinant "Barge Access" was based

on a 4-point scoring system which takes into consideration not only whether a site is on the waterfront, but also the condition of existing piers.

The PCT was used in a two-stage process to weight the 18 key determinant criteria. Initially, the six primary categories were weighted, and then the category weights were distributed among the criteria in the second step of the process. The six categories were weighted first because it would have been difficult to compare criteria concerning unrelated and diverse issues (e.g., "Ability to Expand vs. Land Use Compatibility). Eleven members from the project team, both from the city and their consultants, used a scoring sheet (shown in Attachment 3) to assign weights to the categories and determinants. The project team members then met and a consensus was developed for the final weights.

The consensus of weights for the categories and determinants is presented in Attachment 4. The primary category, Public Acceptance ranked highest (30%), followed by Transportation (22%), Local Regulations (20%), Ecology (15%), Reliability, Flexibility, and Operability (10%), and Project Economics (3%).

Ranking Components and Plans

The ranking of the plans was carried out with the aid of a PC-based computer database software, dBase IV (by Ashton Tate). Because each of the plans consisted of several components (some decentralized plans contained over 10 components), and each component had a value for each of the 18 determinants, thousands of data values had to be analyzed and weighted according to the preestablished weights.

A total of 100 different components were distributed among the 130 plans, in various combinations. Using the computer, it was possible to develop a unique record for each of the 100 components that included a value for each of the 18 determinant criteria. The component records were copied and uniquely identified with a plan number. In this way a database of records consisting of component determinant values, identified by plan number was created. A program was written in the software to replicate the PCT, whereby each of the 100 components was ranked against each other using the database of determinant values and predetermined weights.

The plan scores were derived by adding the individual component scores for all 130 plans. Not all plans had the same number of components. Therefore, a weighted score was developed for each plan which was calculated on a capacity basis. Each component in a plan was multiplied by the proportion of processed sludge associated with each component to produce weighted component scores. These weighted component scores were then added to arrive at an average weighted score for the plans.

Attachment 5 shows how the plan scores were calculated from the individual component scores in a plan. The plan shown is the highest ranking plan.

Attachment 3

Ranking and Weighting of Primary Categories and Key Determinants

Primary Category / Key Determinants		Transportation				Reliability, Flexibility, Operability				Ecology			Local Regulations			Public Acceptance			Project Economics		Total Score	Weighted Score	Determinant Percentile
		Rail Access	Barge Access	Truck Access	Material Movement	Existing Infrastructure	Ability to Expand	Storage Capacity	Ability to Divert	Wetlands	Endangered Species	Significant Habitats	Fair Share	Zoning	Ownership	Land Use Compatibility	Sensitive Receptors	Density	Additional Costs	Neutral Parameter			
Transportation	Rail Access	1																		0			
	Barge Access		1																	0			
	Truck Access			1																0			
	Material Movement				1															0			
Reliability, Flexibility, Operability	Existing Infrastructure					1														0			
	Ability to Expand						1													0			
	Storage Capacity							1												0			
	Ability to Divert								1											0			
Ecology	Wetlands									1										0			
	Endangered Species										1									0			
	Significant Habitats											1								0			
Local Regulations	Fair Share												1							0			
	Zoning													1						0			
	Ownership														1					0			
Public Acceptance	Land Use Compatibility															1				0			
	Sensitive Receptors																1			0			
	Density																	1		0			
Project Economics	Additional Costs																		1	0			
																					100%		

Primary Category	Transport	R.F.O	Ecology	Local Reg.	Public Accept.	Project Eco.
Transport	1					
R.F.O		1				
Ecology			1			
Local Reg.				1		
Public Accept.					1	
Project Eco.						1
Neutral Param.	0.1	0.1	0.1	0.1	0.1	0.1
Score						

Attachment 4 **Key Determinant Weighting Results**

PRIMARY CATEGORY		KEY DETERMINANT	RELATIVE WEIGHTINGS
Transportation	(22)	Rail Access	3.3
		Barge Access	5.5
		Proximity to Truck Routes	7.7
		Material Movement	5.5
Reliability, Flexibility, and Operatability	(10)	Existing Infrastructure	1.0
		Ability to Expand	3.0
		Storage Capacity	4.0
		Ability to Divert	2.0
Ecology	(15)	Wetlands	5.0
		Sensitive Habitat	5.0
		Endangered Species	5.0
Project Economics	(3)	Additional Costs	3.0
Local Regulations	(20)	Fair Share	10.0
		Zoning	6.7
		Ownership	3.3
Public Acceptance	(30)	Land Use Compatibility	10.0
		Sensitive Receptors	10.0
		Density	10.0
Total	100%		100%

Attachment 5
Ranking of Plans by Weighted Scores

COMPONENTS				
SITE ID	TECHNOLOGY	CAPACITY(C) (Dry tons/day)	RAW(R) SCORE	WEIGHTED(W) SCORE
SI 36	Composting/Chemical Stabilization	400	1.116	4.933*
BX 18	Thermal Drying	150	1.156	1.915
Q 7	Composting/Chemical Stabilization	120	1.165	1.544
M 2	Chemical Stabilization	115	1.201	1.527
BK 23	Composting/Chemical Stabilization	120	1.043	1.383
Total		905(T)		11.302**

* $W = \frac{C}{T} \times R \times 10$ (weighted score multiplied by 10)

** Plan score is a sum of weighted component scores

The plan scores resulting from the ranking process indicated that the site-related determinants dominated the results. The Public Acceptance category which accounted for 30 percent of a component's raw score was particularly influential in the ranking. Components with sites having compatible land uses, being distant from sensitive receptors, and having a relatively low surrounding population density, ranked highly. Centralized plans ranked highest, but this was because their components contained sites which scored well in the Public Acceptance Category.

Rather than pick the highest ranking plan as the preferred plan, seven preferred plan alternatives were chosen for additional analysis regarding economic and transportation feasibility. Selected plans included the highest ranking plans, both centralized and decentralized, and the highest ranking plan with all waterfront sites (since barging was considered important to offset truck traffic). From these alternatives several hybrid plans evolved, and once additional siting conflicts had been resolved, a final preferred plan was selected, and publicly announced.

Conclusion

Using a rationale and scientific method for screening, ranking, and selecting waste management sites has become an accepted practice for public agencies, whose decision-making methods are often subject to intense public scrutiny. In the case of New York City's sludge management plan, site selection and preferred program identification constituted the initial steps taken in gaining public support of the plan. The plan was selected by framing a large number of alternative plans that consisted of site/technology/capacity "components". Criteria reflecting both site and technology/capacity issues were chosen to rank the components and plans. The PCT became an effective tool in weighting the criteria in the process of ranking the plans.

The final preferred plan that resulted from the framing and ranking of plans originally consisted of nine sites. As a result of the city's public approval process, the plan now has been reduced to five sites, one in each borough of the city. While the plan has changed, the fundamental guidelines and rules that were used in ranking and selecting the sites have not.

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GUIDELINES FOR PERFORMING PAIRED COMPARISON TECHNIQUE WEIGHTING EVALUATION CRITERIA

Attached are the essential elements of the paired comparison technique (PCT) that are used in weighting evaluation criteria. The definitions of these criteria (Attachment 1.5-1) must be carefully examined to assure an understanding of their interpretation and method of measurement. It should be noted that evaluation criteria are only applied to a site inventory that has been screened initially with threshold criteria.

Attachment 1.5-4, the PCT Ranking and Weighting Matrix, is used to develop the weighted scores for each criteria. Personnel with multidisciplinary environmental and engineering backgrounds and a familiarity with the NYC Solid Waste Management Plan have participated in this weighting process.

The following steps are a guide for using the PCT matrix.

- The question to ask when scoring each comparison is, "Which criteria is more important to the selection of an alternative site for a paper-to-ethanol bioconversion facility in the City of New York?"
- Comparisons are made, one at a time, between criteria by relating those across the top with those down the side of the matrix.
- Each comparison has a point total of 1 to be awarded as a score of "0, 0.5, or 1". For example, when comparing Industrial Waterfront Designation to Site Zone, there are three choices. Either Industrial Waterfront Designation will be more important, and thus receive a score of "1", while Site Zone will receive a "0"; Industrial Waterfront Designation and Site Zone will be equally important, and thus both receive a score of "0.5"; or Site Zone will be more important, and thus receive a score of "1", while Industrial Waterfront Designation will receive a score of "0".
- The score for Industrial Waterfront Designation belongs in the left half of the square where Industrial Waterfront Designation and Site Zone intersect along the side and across the top of the matrix, respectively. The score for Site Zone belongs in the right half of that square. In Attachment 1.5-4, Site Zoning is considered more important than Industrial Waterfront Designation and has been given a score of "1" in the right half of the square.

- This process is continued until all possible comparisons have been made.
- A neutral parameter is included so that no evaluation criteria will score a "0". Each criteria will score a "1" against the neutral parameter.

The method for determining the weight of each criteria is described below:

- The scores for each criteria are totaled and placed in the column labeled "Total Score." Both rows and columns are added together including the neutral parameter. As described above, points in the left half of the square correspond to the criteria listed along the side of the matrix, and points in the right half correspond to criteria listed across the top. There are 91 comparisons to process with the 14 criteria including the neutral parameter. Because a score of one is the maximum allowed for each comparison, the total score for all criteria combined is 91.
- In the column marked "Weighted Score", the total score for each criteria is divided by 91. This weighted score is then multiplied by 100 and placed in the corresponding square of the column labeled "Criteria Percentile".

ATTACHMENT 3-1
BASES OF ESTIMATES
BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY
WITH ON-SITE OXIDATION
PART 1 - NY CITY PROJECT EVALUATION
SITE - PROCTOR & GAMBLE

1. Process Island Cost adjusted to New York City Cost.

Escalation - 1994 \$47,000,000 @ 2.9% = 1,363,000
Total Cost after Escalation - \$47,000,000 + 1,363,000 = \$48,363,000
Assume Labor @ one-third of Total Cost - \$48,363,000/3 = \$16,121,000
Labor Factor between New York City & Houston = 41.15/18.45 = 2.23
Total Labor Cost Adjustment = \$16,121,000 @ 2.23 = \$35,949,800
Therefore Total adjustment = \$35,950,000 - \$16,121,000 = \$19,829,000
Total Adjusted N.Y.C. Cost = \$48,363,000 + \$19,829,000 = \$68,192,000

2. BALANCE OF PLANT

a. Admin./Control/Lab. Bldg. - assume size: 100'x100' = 10000 sf. @ \$150/sf =	\$1,500,000
Concrete Foundation - 10,000 sf @ \$12.00/sf =	<u>\$120,000</u>
Total	\$1,620,000
b. Maint./Shop Bldg. - assume size: 100'x100' = 10000 sf. @ \$120.00/sf =	\$1,200,000
Tools and Equipment =	\$150,000
Concrete Foundation - 10,000 sf @ \$12.00/sf =	<u>\$120,000</u>
Total	\$1,470,000
c. Plant Air Supply:	
Two (2) Compressors =	\$130,000
Air Dryers =	\$20,000
Piping assume @ 5,000' @ \$50.00/ft =	<u>\$250,000</u>
Total	\$400,000
d. Aerobic Watertreatment:	
Assume @ 150,000 gal./day @ \$10.00/gal. =	\$1,500,000
e. Chilled/Cooling Water Supply:	
Includes : Cooling Tower, Fdn., Piping @250' =	\$700,000
f. Boiler Feedwater (Demin.) allow:	\$400,000
g. Solid Oxidation/Power & Distribution:	\$30,000,000
h. Boiler Package:	\$1,000,000
i. Steam Turbine:	\$250,000

BASES OF ESTIMATES
BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY
WITH ON-SITE OXIDATION
PART 1 - NY CITY PROJECT EVALUATION
SITE - PROCTOR & GAMBLE

j. SITE IMPROVEMENT

1. Clearing & Grubbing :	\$50,000
2. Sewer and Drainage :	
Assume: 5300' w/g pipe @ \$150.00/lf	\$795,000
Manholes/C.B. - 10 ea. @ \$12,000	<u>\$120,000</u>
Total	\$915,000
3. Access Roadways & Parking :	
(4300' x 20' + 20,000) = 106,000 sf @ \$7.50 =	\$800,000
4. Piling assume whole site:	
Piles @ 225sf/pile = 436,800/225 = 2,000 ea.	
Piles = 2,000 ea @ 50' = 100,000 @ \$20.00 =	\$2,000,000
5. Dewatering allowance for excavation:	\$500,000
6. Make-up & Potable Water:	
Piping @ 5,300' @ \$100.00/lf	\$530,000
Metering & Hook-ups	<u>\$70,000</u>
Total	\$600,000
7. Sewer Hook-ups for Bathroom, etc. allow:	\$100,000
8. Fire Water : 5300 lf @ \$250/lf =	\$1,325,000
Hydrant & Misc. Items =	<u>\$75,000</u>
Total	\$1,400,000
9. Sprinkler System whole site plus Standpipe	
200,000 sf @ \$5.00/sf =	\$1,000,000
10. Fencing :	\$70,000
11. Gas Pipeline (allow):	\$150,000
12. Site Lighting : 436800 sf @ \$1.20 =	\$510,000

k. MARK-UPS:

Start-up Cost = 1.5%
Engineering = 10%
Contingency = 20%

ATTACHMENT 3-2
BASES OF ESTIMATES

BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY WITHOUT OXIDATION
PART 1 - NY CITY PROJECT EVALUATION
SITE : PROCTOR & GAMBLE

1. Process Island Cost adjusted to New York City Cost.

Escalation - 1984 \$47,000,000 @ 2.9% = 1,363,000
Total Cost after Escalation - \$47,000,000 + 1,363,000 = \$48,363,000
Assume Labor @ one-third of Total Cost - \$48,363,000/3 = \$16,121,000
Labor Factor between New York City & Houston = 41.15/18.45 = 2.23
Total Labor Cost Adjustment = \$16,121,000 @ 2.23 = \$35,949,800
Therefore Total adjustment = \$35,950,000 - \$16,121,000 = \$19,829,000
Total Adjusted N.Y.C. Cost = \$48,363,000 + \$19,829,000 = \$68,192,000

2. BALANCE OF PLANT

a. Admin./Control/Lab. Bldg. - assume size: 100'x100' = 10000 sf. @ \$150/sf =	\$1,500,000
Concrete Foundation - 10,000 sf @ \$12.00/sf =	<u>\$120,000</u>
Total	\$1,620,000
b. Maint./Shop Bldg. - assume size: 100'x100' = 10000 sf. @ \$120.00/sf =	\$1,200,000
Tools and Equipment =	\$150,000
Concrete Foundation - 10,000 sf @ \$12.00/sf =	<u>\$120,000</u>
Total	\$1,470,000
c. Plant Air Supply:	
Two (2) Compressors =	\$130,000
Air Dryers =	\$20,000
Piping assume @ 5,000' @ \$50.00/lf =	<u>\$250,000</u>
Total	\$400,000
d. Aerobic Watertreatment:	
Assume @ 150,000 gal./day @ \$10.00/gal. =	\$1,500,000
e. Chilled/Cooling Water Supply:	
Includes : Cooling Tower, Fdn., Piping @250' =	\$700,000
f. Boiler Feedwater (Demin.) allow:	\$400,000
g. Power & Distribution:	\$5,000,000
h. Boiler Package:	\$1,000,000
i. Steam Turbine:	\$250,000

BASES OF ESTIMATES

BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY WITHOUT OXIDATION

PART 1 - NY CITY PROJECT EVALUATION

SITE : PROCTOR & GAMBLE

J. SITE IMPROVEMENT

1. Clearing & Grubbing & Demolition:	\$550,000
2. Sewer and Drainage :	
Assume: 5300' w/g pipe @ \$150.00/lf	\$795,000
Manholes/C.B. - 10 ea. @ \$12,000	<u>\$120,000</u>
Total	\$915,000
3. Access Roadways & Parking :	
(4300' x 20' + 20,000) = 106,000 sf @ \$7.50 =	\$800,000
4. Filling assume whole site:	
Piles @ 225sf/pile = 436,000/225 = 2,000 ea.	
Piles = 2,000 ea @ 50' = 100,000 @ \$20.00 =	\$2,000,000
5. Dewatering allowance for excavation:	\$500,000
6. Make-up & Potable Water:	
Piping @ 5,300' @ \$100.00/lf	\$530,000
Metering & Hook-ups	<u>\$70,000</u>
Total	\$600,000
7. Sewer Hook-ups for Bathroom, etc. allow:	\$100,000
8. Fire Water : 5300 lf @ \$250/lf =	\$1,325,000
Hydrant & Misc. items =	<u>\$75,000</u>
Total	\$1,400,000
9. Sprinkler System whole site plus Standpipe	
200,000 sf @ \$5.00/sf =	\$1,000,000
10. Fencing:	\$70,000
11. Gas Pipeline (allow):	\$150,000
12. Site Lighting : 436800 sf @ \$1.20 =	\$510,002

K. MARK-UPS:

Start-up Cost = 1.5%
Engineering = 10%
Contingency = 20%

ATTACHMENT 3-3
BASES OF ESTIMATES
BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY
WITH ON-SITE OXIDATION
PART 1 - NY CITY PROJECT EVALUATION
SITE - ARTHUR KILL

1. Process Island Cost adjusted to New York City Cost.

Escalation - 1994 \$47,000,000 @ 2.9% = 1,363,000
Total Cost after Escalation - \$47,000,000 + 1,363,000 = \$48,363,000
Assume Labor @ one-third of Total Cost - \$48,363,000/3 = \$16,121,000
Labor Factor between New York City & Houston = 41.15/18.45 = 2.23
Total Labor Cost Adjustment = \$16,121,000 @ 2.23 = \$35,949,800
Therefore Total adjustment = \$35,950,000 - \$16,121,000 = \$19,829,000
Total Adjusted N.Y.C. Cost = \$48,363,000 + \$19,829,000 = \$68,192,000

2. BALANCE OF PLANT

a. Admin./Control/Lab.Bldg. - assume size: 100'x100' = 10000 sf. @ \$150/sf =	\$1,500,000
Concrete Foundation - 10,000 sf @ \$12.00/sf =	<u>\$120,000</u>
Total	\$1,620,000
b. Maint./Shoo Bldg. - assume size: 100'x100' = 10000 sf. @ \$120.00/sf =	\$1,200,000
Tools and Equipment =	\$150,000
Concrete Foundation - 10,000 sf @ \$12.00/sf =	<u>\$120,000</u>
Total	\$1,470,000
c. Plant Air Supply:	
Two (2) Compressors =	\$130,000
Air Dryers =	\$20,000
Piping assume @ 5,000' @ \$50.00/lf =	<u>\$250,000</u>
Total	\$400,000
d. Aerobic Watertreatment:	
Assume @ 150,000 gal./day @ \$10.00/gal. =	\$1,500,000
e. Chilled/Cooling Water Supply:	
Includes : Cooling Tower, Fdn., Piping @250' =	\$700,000
f. Boiler Feedwater (Demin.) allow:	\$400,000
g. Solid Oxidation/Power & Distribution:	\$30,000,000
h. Boiler Package:	\$1,000,000
i. Steam Turbine:	\$250,000

BASES OF ESTIMATES
BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY
WITH ON-SITE OXIDATION
PART 1 - NY CITY PROJECT EVALUATION
SITE - ARTHUR KILL

j. SITE IMPROVEMENT

1. Clearing & Grubbing :	\$50,000
2. Sewer and Drainage :	
Assume: 5300' w/g pipe @ \$150.00/lf	\$795,000
Manholes/C.B. - 10 ea. @ \$12,000	<u>\$120,000</u>
Total	\$915,000
3. Access Roadways & Parking :	
(4300' x 20' + 20,000) = 106,000 sf @ \$7.50 =	\$800,000
4. Piling assume whole site:	
Piles @ 225sf/pile = 436,800/225 = 2,000 ea.	
Piles = 2,000 ea @ 50' = 100,000 @ \$20.00 =	\$2,000,000
5. Dewatering allowance for excavation:	\$500,000
6. Make-up & Potable Water:	
Piping @ 5,300' @ \$100.00/lf	\$530,000
Metering & Hook-ups	<u>\$70,000</u>
Total	\$600,000
7. Sewer Hook-ups for Bathroom, etc. allow:	\$100,000
8. Fire Water : 5300 lf @ \$250/lf =	\$1,325,000
Hydrant & Misc. items =	<u>\$75,000</u>
Total	\$1,400,000
9. Sprinkler System whole site plus Standpipe	
200,000 sf @ \$5.00/sf =	\$1,000,000
10. Fencing :	\$70,000
11. Gas Pipeline (allow):	\$150,000
12. Site Lighting :	
436800 sf @ \$1.20 =	\$510,000

k. MARK-UPS:

Start-up Cost = 1.5%
Engineering = 10%
Contingency = 20%

ATTACHMENT 3-4
 BASES OF ESTIMATES
 BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY WITHOUT OXIDATION
 PART 1 - NY CITY PROJECT EVALUATION
 SITE: ARTHUR KILL

1. Process Island Cost adjusted to New York City Cost.

Escalation - 1994 \$47,000,000 @ 2.9% = 1,363,000
 Total Cost after Escalation = \$47,000,000 + 1,363,000 = \$48,363,000
 Assume Labor @ one-third of Total Cost = \$48,363,000/3 = \$16,121,000
 Labor Factor between New York City & Houston = 41.15/18.45 = 2.23
 Total Labor Cost Adjustment = \$16,121,000 @ 2.23 = \$35,949,800
 Therefore Total adjustment = \$35,950,000 - \$16,121,000 = \$19,829,000
 Total Adjusted N.Y.C. Cost = \$48,363,000 + \$19,829,000 = \$68,192,000

2. BALANCE OF PLANT

a. Admin./Control/Lab.Bldg. - assume size: 100'x100' = 10000 sf. @ \$150/sf =	\$1,500,000
Concrete Foundation - 10,000 sf @ \$12.00/sf =	<u>\$120,000</u>
Total	\$1,620,000
b. Maint./Shop Bldg. - assume size: 100'x100' = 10000 sf. @ \$120.00/sf =	\$1,200,000
Tools and Equipment =	\$150,000
Concrete Foundation - 10,000 sf @ \$12.00/sf =	<u>\$120,000</u>
Total	\$1,470,000
c. Plant Air Supply:	
Two (2) Compressors =	\$130,000
Air Dryers =	\$20,000
Piping assume @ 5,000' @ \$50.00/ft =	<u>\$250,000</u>
Total	\$400,000
d. Aerobic Watertreatment:	
Assume @ 150,000 gal./day @ \$10.00/gal. =	\$1,500,000
e. Chilled/Cooling Water Supply:	
Includes : Cooling Tower, Fdn., Piping @ 250' =	\$700,000
f. Boiler Feedwater (Demin.) allow:	\$400,000
g. Power & Distribution:	\$5,000,000
h. Boiler Package:	\$1,000,000
i. Steam Turbine:	\$250,000

BASES OF ESTIMATES
BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY WITHOUT OXIDATION
PART 1 - NY CITY PROJECT EVALUATION
SITE: ARTHUR KILL

j. SITE IMPROVEMENT

1. Clearing & Grubbing :	\$50,000
2. Sewer and Drainage :	
Assume: 5300' w/g pipe @ \$150.00/lf	\$795,000
Manholes/C.B. - 10 ea. @ \$12,000	<u>\$120,000</u>
Total	\$915,000
3. Access Roadways & Parking :	
(4300' x 20' + 20,000) = 106,000 sf @ \$7.50 =	\$800,000
4. Piling assume whole site:	
Piles @ 225sf/pile = 436,800/225 = 2,000 ea.	
Piles = 2,000 ea @ 50' = 100,000 @ \$20.00 =	\$2,000,000
5. Dewatering allowance for excavation:	\$500,000
6. Make-up & Potable Water:	
Piping @ 5,300' @ \$100.00/ft	\$530,000
Metering & Hook-ups	<u>\$70,000</u>
Total	\$600,000
7. Sewer Hook-ups for Bathroom, etc. allow:	\$100,000
8. Fire Water : 5300 lf @ \$250/lf =	\$1,325,000
Hydrant & Misc. items =	<u>\$75,000</u>
Total	\$1,400,000
9. Sprinkler System whole site plus Standpipe	
200,000 sf @ \$5.00/sf =	\$1,000,000
10. Fencing :	\$70,000
11. Gas Pipeline (allow):	\$150,000
12. Site Lighting : 436800 sf @ \$1.20 =	\$510,002

k. MARK-UPS:

Start-up Cost = 1.5%
Engineering = 10%
Contingency = 20%

ATTACHMENT 4-1

TABLES 4-6 TO 4-17

FIGURES 4-1 TO 4-16

PRO FORMA ANALYSIS

INPUT:		ECONOMIC:	
CASE: Option Number: 2 (Enter an integer based on Table 1, Master Input Table) Plant Size (See dropdown): 500 TPD wet, as-dipped Ethanol Production: 48,000 GPD Plant Site: 1 (0 = No, 1 = Yes) Additional byproducts: 1 CO2: 8 Lignin: 1 Power: 0		ECONOMIC: Inflation Rate (PP): 4.0% Escalation Rates (Nominal): 4.0% Capital Cost: 4.0% O&M Costs: Labor: 4.0% Maintenance Materials: 4.0% Insurance: 4.0% Waste Disposal - Pretreatment: 4.0% - Fermentation: 4.0% - Solids Separation: 4.0% Chemicals: 4.0% Utilities: Power: 4.0% Water: 4.0% Natural Gas: 5.0% Steam: 4.0% Waste Water: 4.0% Feedstock: Output: Ethanol: 4.0% CO2: 4.0% Lignin: 4.0%	
SCHEDULE: (Beginning of Year) Present Day: 1984 Start Construction: 1986 Centroid of Capital Expenditure: 1987 First Year of Operation: 1988 Economic Life: 20 years Annual Operating Schedule: 300 days/yr Mature Capacity Factor: 85.0% First Year Capacity Factor: 85.0% (Don't change this)		TECHNICAL: Capital Cost of Facility: 100% Sensitivity Index Land: \$10,000 k Buildings: \$11,411 k Development Costs: \$0 k Plant: Biomass Conversion: \$26,192 k Balance of Plant: \$16,900 k Total Present Day Capital Cost: \$108,203 k Escalation to Centroid of Expenditure: \$12,000 k (Note: land not escalated) Interest During Construction: \$8,500 k Total Capital Cost at C.O.D.: \$127,703 k Annual Operating Costs: 100% Sensitivity Index Fixed: Labor: \$0,222 /gal Ethanol Fixed Maintenance Materials: \$0,068 /gal Ethanol Insurance: \$0,068 /gal Ethanol Total Fixed O&M Cost: \$0,358 /gal Ethanol Variable: Variable Maintenance: \$0,000 /gal Ethanol Waste Disposal - Pretreatment: \$0,000 /gal Ethanol - Fermentation: \$0,000 /gal Ethanol - Solids Separation: \$0,367 /gal Ethanol Chemicals: \$0,180 /gal Ethanol Utilities: Power: \$0,245 /gal Ethanol Water: \$0,000 /gal Ethanol Natural Gas: \$0,073 /gal Ethanol Steam: \$0,000 /gal Ethanol Waste Water: \$0,004 /gal Ethanol Total Variable O&M Cost: \$0,552 /gal Ethanol Total Fixed & Variable O&M: \$1,220 /gal Ethanol	
TECHNICAL: Capital Cost of Facility: 100% Sensitivity Index Land: \$10,000 k Buildings: \$11,411 k Development Costs: \$0 k Plant: Biomass Conversion: \$26,192 k Balance of Plant: \$16,900 k Total Present Day Capital Cost: \$108,203 k Escalation to Centroid of Expenditure: \$12,000 k (Note: land not escalated) Interest During Construction: \$8,500 k Total Capital Cost at C.O.D.: \$127,703 k Annual Operating Costs: 100% Sensitivity Index Fixed: Labor: \$0,222 /gal Ethanol Fixed Maintenance Materials: \$0,068 /gal Ethanol Insurance: \$0,068 /gal Ethanol Total Fixed O&M Cost: \$0,358 /gal Ethanol Variable: Variable Maintenance: \$0,000 /gal Ethanol Waste Disposal - Pretreatment: \$0,000 /gal Ethanol - Fermentation: \$0,000 /gal Ethanol - Solids Separation: \$0,367 /gal Ethanol Chemicals: \$0,180 /gal Ethanol Utilities: Power: \$0,245 /gal Ethanol Water: \$0,000 /gal Ethanol Natural Gas: \$0,073 /gal Ethanol Steam: \$0,000 /gal Ethanol Waste Water: \$0,004 /gal Ethanol Total Variable O&M Cost: \$0,552 /gal Ethanol Total Fixed & Variable O&M: \$1,220 /gal Ethanol		TECHNICAL: Capital Cost of Facility: 100% Sensitivity Index Land: \$10,000 k Buildings: \$11,411 k Development Costs: \$0 k Plant: Biomass Conversion: \$26,192 k Balance of Plant: \$16,900 k Total Present Day Capital Cost: \$108,203 k Escalation to Centroid of Expenditure: \$12,000 k (Note: land not escalated) Interest During Construction: \$8,500 k Total Capital Cost at C.O.D.: \$127,703 k Annual Operating Costs: 100% Sensitivity Index Fixed: Labor: \$0,222 /gal Ethanol Fixed Maintenance Materials: \$0,068 /gal Ethanol Insurance: \$0,068 /gal Ethanol Total Fixed O&M Cost: \$0,358 /gal Ethanol Variable: Variable Maintenance: \$0,000 /gal Ethanol Waste Disposal - Pretreatment: \$0,000 /gal Ethanol - Fermentation: \$0,000 /gal Ethanol - Solids Separation: \$0,367 /gal Ethanol Chemicals: \$0,180 /gal Ethanol Utilities: Power: \$0,245 /gal Ethanol Water: \$0,000 /gal Ethanol Natural Gas: \$0,073 /gal Ethanol Steam: \$0,000 /gal Ethanol Waste Water: \$0,004 /gal Ethanol Total Variable O&M Cost: \$0,552 /gal Ethanol Total Fixed & Variable O&M: \$1,220 /gal Ethanol	
FEEDSTOCK: Waste Paper: 100.0% 24.3 B/gal Ethanol OTD: 0.0% 0.0 Wood Waste: 0.0% 0.0 100.0% 24.3 B/gal Average		FEEDSTOCK: Waste Paper: 100.0% 24.3 B/gal Ethanol OTD: 0.0% 0.0 Wood Waste: 0.0% 0.0 100.0% 24.3 B/gal Average	
OUTPUT: Ethanol: 82.35 gal/wet ton CO2: 0.00 CF/wet ton Lignin: 0.81 tons/wet ton Power: 0.00 kWh/wet ton		OUTPUT: Ethanol: 82.35 gal/wet ton CO2: 0.00 CF/wet ton Lignin: 0.81 tons/wet ton Power: 0.00 kWh/wet ton	
FEEDSTOCK: Waste Paper: 100.0% 24.3 B/gal Ethanol OTD: 0.0% 0.0 Wood Waste: 0.0% 0.0 100.0% 24.3 B/gal Average		FEEDSTOCK: Waste Paper: 100.0% 24.3 B/gal Ethanol OTD: 0.0% 0.0 Wood Waste: 0.0% 0.0 100.0% 24.3 B/gal Average	
OUTPUT: Ethanol: 82.35 gal/wet ton CO2: 0.00 CF/wet ton Lignin: 0.81 tons/wet ton Power: 0.00 kWh/wet ton		OUTPUT: Ethanol: 82.35 gal/wet ton CO2: 0.00 CF/wet ton Lignin: 0.81 tons/wet ton Power: 0.00 kWh/wet ton	

Note: The average floating fee is calculated so that the project yields the Target Return on Equity. If value is positive, floating fee is total debt revenue. If negative, floating fee becomes the debt charge and is an expense.

BIO MASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 3 REQUIRED TIPPING FEE
OPTION NO.: 2
500 TPD (Dry) of 100.0% WASTE PAPER, WITH OUT GASIFICATION: ETHANOL @ \$1.20/GAL; \$60/TON LIGNIN DISPOSAL COST.

Stone & Webster Development Corporation

Page 1 of 2

End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT											
REVENUE											
Ethanol		\$21,673	\$22,640	\$23,441	\$24,379	\$25,354	\$26,368	\$27,423	\$28,520	\$29,661	\$30,847
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee-- Waste Paper		21,316	22,168	23,054	23,976	24,936	25,933	26,970	28,049	29,171	30,338
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
Total Revenue		\$42,989	\$44,707	\$46,496	\$48,355	\$50,290	\$52,301	\$54,393	\$56,569	\$58,832	\$61,185
LESS O&M EXPENSES											
Labor -- Supervisory		\$4,016	\$4,178	\$4,343	\$4,518	\$4,697	\$4,885	\$5,080	\$5,283	\$5,495	\$5,715
Fixed Maintenance Materials		1,168	1,215	1,263	1,314	1,368	1,421	1,478	1,537	1,598	1,662
Insurance		1,567	1,620	1,684	1,752	1,822	1,896	1,971	2,049	2,131	2,217
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal -- Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		6,796	7,101	7,421	7,755	8,104	8,465	8,838	9,224	9,624	10,039
Chemicals		2,890	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power	Economic Incentive Reduction: 0%	4,423	4,600	4,784	4,975	5,174	5,381	5,597	5,820	6,053	6,295
Water		110	114	119	124	129	134	139	145	150	156
Waste Water		80	83	86	90	93	97	101	105	109	113
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas	Economic Incentive Reduction: 0%	1,414	1,481	1,573	1,680	1,751	1,847	1,949	2,056	2,169	2,289
Feedstock -- Waste Paper		0	0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		3,546	3,698	3,858	3,999	4,149	4,315	4,487	4,667	4,854	5,048
Total O&M Expenses		\$25,988	\$27,093	\$28,235	\$29,425	\$30,665	\$31,959	\$33,307	\$34,713	\$36,178	\$37,707
GROSS MARGIN		\$16,999	\$17,614	\$18,261	\$18,931	\$19,624	\$20,342	\$21,086	\$21,856	\$22,653	\$23,478
INTEREST		(10,218)	(9,878)	(9,570)	(9,294)	(9,004)	(8,703)	(8,399)	(8,092)	(7,783)	(7,471)
TAX DEPRECIATION		(17,368)	(28,116)	(17,512)	(11,115)	(11,022)	(6,213)	(1,411)	(1,338)	(1,328)	(1,328)
TAXABLE INCOME		(\$10,587)	(\$20,077)	(\$9,121)	(\$278)	\$1,381	\$7,825	\$14,404	\$16,383	\$16,441	\$20,641
TAXES: Income		4,327	\$,201	3,317	114	(559)	(3,187)	(5,884)	(8,892)	(7,533)	(8,432)
Tax Credits		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$6,260)	(\$11,876)	(\$4,804)	(\$165)	\$805	\$4,638	\$8,520	\$7,491	\$10,908	\$12,209
TAX DEPRECIATION		17,368	28,116	17,512	11,115	11,022	6,213	1,411	1,338	1,328	1,328
PLANT COST											
LOAN											
PRINCIPAL PAYMENTS		(8,410)	(7,061)	(7,750)	(9,532)	(9,385)	(10,324)	(11,356)	(12,492)	(13,741)	(15,116)
NET CASH FLOW		(\$25,541)	\$4,890	\$9,169	\$4,952	\$2,418	\$2,442	\$519	(\$1,425)	(\$1,463)	(\$1,580)
CUMULATIVE CASH FLOW		(\$25,541)	(\$20,650)	(\$11,481)	(\$6,710)	(\$4,292)	(\$1,850)	(\$1,331)	(\$2,756)	(\$4,219)	(\$5,799)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.022	1.059	1.096	1.139	1.180	1.223	1.269	1.315	1.362	1.412
CUM NPV	20.0%	(\$25,541)	(\$21,632)	(\$15,251)	(\$12,385)	(\$11,219)	(\$10,238)	(\$10,084)	(\$10,482)	(\$11,094)	(\$11,349)

BOMASS-TO-ETHANOL PRODUCTION FACILITY
PRO FORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 3 REQUIRED TIPPING FEE

OPTION NO. 2

500 TPD (Dry) of 100.0% WASTE PAPER, WITHOUT GASIFICATION; ETHANOL @ \$1.20/GAL; \$50/TON LIGNIN DISPOSAL COST.

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	16	18	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY	180,255	180,255	180,255	180,255	180,268	180,268	180,265	180,255	180,255	180,255
CASH FLOW STATEMENT										
REVENUE										
Ethanol	\$32,081	\$33,364	\$34,688	\$35,087	\$37,530	\$39,031	\$40,583	\$42,216	\$43,805	\$45,001
CO2	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$87.18	31,561	32,813	34,128	35,491	36,811	38,067	39,923	41,520	44,008
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue	\$63,832	\$68,178	\$68,825	\$71,578	\$74,441	\$77,419	\$80,515	\$83,736	\$87,065	\$90,589
LESS O&M EXPENSES										
Labor - Supervisory	\$5,943	\$6,181	\$6,428	\$6,685	\$6,953	\$7,231	\$7,520	\$7,821	\$8,134	\$8,459
Fixed Maintenance Materials	1,729	1,796	1,870	1,946	2,023	2,103	2,188	2,278	2,366	2,461
Insurance	2,305	2,397	2,483	2,563	2,697	2,805	2,917	3,033	3,155	3,281
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Refinement	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	10,553	11,028	11,524	12,043	12,585	13,161	13,743	14,362	15,008	15,683
Chemicals	4,277	4,448	4,627	4,812	5,004	5,204	5,412	5,629	5,854	6,088
Power	8,547	8,808	9,081	9,365	9,658	9,968	10,284	10,616	10,960	11,319
Water	183	189	178	183	190	198	205	214	223	231
Waste Water	118	123	127	133	138	143	148	155	161	168
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	2,414	2,547	2,687	2,835	2,991	3,158	3,329	3,512	3,705	3,909
Feedstock - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)	5,250	5,460	5,678	5,905	6,141	6,387	6,643	6,908	7,185	7,472
Total O&M Expenses	\$39,300	\$40,861	\$42,893	\$44,488	\$46,381	\$48,344	\$50,391	\$52,626	\$54,760	\$57,071
GROSS MARGIN	\$24,333	\$25,217	\$26,132	\$27,060	\$28,060	\$29,075	\$30,125	\$31,211	\$32,335	\$33,498
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(1,328)	(1,328)	(1,328)	(1,328)	(1,328)	(1,328)	(1,328)	(1,328)	(1,328)	(8,998)
TAXABLE INCOME	\$23,007	\$23,889	\$24,806	\$25,754	\$26,734	\$27,748	\$28,799	\$29,885	\$31,008	\$29,499
TAXES: Income	(9,388)	(9,758)	(10,133)	(10,520)	(10,921)	(11,335)	(11,764)	(12,208)	(12,667)	(10,825)
Tax Credits	\$0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX	\$13,608	\$14,131	\$14,673	\$15,233	\$15,813	\$16,413	\$17,034	\$17,677	\$18,342	\$15,674
TAX DEPRECIATION	1,328	1,328	1,328	1,328	1,328	1,328	1,328	1,328	1,328	8,998
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$14,936	\$15,459	\$16,001	\$16,569	\$17,139	\$17,739	\$18,362	\$19,005	\$19,668	\$22,673
CUMULATIVE CASH FLOW	\$7,829	\$23,087	\$39,088	\$55,845	\$72,768	\$90,524	\$108,985	\$127,688	\$147,555	\$170,228
CUMULATIVE IRR	5.57%	10.91%	13.89%	15.58%	16.88%	17.88%	18.59%	19.18%	19.61%	20.00%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$9,338)	(\$7,805)	(\$8,110)	(\$4,820)	(\$3,708)	(\$2,748)	(\$1,821)	(\$1,207)	\$0

TABLE 2: CASE INPUT

05/28/95
08:50 AM

CASE: 595 TPD (net) of 100.0% WASTE PAPER, WITH GASIFICATION; ETHANOL @ \$1.50/GAL

INPUT:		ECONOMICS:	
CASE: Option Number: 2 (Enter an Integer based on Table 1, Master Input Table) Plant Size (feedstock rate): 595 TPD wet, as-shipped Ethanol Production: 49,000 GPD Plant Size: 1 Additional byproducts: 0 (0 = No, 1 = Yes) CO ₂ : 0 Lignin: 0 Power: 1		ECONOMICS: Inflation Rate (FPI): 4.0% Escalation Rate (Nominal): 4.0% Capital Cost: 4.0% O&M Costs: Labor: 4.0% Maintenance Materials: 4.0% Insurance: 4.5% Waste Disposal - Preliminary: 4.5% - Fermentation: 4.5% - Solids Separation: 4.5% Chemicals: 4.5% Utilities: Power: 4.0% Water: 4.0% Natural Gas: 6.5% Steam: 4.5% Waste Water: 4.0% Feedstock: Output: Ethanol: 4.0% CO ₂ : 4.5% Lignin: 4.0%	
SCHEDULE: (Beginning of Year) Present Day: 1994 Start Construction: 1995 Control of Capital Expenditure: 1997 First Year of Operation: 1998 Economic Life: 20 years Annual Operating Schedule: 303 days/yr Mature Capacity Factor: 83.0% First Year Capacity Factor: 83.0% (Don't change this)		Tax Dep: Federal Income tax rate: 35.0% State Income tax rate: 0.0% Effective rate: 40.8% Local tax rate (Gross Receipts Tax): 0.25% Property Tax Rate: 0.0% \$/100 Estimated Annual Expenses: 60 k/yr Ethanol Production Tax Credit: 20.0% /gal for max. 15,000,000 gal/yr Last year credit applies: 2000 Power from Certain Renew. Tax Credit: 0 /ton Economic Development Incentives Apply? 0 (0 = No, 1 = Yes; See Table 2) Tax Depreciation: Buildings: 31.5% 100% accel. bal. Development Costs: 100% include in Biomass Conv. Plant: Biomass Conversion: 6% 100% accel. bal. Balance of Plant: 20% 100% accel. bal. Book Depreciation: 20 years	
TECHNICAL: Capital Cost of Facility: 100% Sensitivity Index Land: \$10,000 k Buildings: \$11,411 k Development Costs: \$0 k Plant: Biomass Conversion: 595,192 k Balance of Plant: 550,286 k Total Present Day Capital Cost: \$1,145,478 k Escalation to Control of Expenditure: \$18,300 k (Note: land not escalated) Interest During Construction: \$19,000 k Total Capital Cost at C.O.D. Date: \$188,588 k or \$283,358 per TPD Annual Operating Costs: 100% Sensitivity Index Fixed: Labor: 59,280 /gal Ethanol \$4,300 k/yr Fixed Maintenance Materials: 40,000 k/yr Insurance: 1,000 /gal Ethanol \$1,880 k/yr Total Fixed O&M Cost: 60,280 /gal Ethanol \$7,280 k/yr Variable: Variable Maintenance: 30,000 /gal Ethanol \$0 k/yr Waste Disposal - Preliminary: 30,000 k/yr - Fermentation: 30,000 k/yr - Solids Separation: 30,000 k/yr Chemicals: 30,160 k/yr Utilities: Power: 30,000 k/yr Water: 30,000 k/yr Natural Gas: 30,000 k/yr Steam: 30,000 k/yr Waste Water: 30,000 k/yr Total Variable O&M Cost: 30,222 /gal Ethanol \$3,268 k/yr Total Fixed & Variable O&M: 90,502 /gal Ethanol \$10,548 k/yr		FINANCIAL: Debt Structure: Debt Fraction: 80% Financing Term: 10 (Note: Must be <= Economic Life) Interest Rate: 10.0% Amortization of Loan: Level pay Short Term Construction Interest: 0.0% Target Return on Equity: 20%	
Feedstock: Waste Paper: 100.0% 24.3 M/gal Ethanol OTD: 0.0% 0.0 Wood Waste: 0.0% 0.0 (25.0% 24.3 M/gal Average)		Tipping Fee (Note): \$46.38 /wet ton \$0.00 /wet ton \$0.00 /wet ton \$46.38 /wet ton Average Maximum Tipping Fee: \$46.38 /wet ton Average Annual Quantities: 180,250 wet tons / year 0 0 180,250 wet tons / year	
Output: Ethanol: 82.35 gal/wet ton CO ₂ : 0.00 CF/wet ton Lignin: 0.00 tons/wet ton Power: 262.35 kwh/wet ton		Unit Price: \$1.50 /gal \$0.00 /CF \$0.00 /ton \$0.03 /kwh 14,844,550 gallons Ethanol / year 0 CF CO ₂ / year 0 tons Lignin / year 59,505,600 kwh / year	

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is treated as revenue. If negative, tipping fee becomes feedstock charge and is an expense.

BIO MASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER

TABLE 3: REQUIRED TIPPING FEE
OPTION NO.: 3
500 TPD (Dry) of 100.0% WASTE PAPER, WITH GASIFICATION; ETHANOL @ \$1.50/GAL.

Stone & Webster Development Corporation

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End of Year Years from P.D. Operating Year	1997 4 0	1998 5 1	1999 6 2	2000 7 3	2001 8 4	2002 9 5	2003 10 6	2004 11 7	2005 12 8	2006 13 9	2007 14 10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol		\$27,081	\$25,175	\$29,302	\$30,474	\$31,093	\$32,980	\$34,279	\$35,550	\$37,075	\$38,559
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		1,556	1,932	2,009	2,080	2,173	2,280	2,351	2,445	2,542	2,644
Tipping Fee- Waste Paper		10,171	10,579	11,001	11,441	11,899	12,375	12,870	13,384	13,920	14,477
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
Total Revenue		\$39,120	\$40,886	\$42,312	\$44,004	\$45,785	\$47,595	\$49,499	\$51,479	\$53,538	\$55,680
LESS O&M EXPENSES											
Labor - Supervisory		\$5,232	\$5,441	\$5,658	\$5,885	\$6,120	\$6,365	\$6,620	\$6,884	\$7,160	\$7,448
Fixed Maintenance Materials		1,582	1,845	1,711	1,779	1,650	1,924	2,001	2,081	2,165	2,251
Insurance		2,066	2,138	2,224	2,313	2,405	2,502	2,602	2,708	2,814	2,927
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		1,001	1,048	1,093	1,143	1,194	1,248	1,304	1,363	1,424	1,488
Chemicals		2,690	3,005	3,126	3,251	3,381	3,516	3,658	3,803	3,955	4,113
Power	Economic Incentive Reduction: 0%	0	0	0	0	0	0	0	0	0	0
Water		64	56	59	61	63	68	69	71	74	77
Waste Water		60	63	68	90	93	97	101	105	109	113
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas	Economic Incentive Reduction: 0%	0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		3,227	3,358	3,491	3,630	3,778	3,927	4,084	4,247	4,417	4,584
Total O&M Expenses		\$18,121	\$18,771	\$17,447	\$18,151	\$18,983	\$19,644	\$20,438	\$21,260	\$22,117	\$23,009
GROSS MARGIN		\$22,999	\$23,813	\$24,865	\$25,854	\$26,802	\$27,951	\$29,061	\$30,219	\$31,421	\$32,671
INTEREST		(13,488)	(12,842)	(11,711)	(10,887)	(9,580)	(8,321)	(6,958)	(5,458)	(3,810)	(1,995)
TAX DEPRECIATION		(18,928)	(9,110)	(20,263)	(13,848)	(13,387)	(8,374)	(3,400)	(3,177)	(3,141)	(3,141)
TAXABLE INCOME		(\$9,417)	(\$19,838)	(\$7,109)	\$1,519	\$3,955	\$11,257	\$18,708	\$21,583	\$24,471	\$27,535
TAXES: Income		3,847	3,104	2,904	(821)	(1,618)	(4,588)	(7,641)	(8,817)	(8,998)	(11,248)
Tax Credits		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$5,570)	(\$11,734)	(\$4,205)	\$899	\$2,330	\$6,659	\$11,064	\$12,768	\$14,474	\$16,287
TAX DEPRECIATION		18,928	31,110	20,263	13,848	13,387	8,374	3,400	3,177	3,141	3,141
PLANT COST											
LOAN											
PRINCIPAL PAYMENTS											
NET CASH FLOW		(\$33,720)	\$4,894	\$10,068	\$5,818	\$3,282	\$3,316	\$1,402	(\$529)	(\$548)	(\$528)
CUMULATIVE CASH FLOW		(\$33,720)	(\$28,826)	(\$18,758)	(\$12,941)	(\$9,659)	(\$6,343)	(\$4,941)	(\$5,470)	(\$6,018)	(\$7,072)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.048	1.089	1.139	1.178	1.225	1.273	1.324	1.377	1.431	1.488
CUM NPV	20.0%	(\$33,720)	(\$29,841)	(\$22,850)	(\$19,284)	(\$17,701)	(\$16,388)	(\$15,899)	(\$15,048)	(\$15,174)	(\$16,361)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER

TABLE 3: REQUIRED TIPPING FEE
OPTION NO. 3
500 TPD (Dry) of 100.0% WASTE PAPER, WITH GASIFICATION; ETHANOL @ \$1.50/GAL

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT										
REVENUE										
Ethanol	\$40,101	\$41,705	\$43,374	\$45,106	\$46,913	\$48,789	\$50,741	\$52,771	\$54,881	\$57,077
CO2	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	2,780	2,880	2,974	3,093	3,217	3,346	3,478	3,619	3,763	3,914
Tipping Fee- Waste Paper	\$46.98	15,058	15,658	16,284	16,936	17,613	18,318	19,050	19,812	20,605
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue	\$57,907	\$60,223	\$62,632	\$65,137	\$67,743	\$70,452	\$73,271	\$76,201	\$79,249	\$82,418
LESS O&M EXPENSES										
Labor - Supervisory	\$7,744	\$8,054	\$8,376	\$8,711	\$9,059	\$9,422	\$9,799	\$10,191	\$10,598	\$11,022
Fixed Maintenance Materials	2,341	2,436	2,532	2,634	2,739	2,848	2,962	3,081	3,204	3,332
Insurance	3,044	3,168	3,292	3,424	3,561	3,703	3,851	4,005	4,165	4,332
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	1,555	1,625	1,698	1,774	1,854	1,938	2,025	2,116	2,211	2,311
Chemicals	4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854	6,088
Power	0	0	0	0	0	0	0	0	0	0
Water	80	83	87	90	94	97	101	105	110	114
Waste Water	118	123	127	133	138	143	149	155	161	168
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)	4,777	4,988	5,187	5,374	5,559	5,812	6,045	6,267	6,538	6,800
Total O&M Expenses	\$23,938	\$24,902	\$25,806	\$26,951	\$28,038	\$29,168	\$30,345	\$31,589	\$32,842	\$34,187
GROSS MARGIN	\$33,970	\$35,321	\$36,726	\$38,187	\$39,705	\$41,284	\$42,926	\$44,633	\$46,407	\$48,233
INTEREST	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)
TAX DEPRECIATION	(3,141)	(3,141)	(3,141)	(3,141)	(3,141)	(3,141)	(3,141)	(3,141)	(3,141)	(3,141)
TAXABLE INCOME	\$30,820	\$32,181	\$33,585	\$35,046	\$36,584	\$38,143	\$39,785	\$41,482	\$43,267	\$45,021
TAXES: Income	(12,594)	(13,146)	(13,720)	(14,316)	(14,937)	(15,582)	(16,252)	(16,948)	(17,674)	(18,430)
Tax Credits	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX	\$18,226	\$19,035	\$19,865	\$20,730	\$21,647	\$22,562	\$23,533	\$24,542	\$25,592	\$26,591
TAX DEPRECIATION	3,141	3,141	3,141	3,141	3,141	3,141	3,141	3,141	3,141	3,141
PLANT COST	0	0	0	0	0	0	0	0	0	0
LOAN	0	0	0	0	0	0	0	0	0	0
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$21,376	\$22,176	\$23,007	\$23,870	\$24,788	\$25,703	\$26,674	\$27,683	\$28,733	\$29,817
CUMULATIVE CASH FLOW	\$14,304	\$36,480	\$69,487	\$93,357	\$108,126	\$133,828	\$160,502	\$188,185	\$216,918	\$246,735
CUMULATIVE IRR	9.48%	11.13%	13.84%	15.84%	18.93%	17.88%	18.61%	18.17%	19.61%	20.00%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$13,484)	(\$10,897)	(\$8,847)	(\$6,987)	(\$5,380)	(\$3,990)	(\$2,767)	(\$1,748)	\$0

CASE: 545 TPD (max) of 100.0% WASTE PAPER, WITHOUT GASIFICATION; ETHANOL @ \$1.00/GAL; \$50/TON LIGNIN DISPOSAL COST.

INPUT:		ECONOMIC:	
CASE: Option Number: 4 (Enter an integer based on Table 1, Master Input Table) Plant Size (see default rate): 345 TPD wet, as-shipped Ethanol Production: 48,000 GPD Plant Site: 1 Additional byproducts?: CO2: 0 (0 = No, 1 = Yes) Lignin: 1 Power: 0		ECONOMIC: Inflation Rate (PPY): 4.0% Escalation Rates (Nominal): Capital Cost: 4.0% O&M Costs: Labor: 4.0% Maintenance Materials: 4.0% Insurance: 4.0% Waste Disposal - Fermentation: 4.5% - Solid Separation: 4.5% Chemicals: 4.0% Utilities: Power: 4.0% Water: 4.0% Natural Gas: 5.5% Steam: 4.0% Waste Water: 4.0% Feedstock: Output: Ethanol: 4.0% CO2: 4.0% Lignin: 4.0%	
SCHEDULE: (Beginning of Year) Plant Day: 365 Start Construction: 1998 Centroid of Capital Expenditure: 1997 First Year of Operation: 1998 Economic Life: 20 years Annual Operating Schedule: 303 days/yr Mature Capacity Factor: 83.0% First Year Capacity Factor: 83.0% (Don't change this)		Tax Data: Federal Income Tax Rate: 35.0% State Income Tax Rate: 6.0% Effective rate: 40.5% Local Tax Rate (Gross Receipts Tax): 8.25% Property Tax Rate: 0.6% \$/100 Estimated Annual Expense: 50 k/yr Ethanol Production Tax Credit: 60.00 /gal for max. 15,000,000 gal/yr Last year credit applies: 2000 Power from Certain Plants, Tax Credit: 0 /kwh Economic Development Incentives Apply?: 0 (0 = No, 1 = Yes; See Table 2) Tax Depreciation: Buildings: 15% 33% accel. bal. Development Costs: -- include in Biomass Conv. Plant: Biomass Conversion: 5% 200% accel. bal. Balance of Plant: 20% 33% accel. bal. Rock Depreciation: 20 years	
TECHNICAL: Capital Cost of Facility: 100% Sensitivity Index Land: \$10,000 k Buildings: \$11,411 k Development Costs: \$0 k Plant: Biomass Conversion: \$68,182 k Balance of Plant: \$18,650 k Total Plant Day Capital Cost: \$109,203 k Escalation to Centroid of Expenditure: \$12,000 k (Note: land not escalated) Interest During Construction: \$9,500 k Total Capital Cost at C.O.D. Date: \$127,703 k or \$214,622 per TPD Annual Operating Costs: 100% Sensitivity Index Fixed: Labor: \$0.222 /gal Ethanol \$3,300 k/yr Fixed Maintenance Materials: \$0.085 " \$0 k/yr Insurance: 0.2% of Capital Cost \$0.069 " \$1,050 k/yr Total Fixed O&M Cost: \$0.373 /gal Ethanol \$5,350 k/yr Variable: Variable Maintenance: \$0.000 /gal Ethanol \$0 k/yr Waste Disposal - Fermentation: \$0.000 " \$0 - Solid Separation: \$0.000 " \$0 Chemicals: \$0.160 " \$2,475 Utilities: Power: \$0.245 " \$3,675 Water: \$0.008 " \$0 Natural Gas: \$0.073 " \$1,092 Steam: \$0.000 " \$0 Waste Water: \$0.004 " \$60 Total Variable O&M Cost: \$0.659 /gal Ethanol \$10,701 k/yr Total Fixed & Variable O&M: \$1.032 /gal Ethanol \$16,051 k/yr		FINANCIAL: Debt Structure: Debt Fraction: 80% Financing Term: 10 (Note: Must be <= Economic Life) Interest Rate: 15.0% Amortization of Loan: Level pmt Short Term Construction Interest: 8.0% Target Return on Equity: 20%	
Feedstock: Blend: Waste Paper: 100.0% 24.3 lb/gal Ethanol OTD: 0.0% 0.0 Wood Waste: 0.0% 0.0 100.0% 24.3 lb/gal Average Tipping Fee (Note): Waste Paper: \$72.48 /wet ton OTD: \$0.00 Wood Waste: \$0.00 100.0% \$72.48 /wet ton Average Maximum Tipping Fee: \$72.48 /wet ton Average Annual Quantity: Waste Paper: 180,255 wet tons / year OTD: 0 Wood Waste: 0 100.0% 180,255 wet tons / year		Output: (per ton of feedstock) Ethanol: 62.35 gal/wet ton \$1.50 /gal 14,644,500 gallons Ethanol / year CO2: 0.00 CF/wet ton \$0.00 /CF 0 CF CO2 / year Lignin: 0.81 tons/wet ton \$0.00 /ton 110,677 tons Lignin / year Power: 0.00 kwh/wet ton \$0.03 /kwh 0 kwh / year	

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is considered revenue. If negative, tipping fee becomes feedstock charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 3 REQUIRED TIPPING FEE
OPTION NO.: 4

Stone & Webster Development Corporation

500 TPD (Dry) of 100.0% WASTE PAPER, WITHOUT GASIFICATION; ETHANOL @ \$1.50/GAL; \$50/TON LIGNIN DISPOSAL COST.

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY		160,253	160,253	160,253	160,253	160,253	160,253	160,253	160,253	160,253	160,253
CASH FLOW STATEMENT											
REVENUE											
Ethanol		\$27,091	\$28,176	\$29,302	\$30,474	\$31,693	\$32,960	\$34,279	\$35,650	\$37,076	\$38,559
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper		15,897	16,533	17,194	17,882	18,697	19,341	20,115	20,919	21,758	22,629
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
Total Revenue		\$42,988	\$44,707	\$46,496	\$48,355	\$50,290	\$52,301	\$54,393	\$56,569	\$58,832	\$61,185
LESS O&M EXPENSES											
Labor - Supervisory		\$4,015	\$4,178	\$4,343	\$4,518	\$4,697	\$4,885	\$5,080	\$5,283	\$5,495	\$5,715
Fixed Maintenance Materials		1,160	1,216	1,283	1,314	1,366	1,421	1,478	1,537	1,598	1,662
Insurance		1,657	1,620	1,684	1,752	1,822	1,895	1,971	2,049	2,131	2,217
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		6,798	7,101	7,421	7,755	8,104	8,468	8,850	9,248	9,664	10,099
Chemicals		2,890	3,005	3,128	3,251	3,391	3,516	3,658	3,803	3,955	4,113
Power	Economic Incentive Reduction: 0%	4,423	4,600	4,784	4,973	5,174	5,381	5,597	5,820	6,053	6,295
Water		119	114	119	124	129	134	139	145	150	156
Waste Water		80	83	86	90	93	97	101	105	109	113
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas	Economic Incentive Reduction: 0%	1,414	1,491	1,573	1,660	1,751	1,847	1,949	2,056	2,169	2,289
Feedstock		0	0	0	0	0	0	0	0	0	0
- Waste Paper		0	0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		3,546	3,698	3,830	3,989	4,149	4,315	4,487	4,667	4,854	5,048
Total O&M Expenses		\$25,998	\$27,083	\$28,235	\$29,426	\$30,665	\$31,959	\$33,307	\$34,713	\$36,179	\$37,707
GROSS MARGIN		\$16,990	\$17,614	\$18,261	\$18,931	\$19,624	\$20,342	\$21,086	\$21,856	\$22,653	\$23,478
INTEREST		(10,218)	(9,575)	(8,870)	(8,094)	(7,241)	(6,303)	(5,270)	(4,135)	(2,898)	(1,511)
TAX DEPRECIATION		(17,388)	(28,118)	(17,512)	(11,115)	(11,022)	(9,213)	(1,411)	(1,338)	(1,328)	(1,328)
TAXABLE INCOME		(\$10,592)	(\$20,077)	(\$4,121)	(\$278)	\$1,361	\$7,826	\$14,404	\$16,383	\$18,441	\$20,641
TAXES: Income		4,327	6,201	3,317	114	(588)	(3,197)	(5,884)	(8,062)	(7,533)	(8,432)
Tax Credits		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$6,265)	(\$11,875)	(\$4,604)	(\$165)	\$905	\$4,629	\$9,520	\$9,691	\$10,908	\$12,209
TAX DEPRECIATION		17,388	28,118	17,512	11,115	11,022	9,213	1,411	1,338	1,328	1,328
PLANT COST											
LOAN											
PRINCIPAL PAYMENTS											
NET CASH FLOW		(\$6,265)	(\$11,875)	(\$4,604)	(\$165)	\$905	\$4,629	\$9,520	\$9,691	\$10,908	\$12,209
CUMULATIVE CASH FLOW		(\$6,265)	(\$20,850)	(\$11,881)	(\$6,710)	(\$4,282)	(\$1,850)	(\$1,331)	(\$2,756)	(\$4,219)	(\$5,725)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.022	1.059	1.098	1.139	1.180	1.223	1.268	1.316	1.362	1.412
CUM NPV	20.0%	(\$25,541)	(\$21,632)	(\$15,251)	(\$12,365)	(\$11,219)	(\$10,238)	(\$10,064)	(\$10,482)	(\$10,802)	(\$11,349)

End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	16	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT										
REVENUE										
Ethanol	\$40,101	\$41,705	\$43,374	\$46,106	\$48,813	\$48,789	\$50,741	\$52,771	\$54,881	\$57,077
CO2	0	0	0	0	0	0	0	0	0	0
Ugrin	0	0	0	0	0	0	0	0	0	0
Power	0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$72.48	23,531	24,472	25,451	26,469	26,629	29,774	30,995	32,204	33,482
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue	\$63,632	\$66,176	\$68,825	\$71,679	\$74,441	\$77,419	\$80,516	\$83,736	\$87,085	\$90,569
LESS O&M EXPENSES										
Labor - Supervisory	\$5,343	\$5,181	\$5,428	\$6,885	\$6,953	\$7,231	\$7,520	\$7,821	\$8,134	\$8,460
Fixed Maintenance Materials	1,729	1,798	1,870	1,945	2,023	2,103	2,188	2,278	2,369	2,451
Insurance	2,305	2,397	2,493	2,593	2,697	2,805	2,917	3,033	3,155	3,281
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	10,553	11,025	11,524	12,043	12,585	13,151	13,743	14,362	15,008	15,683
Chemicals	4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854	6,088
Power	6,647	6,808	7,081	7,365	7,659	7,968	8,284	8,616	8,960	9,318
Water	163	169	176	183	190	198	206	214	223	231
Waste Water	118	123	127	133	139	143	149	155	161	166
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	2,414	2,547	2,687	2,836	2,991	3,158	3,329	3,512	3,706	3,909
Feedstock - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)	5,260	5,480	5,678	5,905	6,141	6,387	6,643	6,908	7,185	7,472
Total O&M Expenses	\$39,300	\$40,961	\$42,693	\$44,498	\$46,381	\$48,344	\$50,391	\$52,526	\$54,750	\$57,071
GROSS MARGIN	\$24,333	\$25,217	\$26,132	\$27,080	\$28,060	\$29,075	\$30,125	\$31,211	\$32,335	\$33,498
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(1,320)	(1,320)	(1,320)	(1,320)	(1,320)	(1,320)	(1,320)	(1,320)	(1,320)	(6,998)
TAXABLE INCOME	\$23,007	\$23,891	\$24,808	\$25,754	\$28,734	\$27,749	\$28,799	\$29,895	\$31,009	\$26,499
TAXES: Income	(9,390)	(9,759)	(10,133)	(10,520)	(10,921)	(11,335)	(11,764)	(12,208)	(12,657)	(10,825)
Tax Credits	\$0	\$0	0	0	0	0	0	0	0	0
INCOME AFTER TAX	\$13,600	\$14,131	\$14,673	\$15,233	\$16,813	\$16,413	\$17,034	\$17,677	\$18,342	\$15,674
TAX DEPRECIATION	1,320	1,320	1,320	1,320	1,320	1,320	1,320	1,320	1,320	6,998
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$14,935	\$15,458	\$16,000	\$16,559	\$17,139	\$17,739	\$18,360	\$18,003	\$18,668	\$22,673
CUMULATIVE CASH FLOW	\$7,029	\$23,087	\$39,086	\$65,645	\$72,785	\$90,524	\$106,885	\$127,888	\$147,555	\$170,228
CUMULATIVE IRR	6.57%	10.81%	13.09%	16.50%	18.89%	17.86%	18.59%	19.16%	19.81%	20.00%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$9,339)	(\$7,009)	(\$6,110)	(\$4,820)	(\$3,708)	(\$2,748)	(\$1,821)	(\$1,207)	\$0

CASE: 505 TPD (w/ 0% of 100.0% WASTE PAPER, WITHOUT GASIFICATION; ETHANOL @ \$1.20/GAL; NO LIGNIN DISPOSAL COST.

INPUT:		ECONOMIC:	
CASE: Option Number	0	(Enter an integer based on Table 1, Master Input Table)	
Plant Size (five digit rate)	505	TPD wet, as-shipped	
Ethanol Production	49,000	GPD	
Plant Site	1		
Additional byproducts?	CO2: 0 Lignin: 1 Power: 0	(0 = No, 1 = Yes)	
SCHEDULE: (Beginning of Year)		ECONOMIC:	
Present Day	1994	Inflation Rate (PP)	4.0%
Start Construction	1996	Escalation Rates (Monthly)	
Control of Capital Expenditure	1997	Capital Cost	4.0%
First Year of Operation	1998	O&M Costs:	
Economic Life	20 years	Labor	4.0%
Annual Operating Schedule	303 days/yr	Maintenance Materials	4.0%
(Don't change this)	69.0%	Insurance	4.0%
	69.0%	Waste Disposal - Prebioreactor	4.0%
		- Fermentation	4.5%
		- Solids Separation	4.0%
		Chemicals	4.0%
		Utilities	
		Power	4.0%
		Water	4.0%
		Natural Gas	4.0%
		Steam	4.0%
		Waste Water	4.0%
		Feedstock:	
		Output:	
		Ethanol	4.0%
		CO2	4.0%
		Lignin	4.0%
TECHNICAL:		Tax Data:	
Capital Cost of Facility	100% Sensitivity Index	Federal income tax rate	34.0%
Land	\$10,000/k	State income tax rate	0.0%
Buildings	\$11,411/k	Effective rate	40.0%
Development Costs	\$0/k	Local tax rate (Three Receipts Tax)	0.0%
Plant:		Property Tax Rate	0.0%
Biomass Conversion	100.182/k	Estimated Annual Expenses	\$0/k/yr
Balance of Plant	\$16,800/k	Gross Production Tax Credit	\$0.00/gal for max. 15,000,000 gal/yr
Total Present Day Capital Cost	\$100,202/k	Last year end/apply	2000
Escalation to Control of Expenditure	\$12,000/k	Power from Certain Region, Tax Credit	0/yr
Interest During Construction	\$0,000/k	Economic Development Incentives Apply?	0 (0 = No, 1 = Yes; See Table 2)
Total Capital Cost C.O. Date	\$127,703/k	Tax Depreciation	Life Rate
Annual Operating Costs	100% Sensitivity Index	Buildings	31.5 100% chd. bal.
Fixed:		Development Costs	- - Include in Biomass Conv.
Labor	100% Sensitivity Index	Plant:	
Fixed Maintenance Materials	\$0,000/k	Biomass Conversion	5 200% chd. bal.
Insurance	1.0% of Capital Cost	Balance of Plant	20 150% chd. bal.
Total Fixed O&M Cost	\$0,373/k	Book Depreciation	20 years
Variable:		FINANCIAL:	
Variable Maintenance	\$0,000/k	Debt Structure:	
Waste Disposal - Prebioreactor	\$0,000/k	Debt Fraction	80%
- Fermentation	\$0,000/k	Financing Term	10
- Solids Separation	\$0,000/k	Interest Rate	10.0%
Chemicals	\$0,190/k	Amortization of Loan	Level paid
Utilities		Short Term Construction Interest	6.0%
Power	\$0,345/k	Target Return on Equity	20%
Water	\$0,508/k		
Natural Gas	\$0,573/k		
Steam	\$0,000/k		
Waste Water	\$0,004/k		
Total Variable O&M Cost	\$0,488/k		
Total Fixed & Variable O&M	\$0,861/k		
Feedstock:		Annual Quantities	
Waste Paper	Blend 100.0% 24.3 M/gal Ethanol	Maximum Tipping Fee	180,255 wet tons / year
CTD	0.0% 0.0		0
Wood Waste	0.0% 0.0		0
	100.0% 24.3 M/gal Average		180,255 wet tons / year
Output:			
Ethanol	49,000 gal/wet ton	14,844,850 gallons Ethanol / year	
CO2	0.00 CF/wet ton	0 CF CO2 / year	
Lignin	0.01 tons/wet ton	110,677 tons lignin / year	
Power	0.00 kWh/wet ton	0 kWh / year	

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is treated as revenue. If negative, tipping fee becomes feedstock charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY PROFORMA FINANCIAL STATEMENT THIRD PARTY CONTRACTOR/ DEVELOPER		TABLE 3 REQUIRED TIPPING FEE OPTION NO.: 5 500 TPD (Dry) of 100.0% WASTE PAPER, WITHOUT GASIFICATION; ETHANOL @ \$1.20/GAL; NO LIGNIN DISPOSAL COST.										Stone & Webster Development Corporation Page 1 of 2	
End of Year		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	
Years from P.O.		4	5	6	7	8	9	10	11	12	13	14	
Operating Year		0	1	2	3	4	5	6	7	8	9	10	
ANNUAL CAPACITY FACTOR			83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	
ANNUAL FEEDSTOCK QUANTITY			180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	
CASH FLOW STATEMENT (\$1000's)													
REVENUE													
Ethanol			\$21,673	\$22,540	\$23,441	\$24,379	\$25,354	\$26,368	\$27,423	\$28,520	\$29,661	\$30,847	
CO2			0	0	0	0	0	0	0	0	0	0	
Lignin			0	0	0	0	0	0	0	0	0	0	
Power			0	0	0	0	0	0	0	0	0	0	
Tipping Fee - Waste Paper	\$82.54		13,716	14,265	14,835	15,429	16,046	16,688	17,355	18,050	18,772	19,522	
- OTD	\$0.00		0	0	0	0	0	0	0	0	0	0	
- Waste Wood	\$0.00		0	0	0	0	0	0	0	0	0	0	
Total Revenue			\$35,389	\$36,805	\$38,277	\$39,809	\$41,400	\$43,056	\$44,778	\$46,569	\$48,432	\$50,370	
LESS O&M EXPENSES													
Labor - Supervisory			\$4,015	\$4,178	\$4,343	\$4,516	\$4,697	\$4,885	\$5,080	\$5,283	\$5,495	\$5,716	
Fixed Maintenance Materials			1,166	1,215	1,263	1,314	1,368	1,421	1,478	1,537	1,598	1,662	
Insurance			1,557	1,620	1,684	1,752	1,822	1,895	1,971	2,049	2,131	2,217	
Property Taxes			0	0	0	0	0	0	0	0	0	0	
Variable Maintenance			0	0	0	0	0	0	0	0	0	0	
Waste Disposal - Pretreatment			0	0	0	0	0	0	0	0	0	0	
- Fermentation			0	0	0	0	0	0	0	0	0	0	
-- Solids Separation (Ash or Lignin)			0	0	0	0	0	0	0	0	0	0	
Chemicals			2,890	3,005	3,129	3,251	3,381	3,516	3,656	3,803	3,956	4,113	
Power	Economic Incentive Reduction: 0%		4,423	4,600	4,784	4,975	5,174	5,381	5,597	5,820	6,053	6,295	
Water			110	114	119	124	129	134	139	145	150	156	
Waste Water			80	83	86	90	93	97	101	105	109	113	
Steam			0	0	0	0	0	0	0	0	0	0	
Natural Gas	Economic Incentive Reduction: 0%		1,414	1,491	1,573	1,660	1,751	1,847	1,948	2,055	2,169	2,289	
Feedstock			0	0	0	0	0	0	0	0	0	0	
- OTD	\$0.00		0	0	0	0	0	0	0	0	0	0	
- Waste Wood	\$0.00		0	0	0	0	0	0	0	0	0	0	
Gross Receipts Tax (Income Tax Deductible)			2,920	3,036	3,158	3,284	3,416	3,552	3,694	3,842	3,996	4,155	
Total O&M Expenses			\$16,576	\$16,940	\$17,336	\$17,765	\$18,229	\$18,729	\$19,254	\$19,804	\$20,380	\$20,983	
GROSS MARGIN			\$18,813	\$20,865	\$20,941	\$22,044	\$23,171	\$24,327	\$25,524	\$26,765	\$28,052	\$29,387	
INTEREST			(10,218)	(9,675)	(9,070)	(8,404)	(7,681)	(6,903)	(6,070)	(5,185)	(4,248)	(3,268)	
TAX DEPRECIATION			(17,388)	(20,118)	(17,512)	(11,115)	(11,022)	(6,213)	(1,411)	(1,338)	(1,329)	(1,329)	
TAXABLE INCOME			(\$10,793)	(\$20,228)	(\$4,641)	(\$368)	\$1,306	\$7,812	\$14,432	\$18,458	\$18,554	\$20,810	
TAXES: Income			4,399	8,262	3,386	150	(535)	(3,191)	(5,898)	(8,722)	(7,583)	(5,503)	
Tax Credits		\$0 Investment \$0 Wages	0	0	0	0	0	0	0	0	0	0	
INCOME AFTER TAX			(\$6,370)	(\$11,064)	(\$4,875)	(\$218)	\$774	\$4,621	\$9,530	\$9,736	\$10,971	\$12,313	
TAX DEPRECIATION			17,388	20,118	17,512	11,115	11,022	6,213	1,411	1,338	1,329	1,329	
PLANT COST		(\$127,703)											
LOAN		\$102,182											
PRINCIPAL PAYMENTS			(6,410)	(7,051)	(7,758)	(8,532)	(9,385)	(10,324)	(11,358)	(12,492)	(13,741)	(15,115)	
NET CASH FLOW			(\$26,541)	\$4,598	\$9,101	\$4,881	\$2,368	\$2,411	\$617	(\$1,408)	(\$1,420)	(\$1,479)	
CUMULATIVE CASH FLOW			(\$26,541)	(\$20,955)	(\$11,854)	(\$6,973)	(\$4,607)	(\$2,196)	(\$1,588)	(\$3,004)	(\$4,514)	(\$5,948)	
CUMULATIVE IRR			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
DEBT COVERAGE RATIO			1.011	1.050	1.091	1.133	1.177	1.223	1.270	1.319	1.370	1.423	
CUM NPV 20.0%			(\$25,541)	(\$21,719)	(\$15,399)	(\$12,578)	(\$11,434)	(\$10,485)	(\$10,284)	(\$10,887)	(\$11,017)	(\$11,533)	

End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT										
REVENUE										
Ethanol	\$32,081	\$33,384	\$34,899	\$36,097	\$37,530	\$38,031	\$40,893	\$42,216	\$43,905	\$45,681
CO2	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$62.54	20,303	21,115	21,980	22,838	23,752	24,702	25,690	26,718	27,786
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue	\$62,384	\$64,480	\$66,858	\$68,925	\$69,282	\$69,734	\$66,283	\$68,934	\$71,622	\$74,558
LESS O&M EXPENSES										
Labor - Supervisory	\$5,843	\$6,181	\$6,428	\$6,895	\$6,853	\$7,231	\$7,520	\$7,821	\$8,134	\$8,458
Fixed Maintenance Materials	1,729	1,798	1,870	1,945	2,023	2,103	2,188	2,275	2,368	2,461
Insurance	2,305	2,397	2,493	2,593	2,697	2,805	2,917	3,033	3,155	3,281
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	0	0	0	0	0	0	0	0	0	0
Chemicals	4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854	6,088
Power	6,547	6,809	7,081	7,365	7,658	7,968	8,284	8,618	8,969	9,338
Water	183	189	196	183	180	198	206	214	223	231
Waste Water	118	123	127	133	138	143	148	155	161	168
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	2,414	2,547	2,687	2,835	2,991	3,156	3,328	3,512	3,705	3,908
Feedstock - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)	4,322	4,485	4,674	4,881	5,058	5,258	5,488	5,687	5,915	6,151
Total O&M Expenses	\$27,819	\$28,987	\$30,184	\$31,411	\$32,710	\$34,084	\$35,473	\$36,942	\$38,473	\$40,067
GROSS MARGIN	\$24,565	\$25,512	\$26,674	\$27,514	\$26,572	\$25,650	\$30,810	\$31,992	\$33,149	\$34,492
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(6,998)
TAXABLE INCOME	\$23,240	\$24,186	\$25,168	\$26,188	\$25,246	\$24,324	\$29,483	\$30,666	\$31,823	\$27,494
TAXES: Income	(6,493)	(6,680)	(6,881)	(6,899)	(11,130)	(11,578)	(12,044)	(12,527)	(13,028)	(11,231)
Tax Credits	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX	\$13,746	\$14,306	\$14,687	\$15,490	\$14,116	\$12,746	\$17,439	\$18,139	\$18,795	\$16,263
TAX DEPRECIATION	1,326	1,326	1,326	1,326	1,326	1,326	1,326	1,326	1,326	6,998
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$15,072	\$15,632	\$16,213	\$16,816	\$17,442	\$18,072	\$18,765	\$19,465	\$20,191	\$23,261
CUMULATIVE CASH FLOW	\$7,849	\$23,281	\$39,494	\$56,310	\$73,752	\$91,824	\$110,589	\$130,054	\$150,245	\$173,506
CUMULATIVE IRR	5.49%	10.74%	13.63%	15.52%	16.65%	17.83%	18.57%	19.15%	19.60%	20.00%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$9,506)	(\$7,751)	(\$6,238)	(\$4,928)	(\$3,794)	(\$2,816)	(\$1,970)	(\$1,239)	\$0

TABLE 2: CASE INPUT

03/28/05
10:01 AM

CASE: 600 TPD (wet) of 100.0% WASTE PAPER, WITHOUT GASIFICATION; ETHANOL @ \$1.50/GAL; NO LIGNIN DISPOSAL COST.

INPUT:		ECONOMIC:	
CASE: Option Number: 8 (Enter an Integer based on Table 1, Master Input Table) Plant Size (feedstock rate): 600 TPD wet, as-tipped Ethanol Production: 40,000 GPD Plant Size: 1 Additional byproducts? CO2: 0 (0 = No, 1 = Yes) Lignin: 1 Power: 0		ECONOMIC: Inflation Rate (FF): 4.0% Escalation Rates (Nominal): Capital Cost: 4.0% O&M Costs: Labor: 4.0% Maintenance Materials: 4.0% Insurance: 4.0% Waste Disposal - Pretreatment: 4.5% - Fermentation: 4.5% - Solids Separation: 4.5% Chemicals: 4.0% Utilities: Power: 4.0% Water: 4.0% Natural Gas: 5.0% Steam: 4.0% Waste Water: 4.0% Feedstock: Output: Ethanol: 4.0% CO2: 4.0% Lignin: 4.0%	
SCHEDULE: (Beginning of Year) Present Day: 1994 Start Construction: 1998 Control of Capital Expenditure: 1997 First Year of Operation: 1999 Economic Life: 20 years Annual Operating Schedule: 300 days/yr Minimum Capacity Factor: 83.0% First Year Capacity Factor: 83.0% (Don't change this)		Tax Data: Federal Income Tax Rate: 35.0% State Income Tax Rate: 9.0% Effective Rate: 40.0% Local Tax Rate (Gross Receipts Tax): 5.25% Property Tax Rate: 0.0% \$/100 Estimated Annual Expenses: 60 k/yr Ethanol Production Tax Credit: 60.00 k/yr for max. 15,000,000 gal/yr Last year credit applies: 2000 Power from Certain Renewables Tax Credit: 0 k/yr Economic Development Incentives Apply? 0 (0 = No, 1 = Yes; See Table 2) Tax Depreciation: Buildings: 31.3 100% decl. bal. Development Costs: Include in Biomass Costs Plant: Biomass Conversion: 5 200% decl. bal. Balance of Plant: 20 150% decl. bal. Book Depreciation: 20 years	
TECHNICAL: Capital Cost of Facility: 100% Sensitivity Index Land: \$10,000 k Buildings: \$11,411 k Development Costs: \$0 k Plant: Biomass Conversion: \$69,192 k Balance of Plant: \$15,600 k Total Present Day Capital Cost: \$106,203 k Escalation to Control of Expenditure: \$12,000 k (Note: land not included) Interest During Construction: \$0,500 k Total Capital Cost (C.O.C.): \$127,703 k or \$214,927 per TPD Annual Operating Costs: 100% Sensitivity Index Fixed: Labor: \$0,222 k/yr Fixed Maintenance Materials: \$0,085 k/yr Insurance: \$0,086 k/yr Total Fixed O&M Cost: \$0,393 k/yr Variable: Variable Maintenance: \$0,000 k/yr Waste Disposal - Pretreatment: - Fermentation: \$0,000 k/yr - Solids Separation: \$0,000 k/yr Chemicals: \$0,160 k/yr Utilities: Power: \$0,845 k/yr Water: \$0,006 k/yr Natural Gas: \$0,073 k/yr Steam: \$0,000 k/yr Waste Water: \$0,004 k/yr Total Variable O&M Cost: \$0,488 k/yr Total Fixed & Variable O&M: \$0,881 k/yr		FINANCIAL: Debt Structure: Debt Fraction: 30% Financing Term: 10 years (Note: Must be <= Economic Life) Interest Rate: 10.0% Amortization of Loan: Level pm Short Term Construction Interest: 5.0% Target Return on Equity: 20%	
Feedstock: Waste Paper: 100.0% 24.3 k/yr CWD: 0.0% 0.0 k/yr Wood Waste: 0.0% 0.0 k/yr 100.0% 24.3 k/yr Average		Output: Ethanol: 62.95 gal/wet ton CO2: 0.10 CF/wet ton Lignin: 0.61 tons/wet ton Power: 0.60 kWh/wet ton	
Feedstock: Waste Paper: 100.0% 24.3 k/yr CWD: 0.0% 0.0 k/yr Wood Waste: 0.0% 0.0 k/yr 100.0% 24.3 k/yr Average		Output: Ethanol: 62.95 gal/wet ton CO2: 0.10 CF/wet ton Lignin: 0.61 tons/wet ton Power: 0.60 kWh/wet ton	

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is treated as revenue. If negative, tipping fee becomes feedstock charge and is a negative expense.

BIOASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER

TABLE 3 REQUIRED TIPPING FEE
OPTION NO.: 6
500 TPD (Dry) of 100.0% WASTE PAPER, WITHOUT GASIFICATION; ETHANOL @ \$1.50/GAL; NO UGMM DISPOSAL COST.

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.O.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY		180,256	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT											
REVENUE											
Ethanol		\$27,091	\$28,176	\$29,302	\$30,474	\$31,683	\$32,930	\$34,219	\$35,550	\$37,078	\$38,559
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper		8,298	8,830	9,375	9,934	10,507	11,096	11,700	12,320	12,956	13,611
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
Total Revenue		\$35,389	\$36,905	\$38,277	\$39,908	\$41,400	\$43,056	\$44,778	\$46,550	\$48,432	\$50,370
LESS O&M EXPENSES											
Labor - Supervisory		\$4,016	\$4,176	\$4,343	\$4,518	\$4,697	\$4,885	\$5,080	\$5,283	\$5,495	\$5,715
Fixed Maintenance Materials		1,198	1,215	1,283	1,314	1,388	1,421	1,478	1,537	1,598	1,662
Insurance		1,557	1,620	1,684	1,752	1,822	1,895	1,971	2,049	2,131	2,217
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Retreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0	0
Chemicals		2,880	3,006	3,126	3,251	3,381	3,515	3,654	3,803	3,955	4,113
Power		4,423	4,600	4,784	4,975	5,174	5,381	5,597	5,820	6,053	6,296
Water		110	114	119	124	129	134	139	145	150	156
Waste Water		80	83	88	90	93	97	101	105	109	113
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		1,414	1,491	1,573	1,660	1,751	1,847	1,949	2,056	2,169	2,280
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		2,920	3,036	3,158	3,284	3,416	3,552	3,694	3,842	3,996	4,155
Total O&M Expenses		\$18,578	\$19,340	\$20,136	\$20,965	\$21,828	\$22,728	\$23,664	\$24,640	\$25,657	\$26,716
GROSS MARGIN		\$16,811	\$17,565	\$18,141	\$18,943	\$19,572	\$20,328	\$21,114	\$21,910	\$22,775	\$23,654
INTEREST		(10,218)	(9,575)	(8,870)	(8,094)	(7,241)	(6,303)	(5,270)	(4,135)	(2,898)	(1,511)
TAX DEPRECIATION		(17,366)	(28,118)	(17,512)	(11,115)	(11,022)	(6,213)	(1,411)	(1,338)	(1,320)	(1,329)
TAXABLE INCOME		(\$10,769)	(\$20,220)	(\$8,241)	(\$366)	\$1,308	\$7,812	\$14,432	\$16,450	\$18,564	\$20,818
TAXES: Income		4,398	8,282	3,388	150	(535)	(3,191)	(5,896)	(6,722)	(7,583)	(8,503)
Tax Credits		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$6,370)	(\$11,938)	(\$4,853)	(\$316)	\$774	\$4,621	\$8,537	\$9,728	\$10,980	\$12,315
TAX DEPRECIATION		17,366	28,118	17,512	11,115	11,022	6,213	1,411	1,338	1,320	1,329
PLANT COST		(\$127,703)									
LOAN		\$102,162									
PRINCIPAL PAYMENTS		(8,410)	(7,061)	(7,758)	(8,532)	(9,386)	(10,324)	(11,358)	(12,492)	(13,741)	(15,115)
NET CASH FLOW		(\$25,541)	\$4,586	\$9,104	\$4,861	\$2,388	\$2,411	\$511	(\$1,408)	(\$1,420)	(\$1,434)
CUMULATIVE CASH FLOW		(\$25,541)	(\$20,955)	(\$11,854)	(\$4,973)	(\$4,607)	(\$2,196)	(\$1,685)	(\$3,094)	(\$4,514)	(\$5,948)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.011	1.050	1.091	1.139	1.177	1.223	1.270	1.319	1.370	1.423
CUM NPV		20.0%	(\$25,541)	(\$21,719)	(\$15,389)	(\$12,575)	(\$11,434)	(\$10,485)	(\$10,294)	(\$10,697)	(\$11,295)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 3 REQUIRED TIPPING FEE

OPTION NO. 6

600 TPD (Dry) of 100.0% WASTE PAPER, WITHOUT GASIFICATION; ETHANOL @ \$1.50/GAL; NO LIGNIN DISPOSAL COST.

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from PD	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT										
REVENUE										
Ethanol	\$40,101	\$41,706	\$43,374	\$45,109	\$46,913	\$48,789	\$50,741	\$52,771	\$54,881	\$57,077
CO2	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$37.84	12,283	12,774	13,286	13,817	14,368	14,944	15,542	16,164	16,810
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue	\$52,384	\$54,480	\$56,659	\$58,925	\$61,282	\$63,734	\$66,283	\$68,904	\$71,692	\$74,558
LESS O&M EXPENSES										
Labor - Supervisory	\$5,943	\$6,181	\$6,428	\$6,685	\$6,953	\$7,231	\$7,520	\$7,821	\$8,134	\$8,459
Fixed Maintenance Materials	1,729	1,788	1,870	1,945	2,023	2,103	2,188	2,275	2,368	2,461
Insurance	2,305	2,387	2,493	2,603	2,697	2,806	2,917	3,033	3,155	3,281
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	0	0	0	0	0	0	0	0	0	0
Chemicals	4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854	6,088
Power	6,647	6,809	7,081	7,365	7,659	7,966	8,284	8,616	8,960	9,319
Water	183	189	178	183	190	198	208	214	223	231
Waste Water	118	123	127	133	138	143	149	155	161	168
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	2,414	2,547	2,687	2,835	2,991	3,158	3,329	3,512	3,705	3,909
Feedstock - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)	4,322	4,485	4,674	4,881	5,058	5,259	5,488	5,697	5,915	6,151
Total O&M Expenses	\$27,819	\$28,987	\$30,164	\$31,411	\$32,710	\$34,064	\$35,473	\$36,942	\$38,473	\$40,067
GROSS MARGIN	\$24,566	\$25,493	\$26,494	\$27,514	\$28,572	\$29,670	\$30,809	\$31,962	\$33,219	\$34,492
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(6,898)
TAXABLE INCOME	\$23,240	\$24,168	\$25,168	\$26,188	\$27,246	\$28,344	\$29,483	\$30,636	\$31,893	\$27,494
TAXES Income	(9,493)	(9,580)	(10,261)	(10,698)	(11,130)	(11,578)	(12,044)	(12,527)	(13,028)	(11,231)
Tax Credits	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX	\$13,746	\$14,588	\$14,907	\$15,490	\$16,116	\$16,766	\$17,439	\$18,109	\$18,865	\$16,263
TAX DEPRECIATION	1,326	1,326	1,326	1,326	1,326	1,326	1,326	1,326	1,326	6,898
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$15,072	\$16,914	\$16,233	\$16,816	\$17,442	\$18,092	\$18,765	\$19,465	\$20,191	\$23,261
CUMULATIVE CASH FLOW	\$7,649	\$23,281	\$39,494	\$56,310	\$73,752	\$91,844	\$110,609	\$130,074	\$150,266	\$173,529
CUMULATIVE IRR	6.49%	10.74%	13.83%	15.92%	18.85%	17.83%	18.57%	19.15%	19.60%	20.00%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$0,505)	(\$7,751)	(\$6,238)	(\$4,925)	(\$3,794)	(\$2,816)	(\$1,970)	(\$1,238)	\$0

TABLE 2: CASE INPUT

03/28/03
10:22 AM

CASE: 1190 TPD (wet) of 100.0% WASTE PAPER, WITH GASIFICATION; ETHANOL @ \$1.20/GAL

INPUT:		ECONOMIC:	
CASE:	Option Number	7	(Enter an Integer based on Table 1, Master Input Table)
	Plant Size (see block rate)	1190	TPD wet, as-tipped
	Ethanol Production	98,000	GPD
	Plant Site	1	(0 = No, 1 = Yes)
	Additional byproducts?	0	
	CO2:	0	
	Lignin:	0	
	Power:	1	
SCHEDULE:		(Beginning of Year)	
	Present Day	1994	
	Start Construction	1996	
	Control of Capital Expenditure	1997	
	First Year of Operation	1998	
	Economic Life	20	years
	Annual Operating Schedule	300	days/yr
		90.0%	Mature Capacity Factor
		90.0%	First Year Capacity Factor
TECHNICAL:			
	Capital Cost of Facility	100%	Sensitivity Index
	Land	\$15,811	k
	Buildings	\$16,156	k
	Development Costs	\$0	k
	Plant	\$106,486	k
	Biomass Conversion	\$80,023	k
	Balance of Plant	\$222,348	k
	Total Present Day Capital Cost	\$225,800	k
	Escalation to Control of Expenditure	\$18,800	k
	Interest During Construction	\$296,286	k
	Total Capital Cost at C.O.D. Date	\$225,452	per TPD
	Annual Operating Costs	100%	Sensitivity Index
	Feed:		
	Labor	\$0.145	/gal Ethanol
	Fixed Maintenance Materials	\$0.070	/gal Ethanol
	Insurance	\$0.080	/gal Ethanol
	Total Fixed O&M Cost	\$0.305	/gal Ethanol
	Variable:		
	Variable Maintenance	\$0.000	/gal Ethanol
	Waste Disposal - Pretreatment	\$0.000	/gal Ethanol
	- Fermentation	\$0.000	/gal Ethanol
	- Solids Separation	\$0.054	/gal Ethanol
	Chemicals	\$0.160	/gal Ethanol
	Utilities		
	Power	\$0.000	/gal Ethanol
	Water	\$0.000	/gal Ethanol
	Natural Gas	\$0.000	/gal Ethanol
	Steam	\$0.000	/gal Ethanol
	Waste Water	\$0.004	/gal Ethanol
	Total Variable O&M Cost	\$0.222	/gal Ethanol
	Total Fixed & Variable O&M	\$0.526	/gal Ethanol
	Feedstock:		
	Waste Paper	100.0%	24.3
	OTD	0.0%	0.0
	Wood Waste	0.0%	0.0
		100.0%	24.3
	Output:		
	Ethanol	62.35	gal/wet ton
	CO2	0.00	CF/wet ton
	Lignin	0.00	ton/wet ton
	Power	262.35	kwh/wet ton
	Tippling Fee		
	Blend	100.0%	\$31.03
	Waste Paper	0.0%	\$0.00
	OTD	0.0%	\$0.00
	Wood Waste	0.0%	\$0.00
		100.0%	\$31.03
	Unit Price		
	Ethanol	\$1.20	/gal
	CO2	\$0.00	/CF
	Lignin	\$0.00	/ton
	Power	\$0.03	/kwh
	Maximum Tippling Fee		
	Waste Paper	100.0%	\$31.03
	OTD	0.0%	\$0.00
	Wood Waste	0.0%	\$0.00
		100.0%	\$31.03
	Annual Quantities		
	Ethanol	240,811	wet tons / year
	CO2	0	CF / year
	Lignin	0	tons / year
	Power	300,511	kwh / year
	Debt Structure:		
	Debt Fraction	80%	
	Financing Term	10	years
	Interest Rate	10.0%	
	Amortization of Loan	Level	
	Short Term Construction Interest	8.0%	
	Target Return on Equity	20%	

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is treated as revenue. If negative, tipping fee becomes feedstock charge and is an expense.

BIOASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 3: REQUIRED TIPPING FEE
OPTION NO.: 7
1000 TPD (Dry) of 100.0% WASTE PAPER, WITH GASIFICATION; ETHANOL @ \$1.20/GAL

Stone & Webster Development Corporation

Page 1 of 2

End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY		360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511
CASH FLOW STATEMENT											
REVENUE											
Ethanol		\$43,346	\$45,079	\$46,883	\$48,758	\$50,708	\$52,737	\$54,846	\$57,040	\$59,321	\$61,694
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		3,715	3,864	4,019	4,178	4,348	4,520	4,701	4,889	5,085	5,288
Tipping Fee- Waste Paper		13,812	14,157	14,723	15,312	15,924	16,561	17,224	17,913	18,629	19,374
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
Total Revenue		\$60,873	\$63,100	\$65,824	\$68,249	\$70,979	\$73,916	\$77,071	\$80,342	\$83,835	\$87,357
LESS O&M EXPENSES											
Labor - Supervisory		\$5,232	\$5,441	\$5,659	\$5,885	\$6,120	\$6,365	\$6,620	\$6,884	\$7,160	\$7,448
Fixed Maintenance Materials		2,518	2,619	2,724	2,833	2,946	3,064	3,187	3,314	3,447	3,585
Insurance		3,281	3,391	3,507	3,628	3,754	3,884	4,019	4,159	4,304	4,454
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		2,002	2,069	2,137	2,205	2,274	2,343	2,413	2,484	2,555	2,626
Chemicals		5,779	6,011	6,251	6,501	6,761	7,032	7,313	7,605	7,910	8,228
Power		0	0	0	0	0	0	0	0	0	0
Water		108	113	117	122	127	132	137	142	148	154
Waste Water		159	165	172	178	186	194	201	210	218	227
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		5,008	5,208	5,414	5,631	5,858	6,096	6,344	6,602	6,870	7,148
Total O&M Expenses		\$24,068	\$25,038	\$26,050	\$27,103	\$28,189	\$29,309	\$30,455	\$31,728	\$33,043	\$34,379
GROSS MARGIN		\$36,805	\$38,062	\$39,774	\$41,146	\$42,790	\$44,607	\$46,616	\$48,614	\$50,792	\$52,978
INTEREST		(21,463)	(20,116)	(18,835)	(17,605)	(16,413)	(15,241)	(14,092)	(12,967)	(11,862)	(10,775)
TAX DEPRECIATION		(30,119)	(49,505)	(32,244)	(21,717)	(21,271)	(13,325)	(5,410)	(5,058)	(4,998)	(4,998)
TAXABLE INCOME		(\$14,975)	(\$31,580)	(\$11,305)	\$2,423	\$6,297	\$17,914	\$28,764	\$34,340	\$38,933	\$43,805
TAXES: Income		6,117	12,692	4,618	(900)	(2,572)	(7,318)	(12,159)	(14,028)	(15,904)	(17,894)
Tax Credits		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$8,858)	(\$18,888)	(\$6,687)	\$1,433	\$3,725	\$10,596	\$17,605	\$20,312	\$23,029	\$25,911
TAX DEPRECIATION		30,119	49,505	32,244	21,717	21,271	13,325	5,410	5,058	4,998	4,998
PLANT COST											
LOAN											
PRINCIPAL PAYMENTS		(13,467)	(14,814)	(16,295)	(17,825)	(19,417)	(21,069)	(22,856)	(24,644)	(26,469)	(28,355)
NET CASH FLOW		(\$8,858)	\$7,796	\$16,034	\$9,282	\$5,226	\$5,278	\$2,232	(\$842)	(\$875)	(\$841)
CUMULATIVE CASH FLOW		(\$8,858)	(\$46,883)	(\$29,839)	(\$20,577)	(\$15,351)	(\$10,073)	(\$7,842)	(\$8,684)	(\$9,559)	(\$10,400)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.048	1.090	1.133	1.176	1.226	1.273	1.324	1.377	1.431	1.488
CUM NPV		20.0%	(\$83,858)	(\$47,182)	(\$36,034)	(\$30,674)	(\$26,154)	(\$22,299)	(\$20,521)	(\$20,724)	(\$20,024)

BOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER

TABLE 3: REQUIRED TIPPING FEE

OPTION NO. 7

1000 TPD (Dry) of 100.0% WASTE PAPER, WITH GASIFICATION; ETHANOL @ \$1.20/GAL

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511
CASH FLOW STATEMENT										
REVENUE										
Ethanol	\$64,182	\$66,728	\$69,368	\$72,174	\$75,091	\$78,083	\$81,155	\$84,433	\$87,810	\$91,323
CO2	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	5,600	5,720	5,948	6,186	6,434	6,691	6,959	7,237	7,527	7,828
Tipping Fee - Waste Paper	\$31.03									
- OTD	\$0.00									
- Waste Wood	\$0.00									
Total Revenue	\$89,811	\$93,404	\$97,140	\$101,025	\$105,066	\$109,269	\$113,640	\$118,185	\$122,913	\$127,829
LESS O&M EXPENSES										
Labor - Supervisory	\$7,744	\$8,054	\$8,376	\$8,711	\$9,059	\$9,422	\$9,799	\$10,191	\$10,598	\$11,022
Fixed Maintenance Materials	3,728	3,877	4,032	4,193	4,361	4,538	4,717	4,906	5,102	5,308
Insurance	4,827	5,020	5,220	5,429	5,646	5,872	6,107	6,351	6,605	6,870
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	3,110	3,250	3,398	3,549	3,708	3,876	4,050	4,232	4,422	4,621
Chemicals	8,555	8,897	9,253	9,623	10,006	10,408	10,825	11,258	11,708	12,178
Power	0	0	0	0	0	0	0	0	0	0
Water	160	167	173	180	187	195	203	211	219	228
Waste Water	236	245	255	265	276	287	298	310	323	336
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper	\$0.00									
- OTD	\$0.00									
- Waste Wood	\$0.00									
Gross Receipts Tax (Income Tax Deductible)	7,409	7,706	8,014	8,335	8,668	9,015	9,375	9,750	10,140	10,548
Total O&M Expenses	\$35,769	\$37,215	\$38,720	\$40,286	\$41,915	\$43,610	\$45,374	\$47,209	\$49,118	\$51,105
GROSS MARGIN	\$54,043	\$56,189	\$58,420	\$60,740	\$63,152	\$65,659	\$68,266	\$70,877	\$73,794	\$76,724
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(4,998)	(4,998)	(4,998)	(4,998)	(4,998)	(4,998)	(4,998)	(4,998)	(4,998)	(15,486)
TAXABLE INCOME	\$49,045	\$51,191	\$53,422	\$55,742	\$58,154	\$60,661	\$63,268	\$65,879	\$68,796	\$71,238
TAXES: Income	(20,035)	(20,911)	(21,823)	(22,771)	(23,758)	(24,780)	(25,845)	(26,952)	(28,103)	(29,301)
Tax Credits	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
INCOME AFTER TAX	\$29,010	\$30,279	\$31,599	\$32,971	\$34,396	\$35,881	\$37,423	\$38,927	\$40,693	\$41,937
TAX DEPRECIATION	4,998	4,998	4,998	4,998	4,998	4,998	4,998	4,998	4,998	15,486
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$34,008	\$35,277	\$36,597	\$37,969	\$39,394	\$40,879	\$42,421	\$44,024	\$45,691	\$47,423
CUMULATIVE CASH FLOW	\$22,781	\$58,039	\$94,636	\$132,605	\$172,001	\$212,880	\$255,301	\$299,325	\$345,016	\$392,439
CUMULATIVE IRR	8.47%	11.13%	13.04%	15.04%	16.83%	17.89%	18.81%	19.17%	19.81%	20.00%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%									

CASE: 1100 TPD (and of 100.0% WASTE PAPER) WITHOUT GASIFICATION: ETHANOL @ \$1.20/GM : \$70/TON LBNV DISPOSAL COST

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is treated as revenue. If negative, tipping fee becomes landfill charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 3 REQUIRED TIPPING FEE

OPTION NO.: 8

1000 TPD (Dry) of 100.0% WASTE PAPER, WITHOUT GASIFICATION; ETHANOL @ \$1.20/GAL; \$50/TON UGWH DISPOSAL COST

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY		380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511
CASH FLOW STATEMENT											
REVENUE											
Ethanol		\$43,348	\$45,078	\$46,883	\$48,758	\$50,708	\$52,737	\$54,845	\$57,040	\$59,321	\$61,694
CO ₂		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper		28,578	30,759	31,990	33,269	34,600	35,984	37,423	38,920	40,477	42,098
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
Total Revenue		\$72,922	\$75,838	\$78,872	\$82,027	\$85,308	\$88,721	\$92,269	\$95,960	\$99,799	\$103,790
LESS O&M EXPENSES											
Labor - Supervisory		\$4,015	\$4,178	\$4,343	\$4,518	\$4,697	\$4,885	\$5,080	\$5,283	\$5,495	\$5,715
Fixed Maintenance Materials		1,881	1,838	2,013	2,094	2,178	2,265	2,355	2,450	2,548	2,648
Insurance		2,470	2,588	2,671	2,778	2,889	3,005	3,125	3,250	3,380	3,515
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Retreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		13,591	14,203	14,842	15,510	16,208	16,937	17,699	18,496	19,326	20,188
Chemicals		5,778	6,011	6,251	6,501	6,761	7,032	7,313	7,605	7,910	8,228
Power		8,648	9,200	9,588	9,951	10,349	10,763	11,193	11,641	12,106	12,591
Water		220	229	238	247	257	267	278	289	301	313
Waste Water		158	158	172	179	186	194	201	210	218	227
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		2,827	2,880	3,147	3,320	3,502	3,695	3,898	4,112	4,338	4,577
Feedstock		0	0	0	0	0	0	0	0	0	0
- Waste Paper		0	0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		8,018	8,257	8,507	8,767	9,038	9,319	9,612	9,917	10,233	10,563
Total O&M Expenses		\$45,785	\$47,727	\$49,781	\$51,943	\$54,085	\$56,381	\$58,755	\$61,253	\$63,887	\$66,573
GROSS MARGIN		\$27,137	\$28,112	\$29,121	\$30,184	\$31,243	\$32,380	\$33,514	\$34,707	\$35,942	\$37,218
INTEREST		(16,248)	(15,227)	(14,105)	(12,872)	(11,615)	(10,023)	(8,981)	(8,575)	(4,588)	(2,404)
TAX DEPRECIATION		(27,815)	(44,710)	(27,848)	(17,675)	(17,528)	(9,881)	(2,244)	(2,128)	(2,109)	(2,109)
TAXABLE INCOME		(\$16,725)	(\$31,825)	(\$12,832)	(\$392)	\$2,201	\$12,456	\$22,858	\$28,004	\$29,244	\$32,705
TAXES: Income		8,832	13,000	5,242	168	(889)	(5,038)	(8,350)	(10,823)	(11,848)	(13,380)
Tax Credits		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$8,893)	(\$18,824)	(\$7,590)	(\$392)	\$1,302	\$7,388	\$13,508	\$15,362	\$17,296	\$19,345
TAX DEPRECIATION		27,815	44,710	27,848	17,675	17,528	9,881	2,244	2,128	2,109	2,109
PLANT COST											
LOAN											
PRINCIPAL PAYMENTS		(10,104)	(11,213)	(12,334)	(13,588)	(14,825)	(16,417)	(18,050)	(19,885)	(21,851)	(24,038)
NET CASH FLOW		(\$8,893)	(\$18,824)	(\$7,590)	(\$392)	\$1,302	\$7,388	\$13,508	\$15,362	\$17,296	\$19,345
CUMULATIVE CASH FLOW		(\$8,893)	(\$27,717)	(\$35,307)	(\$36,100)	(\$34,798)	(\$27,410)	(\$13,902)	(\$1,540)	\$15,744	\$35,089
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.028	1.089	1.101	1.141	1.182	1.224	1.288	1.313	1.359	1.408
CUM NPV	20.0%	(\$40,615)	(\$34,341)	(\$24,132)	(\$19,567)	(\$17,695)	(\$16,128)	(\$15,448)	(\$14,483)	(\$13,504)	(\$12,521)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER

TABLE 3 REQUIRED TIPPING FEE
OPTION NO. 6
1000 TPD (Dry) of 100.0% WASTE PAPER, WITHOUT GASIFICATION; ETHANOL @ \$1.20/GAL; \$50/TON LIGNIN DISPOSAL COST.

Sine & Webster Development Corporation

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	2006	2009	2010	2011	2012	2013	2014	2015	2016	2017
End of Year	15	16	17	18	19	20	21	22	23	24
Years from P.D.	11	12	13	14	15	16	17	18	19	20
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511
CASH FLOW STATEMENT										
REVENUE										
Ethanol	\$64,162	\$66,729	\$69,396	\$72,174	\$75,061	\$78,063	\$81,186	\$84,433	\$87,810	\$91,323
CO2	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$67.43	43,760	45,531	47,352	49,247	51,216	53,265	55,396	57,612	59,916
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue	\$107,942	\$112,280	\$116,750	\$121,420	\$126,277	\$131,329	\$136,581	\$142,044	\$147,726	\$153,635
LESS O&M EXPENSES										
Labor - Supervisory	\$5,943	\$6,181	\$6,428	\$6,685	\$6,953	\$7,231	\$7,520	\$7,821	\$8,134	\$8,459
Fixed Maintenance Materials	2,755	2,866	2,980	3,099	3,223	3,352	3,487	3,628	3,771	3,922
Insurance	3,956	3,902	3,854	4,112	4,277	4,448	4,626	4,811	5,003	5,204
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	21,107	22,056	23,048	24,088	25,170	26,303	27,486	28,723	30,015	31,366
Chemicals	8,555	8,897	9,253	9,623	10,008	10,408	10,825	11,258	11,706	12,178
Power	13,094	13,816	14,163	14,729	15,318	15,831	16,568	17,231	17,920	18,637
Water	326	338	352	368	381	396	412	428	445	463
Waste Water	238	246	255	265	276	287	298	310	323	335
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	4,825	5,095	5,375	5,670	5,982	6,311	6,659	7,026	7,411	7,818
Feedstock - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)	8,905	9,261	9,632	10,017	10,418	10,835	11,268	11,718	12,187	12,675
Total O&M Expenses	\$69,405	\$72,360	\$75,441	\$78,654	\$82,008	\$85,502	\$89,148	\$92,951	\$96,919	\$101,058
GROSS MARGIN	\$38,537	\$39,900	\$41,309	\$42,766	\$44,271	\$45,826	\$47,433	\$49,093	\$50,808	\$52,579
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(11,129)
TAXABLE INCOME	\$36,428	\$37,791	\$39,201	\$40,657	\$42,162	\$43,718	\$45,324	\$46,984	\$48,699	\$41,450
TAXES: Income	(14,981)	(15,438)	(16,013)	(16,608)	(17,223)	(17,859)	(18,515)	(19,193)	(19,894)	(16,932)
Tax Credits	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
INCOME AFTER TAX	\$21,447	\$22,353	\$23,187	\$24,049	\$24,939	\$25,859	\$26,809	\$27,791	\$28,805	\$24,518
TAX DEPRECIATION	2,109	2,109	2,109	2,109	2,109	2,109	2,109	2,109	2,109	11,129
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$23,556	\$24,462	\$25,296	\$26,158	\$27,048	\$27,968	\$28,918	\$29,900	\$30,914	\$35,547
CUMULATIVE CASH FLOW	\$12,124	\$36,587	\$61,883	\$88,040	\$115,088	\$143,058	\$171,974	\$201,874	\$232,789	\$288,435
CUMULATIVE IRR	5.81%	10.84%	13.71%	15.58%	16.90%	17.97%	18.60%	19.16%	19.61%	20.00%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$14,737)	(\$11,994)	(\$9,630)	(\$7,592)	(\$5,637)	(\$3,324)	(\$3,021)	(\$1,897)	\$0

CASE: 1180 TPD (wet of 100.0% WASTE PAPER "WITH GASIFICATION"), ETHANOL @ \$1.50/GAL.

INPUT:		ECONOMIC:															
CASE: Option Number: <input type="text" value="1"/>		Inflation Rate (FPI): <input 2"="" type="text" value="5.0%</input></td> </tr> <tr> <td colspan="/> Plant Size (feedstock rate): <input type="text" value="1180"/>		Escalation Rate (Nominal): <input 2"="" type="text" value="4.0%</input></td> </tr> <tr> <td colspan="/> Ethanol Production: <input type="text" value="66,000"/>		Capital Cost: <input 2"="" type="text" value="4.0%</input></td> </tr> <tr> <td colspan="/> Plant Site: <input type="text" value="1"/>		OSM Costs:									
Additional byproducts? CO2: <input type="text" value="0"/>		Labor: <input 2"="" type="text" value="4.0%</input></td> </tr> <tr> <td colspan="/> Lignin: <input type="text" value="0"/>		Maintenance Materials: <input 2"="" type="text" value="4.0%</input></td> </tr> <tr> <td colspan="/> Power: <input type="text" value="1"/>		Insurance: <input 2"="" type="text" value="4.0%</input></td> </tr> <tr> <td colspan="/> SCHEDULE: (Beginning of Year)		Waste Disposal - Pretreatment: <input 2"="" type="text" value="4.0%</input></td> </tr> <tr> <td colspan="/> Present Day: <input type="text" value="1994"/>		- Fermentation: <input 2"="" type="text" value="4.0%</input></td> </tr> <tr> <td colspan="/> Start Construction: <input type="text" value="1995"/>		- Solids Separation: <input 2"="" type="text" value="4.0%</input></td> </tr> <tr> <td colspan="/> Control of Capital Expenditure: <input type="text" value="1997"/>		Chemicals: <input 2"="" type="text" value="4.0%</input></td> </tr> <tr> <td colspan="/> First Year of Operation: <input type="text" value="1998"/>		Utilities:	
Economic Life: <input type="text" value="20"/>		Power: <input 2"="" type="text" value="4.0%</input></td> </tr> <tr> <td colspan="/> Actual Operating Schedule: <input type="text" value="303"/>		Water: <input 2"="" type="text" value="4.0%</input></td> </tr> <tr> <td colspan="/> (Don't change this)		Natural Gas: <input 2"="" type="text" value="5.0%</input></td> </tr> <tr> <td colspan="/> Mature Capacity Factor: <input 2"="" type="text" value="80.0%</input></td> <td colspan="/> Steam: <input 2"="" type="text" value="4.0%</input></td> </tr> <tr> <td colspan="/> First Year Capacity Factor: <input 2"="" type="text" value="80.0%</input></td> <td colspan="/> Waste Water: <input 2"="" type="text" value="4.0%</input></td> </tr> <tr> <td colspan="/> TECHNICAL:		Feedstock:									
Capital Cost of Facility: <input type="text" value="100%"/>		Output:															
Land: <input type="text" value="\$15,911"/>		Ethanol: <input 2"="" type="text" value="4.0%</input></td> </tr> <tr> <td colspan="/> Buildings: <input type="text" value="\$15,155"/>		CO2: <input 2"="" type="text" value="4.0%</input></td> </tr> <tr> <td colspan="/> Development Costs: <input type="text" value="80"/>		Lignin: <input 2"="" type="text" value="4.0%</input></td> </tr> <tr> <td colspan="/> Plant:		Tax Data:									
Biomass Conversion: <input type="text" value="\$108,498"/>		Federal Income Tax Rate: <input 2"="" type="text" value="35.0%</input></td> </tr> <tr> <td colspan="/> Balance of Plant: <input type="text" value="\$80,023"/>		State Income Tax Rate: <input 2"="" type="text" value="9.0%</input></td> </tr> <tr> <td colspan="/> Total Present Day Capital Cost: <input type="text" value="\$222,568"/>		Effective Rate: <input 2"="" type="text" value="40.0%</input></td> </tr> <tr> <td colspan="/> Escalation to Control of Expenditure: <input type="text" value="\$225,900"/>		Local Tax Rate (Gross Receipts Tax): <input 2"="" type="text" value="8.0%</input></td> </tr> <tr> <td colspan="/> Interest During Construction: <input type="text" value="\$19,900"/>		Property Tax Rate: <input type="text" value="0.0%"/>							
Total Capital Cost at C.O.D. Date: <input type="text" value="\$268,268"/>		Estimated Annual Expense: <input type="text" value="80"/>															
Annual Operating Costs: <input type="text" value="100%"/>		Ethanol Production Tax Credit: <input type="text" value="50.00"/>															
Road:		Last year credit applies: <input type="text" value="2000"/>															
Labor: <input type="text" value="100%"/>		Power from Capital Ransom, Tax Credit: <input type="text" value="0"/>															
Fixed Maintenance Materials: <input type="text" value="1.0%"/>		Economic Development Incentives Apply? <input type="text" value="0"/>															
Insurance: <input type="text" value="1.0%"/>		Tax Depreciation:															
Total Fixed OSM Cost: <input type="text" value="80.300"/>		Buildings: <input type="text" value="31.8"/>															
Variable:		Development Costs: <input type="text" value="100%"/>															
Variable Maintenance: <input type="text" value="80.000"/>		Plant:															
Waste Disposal - Pretreatment: <input type="text" value="80.000"/>		Biomass Conversion: <input type="text" value="20"/>															
- Fermentation: <input type="text" value="80.000"/>		Balance of Plant: <input type="text" value="20"/>															
- Solids Separation: <input type="text" value="80.000"/>		Book Depreciation: <input type="text" value="20"/>															
Chemicals: <input type="text" value="80.180"/>		FINANCIAL:															
Utilities:		Debt Structure:															
Power: <input type="text" value="80.000"/>		Debt Fraction: <input 2"="" type="text" value="50%</input></td> </tr> <tr> <td colspan="/> Water: <input type="text" value="80.000"/>		Financing Term: <input type="text" value="10"/>													
Natural Gas: <input type="text" value="80.000"/>		Interest Rate: <input 2"="" type="text" value="10.0%</input></td> </tr> <tr> <td colspan="/> Steam: <input type="text" value="80.000"/>		Amortization of Loan: <input type="text" value="1.000"/>													
Waste Water: <input type="text" value="80.000"/>		Short Term Construction Interest: <input 2"="" type="text" value="0.0%</input></td> </tr> <tr> <td colspan="/> Total Variable OSM Cost: <input type="text" value="80.220"/>		Target Return on Equity: <input 2"="" type="text" value="20%</input></td> </tr> <tr> <td colspan="/> Total Fixed & Variable OSM: <input type="text" value="80.520"/>													
Feedstock:		Annual Quantities															
Waste Paper: <input type="text" value="100.0%"/>		Waste Paper: <input type="text" value="360,511"/>															
OTD: <input type="text" value="0.0%"/>		OTD: <input type="text" value="0"/>															
Wood Waste: <input type="text" value="0.0%"/>		Wood Waste: <input type="text" value="0"/>															
Total: <input type="text" value="100.0%"/>		Total: <input type="text" value="360,511"/>															
Output:		Unit Price															
Ethanol: <input type="text" value="66.00"/>		Ethanol: <input type="text" value="\$1.50"/>															
CO2: <input type="text" value="0.00"/>		CO2: <input type="text" value="\$0.00"/>															
Lignin: <input type="text" value="0.00"/>		Lignin: <input type="text" value="\$0.00"/>															
Power: <input type="text" value="80.35"/>		Power: <input type="text" value="\$0.00"/>															

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is landfill revenue. If negative, tipping fee becomes feedstock charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 3: REQUIRED TIPPING FEE
OPTION NO.: 9
1000 TPD (Dry) of 100.0% WASTE PAPER, WITH GASIFICATION; ETHANOL @ \$1.60/GAL.

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY		360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511
CASH FLOW STATEMENT											
REVENUE											
Ethanol		\$54,182	\$56,349	\$58,503	\$60,647	\$63,385	\$65,921	\$68,558	\$71,300	\$74,152	\$77,118
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		3,715	3,664	4,018	4,179	4,348	4,520	4,701	4,889	5,085	5,266
Tipping Fee- Waste Paper		2,776	2,667	3,002	3,122	3,247	3,377	3,512	3,653	3,799	3,851
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
Total Revenue		\$60,673	\$63,100	\$65,524	\$68,249	\$70,979	\$73,816	\$76,771	\$79,842	\$83,035	\$86,357
LESS O&M EXPENSES											
Labor - Supervisory		\$5,232	\$5,441	\$5,650	\$5,865	\$6,120	\$6,365	\$6,620	\$6,884	\$7,160	\$7,448
Fixed Maintenance Materials		2,519	2,619	2,724	2,833	2,946	3,064	3,187	3,314	3,447	3,586
Insurance		3,281	3,391	3,527	3,668	3,814	3,967	4,126	4,291	4,462	4,641
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		2,002	2,093	2,187	2,285	2,386	2,492	2,600	2,725	2,848	2,976
Chemicals		5,779	6,011	6,251	6,501	6,761	7,032	7,313	7,605	7,910	8,228
Power		0	0	0	0	0	0	0	0	0	0
Water		109	113	117	122	127	132	137	142	149	154
Waste Water		159	166	172	178	185	194	201	210	218	227
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		6,006	5,206	5,414	5,631	5,856	6,090	6,334	6,587	6,850	7,124
Total O&M Expenses		\$24,066	\$25,038	\$26,060	\$27,103	\$28,199	\$29,339	\$30,525	\$31,759	\$33,043	\$34,379
GROSS MARGIN		\$36,606	\$38,062	\$39,464	\$41,146	\$42,780	\$44,480	\$46,246	\$48,083	\$49,993	\$51,978
INTEREST		(21,463)	(20,110)	(18,635)	(17,005)	(15,213)	(13,241)	(11,072)	(8,867)	(6,662)	(3,175)
TAX DEPRECIATION		(30,119)	(48,605)	(32,244)	(21,717)	(21,271)	(13,325)	(5,410)	(5,056)	(4,985)	(4,898)
TAXABLE INCOME		(\$14,976)	(\$31,593)	(\$11,305)	\$2,423	\$6,297	\$17,914	\$29,764	\$34,340	\$38,233	\$43,805
TAXES: Income		8,117	12,892	4,816	(990)	(2,572)	(7,318)	(12,159)	(14,028)	(16,504)	(17,894)
Tax Credits		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$6,859)	(\$18,681)	(\$6,087)	\$1,413	\$3,725	\$10,596	\$17,605	\$20,312	\$21,729	\$25,911
TAX DEPRECIATION		30,119	48,605	32,244	21,717	21,271	13,325	5,410	5,056	4,985	4,898
PLANT COST											
LOAN											
PRINCIPAL PAYMENTS		(13,487)	(14,614)	(16,295)	(17,925)	(19,717)	(21,686)	(23,858)	(26,244)	(28,868)	(31,755)
NET CASH FLOW		(\$3,227)	\$7,795	\$16,024	\$9,282	\$5,228	\$5,278	\$2,232	(\$842)	(\$875)	(\$848)
CUMULATIVE CASH FLOW		(\$33,058)	(\$48,863)	(\$29,839)	(\$20,577)	(\$15,351)	(\$10,073)	(\$7,842)	(\$8,684)	(\$9,559)	(\$11,240)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.048	1.090	1.133	1.178	1.225	1.273	1.324	1.377	1.431	1.488
CUM NPV	20.0%	(\$53,658)	(\$47,182)	(\$38,034)	(\$30,874)	(\$25,154)	(\$20,033)	(\$15,298)	(\$10,521)	(\$5,724)	(\$0,024)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER

TABLE 3: REQUIRED TIPPING FEE

OPTION NO. 9

1000 TPD (Dry) of 100.0% WASTE PAPER, WITH GASIFICATION; ETHANOL @ \$1.50/GAL

Stone & Webster Development Corporation

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End of Year Years from P.D. Operating Year	2008 15 11	2009 16 12	2010 17 13	2011 18 14	2012 19 15	2013 20 16	2014 21 17	2015 22 18	2016 23 19	2017 24 20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511
CASH FLOW STATEMENT	(\$1000's)									
REVENUE										
Ethanol	\$80,203	\$83,411	\$86,747	\$90,217	\$93,826	\$97,579	\$101,482	\$105,541	\$109,763	\$114,153
CO2	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	5,500	5,720	5,948	6,188	6,434	6,691	6,959	7,237	7,527	7,828
Tipping Fee - Waste Paper	\$5.33	4,109	4,273	4,444	4,622	4,807	4,999	5,189	5,407	5,646
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue	\$89,911	\$93,404	\$97,140	\$101,025	\$105,066	\$109,269	\$113,540	\$118,185	\$122,813	\$127,829
LESS O&M EXPENSES										
Labor - Supervisory	\$7,744	\$8,054	\$8,370	\$8,711	\$9,058	\$9,422	\$9,799	\$10,191	\$10,598	\$11,022
Fixed Maintenance Materials	3,728	3,877	4,032	4,193	4,361	4,536	4,717	4,906	5,102	5,305
Insurance	4,527	5,020	5,220	5,428	5,646	5,872	6,107	6,351	6,605	6,870
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Refinement	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	3,110	3,250	3,398	3,549	3,708	3,875	4,050	4,232	4,422	4,621
Chemicals	8,555	8,897	9,259	9,623	10,008	10,408	10,825	11,258	11,708	12,176
Power Economic Incentive Reduction:	0	0	0	0	0	0	0	0	0	0
Water	180	187	193	199	205	211	218	224	231	238
Waste Water	235	245	255	265	276	287	299	310	323	335
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas Economic Incentive Reduction:	0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)	7,409	7,708	8,014	8,335	8,668	9,015	9,375	9,750	10,140	10,546
Total O&M Expenses	\$35,789	\$37,215	\$38,720	\$40,285	\$41,915	\$43,610	\$45,374	\$47,209	\$49,118	\$51,105
GROSS MARGIN	\$54,043	\$56,189	\$58,420	\$60,740	\$63,152	\$65,659	\$68,166	\$70,977	\$73,794	\$76,724
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(4,998)	(4,998)	(4,998)	(4,998)	(4,998)	(4,998)	(4,998)	(4,998)	(4,998)	(15,498)
TAXABLE INCOME	\$49,045	\$51,191	\$53,422	\$55,742	\$58,154	\$60,661	\$63,268	\$65,979	\$68,796	\$71,226
TAXES: Income	(20,035)	(20,811)	(21,623)	(22,471)	(23,356)	(24,280)	(25,243)	(26,252)	(27,303)	(28,401)
Tax Credits	\$0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX	\$29,010	\$30,380	\$31,799	\$33,271	\$34,798	\$36,381	\$38,025	\$39,727	\$41,493	\$42,825
TAX DEPRECIATION	4,998	4,998	4,998	4,998	4,998	4,998	4,998	4,998	4,998	15,498
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$34,008	\$35,378	\$36,797	\$38,269	\$39,796	\$41,379	\$42,923	\$44,525	\$46,191	\$47,923
CUMULATIVE CASH FLOW	\$22,781	\$58,039	\$94,836	\$132,805	\$172,001	\$212,380	\$253,903	\$296,328	\$340,519	\$386,442
CUMULATIVE IRR	8.47%	11.13%	13.84%	15.84%	18.03%	17.88%	18.81%	19.17%	19.61%	20.00%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$21,447)	(\$17,480)	(\$14,070)	(\$11,113)	(\$8,555)	(\$6,345)	(\$4,433)	(\$2,779)	\$0

CASE: 1150 TPD (wet) of 100.0% WASTE PAPER, WITHOUT GASIFICATION; ETHANOL @ \$1.50/GAL; \$50/TON LIGNIN DISPOSAL COST.

INPUT:		ECONOMIC:	
CASE:	Option Number: 10 (Enter an Integer based on Table 1, Master Input Table)	Inflation Rate (PP)	4.0%
Plant Size (bedstock rate)	1150 TPD wet, as-shipped	Escalation Rates (Nominal)	
Ethanol Production	36,000 OPD	Capital Cost	4.0%
Plant Site	1	O&M Costs:	
Additional byproducts?	CO2: 0 (0 = No, 1 = Yes)	Labor	4.0%
	Lignin: 1	Maintenance Materials	4.0%
	Power: 0	Insurance	4.0%
		Waste Disposal - Pretreatment	4.0%
		- Fermentation	4.5%
		- Solids Separation	4.5%
		Chemicals	4.0%
		Utilities:	
		Power	4.0%
		Water	4.0%
		Natural Gas	5.5%
		Steam	4.0%
		Waste Water	4.0%
		Feedstock:	
		Output:	
		Ethanol	4.0%
		CO2	4.0%
		Lignin	4.0%
SCHEDULE:	(Beginning of Year)	Tax Data:	
Present Day	1004	Federal Income tax rate	35.0%
Start Construction	1005	State Income tax rate	9.0%
Control of Capital Expenditure	1007	Effective rate	40.8%
		Local tax rate (Gross Receipts Tax)	6.25%
First Year of Operation	1009	Property Tax Rate	0.0%
Economic Life	20 years	Estimated Annual Expense	\$0
Annual Operating Schedule	303 days/yr	Ethanol Production Tax Credit	\$0.00
	63.0% Mature Capacity Factor	Last year credit applies	2000
	63.0% First Year Capacity Factor	Power from Certain Renew. Tax Credit	0
	(Don't change this)	Economic Development Incentives Apply?	0
TECHNICAL:		Tax Depreciation	1.5
Capital Cost of Facility	100%: Bondability Index	Buildings	31.5
Land	\$10,911 k	Development Costs	0
Buildings	\$18,158 k	Plant:	
Development Costs	\$0 k	Biomass Conversion	5
Plant:		Balance of Plant	20
Biomass Conversion	\$105,469 k		20 years
Balance of Plant	\$29,412 k		
Total Present Day Capital Cost	\$145,877 k		
Escalation to Control of Expenditure	\$18,100 k (Note: land not escalated)		
Interest During Construction	\$15,000 k		
Total Capital Cost at C.O.D. Date	\$203,077 k or \$179,533 per TPD		
Annual Operating Costs	100%: Bondability Index		
Fixed:			
Labor	\$0,111 /gal Ethanol		
Fixed Maintenance Materials	\$0,002 /gal Ethanol		
Insurance	\$0,008 /gal Ethanol		
Total Fixed O&M Cost	\$0,221 /gal Ethanol		
Variable:			
Variable Maintenance	\$0,000 /gal Ethanol		
Waste Disposal - Pretreatment	\$0,000 /gal Ethanol		
- Fermentation	\$0,000 /gal Ethanol		
- Solids Separation	\$0,387 /gal Ethanol		
Chemicals	\$0,150 /gal Ethanol		
Utilities:			
Power	\$0,245 /gal Ethanol		
Water	\$0,006 /gal Ethanol		
Natural Gas	\$0,073 /gal Ethanol		
Steam	\$0,000 /gal Ethanol		
Waste Water	\$0,004 /gal Ethanol		
Total Variable O&M Cost	\$0,636 /gal Ethanol		
Total Fixed & Variable O&M	\$1,087 /gal Ethanol		
Feedstock:			
Waste Paper	100.0% 24.3 (b)/gal Ethanol		
OTD	0.0% 0.0		
Wood Waste	0.0% 0.0		
	100.0% 24.3 (b)/gal Average		
Output:			
Ethanol	26,866,100 gallons Ethanol / year		
CO2	0 CF CO2 / year		
Lignin	221,154 tons Lignin / year		
Power	0 kwh / year		

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is waste disposal revenue. If negative, tipping fee becomes feedstock charge and is an expense.

BOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 3 REQUIRED TIPPING FEE
OPTION NO.: 10
1000 TPD (Dry) of 100.0% WASTE PAPER, WITHOUT GASIFICATION; ETHANOL @ \$1.60/GAL; \$50/TON LIGNIN DISPOSAL COST

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	6	8	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY		360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511
CASH FLOW STATEMENT											
REVENUE											
Ethanol		\$54,182	\$55,349	\$56,503	\$58,047	\$59,385	\$65,921	\$68,558	\$71,300	\$74,152	\$77,118
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper		18,740	19,488	20,269	21,090	21,923	22,500	23,712	24,880	25,847	26,873
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
Total Revenue		\$72,922	\$75,838	\$76,872	\$82,027	\$85,308	\$90,721	\$92,269	\$96,980	\$99,799	\$103,790
LESS O&M EXPENSES											
Labor - Supervisory		\$4,015	\$4,178	\$4,343	\$4,518	\$4,697	\$4,985	\$5,080	\$5,283	\$5,495	\$5,715
Fixed Maintenance Materials		1,881	1,936	2,013	2,064	2,178	2,285	2,355	2,450	2,548	2,649
Insurance		2,479	2,569	2,671	2,778	2,889	3,005	3,125	3,250	3,380	3,516
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		13,691	14,203	14,942	15,510	16,208	16,937	17,699	18,498	19,328	20,189
Chemicals		5,779	6,011	6,251	6,501	6,761	7,032	7,313	7,605	7,910	8,228
Power		8,646	9,200	9,588	9,951	10,349	10,763	11,193	11,641	12,108	12,591
Water		220	229	238	247	257	267	278	289	301	313
Waste Water		159	166	172	179	186	194	201	210	218	227
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		2,627	2,683	3,147	3,320	3,502	3,695	3,898	4,112	4,339	4,577
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		6,016	6,257	6,507	6,767	7,038	7,319	7,612	7,917	8,233	8,563
Total O&M Expenses		\$45,785	\$47,727	\$49,751	\$51,863	\$54,065	\$56,381	\$58,765	\$61,253	\$63,857	\$66,573
GROSS MARGIN		\$27,137	\$28,112	\$29,121	\$30,164	\$31,243	\$32,380	\$33,514	\$34,707	\$35,942	\$37,218
INTEREST		(16,248)	(15,227)	(14,105)	(12,872)	(11,515)	(10,023)	(8,381)	(6,675)	(4,899)	(2,404)
TAX DEPRECIATION		(27,815)	(44,710)	(27,848)	(17,675)	(17,528)	(9,851)	(2,244)	(2,128)	(2,109)	(2,109)
TAXABLE INCOME		(\$16,725)	(\$31,825)	(\$12,832)	(\$382)	\$2,201	\$12,456	\$22,888	\$26,004	\$29,244	\$32,705
TAXES: Income		6,832	13,000	5,242	156	(899)	(5,088)	(9,350)	(10,623)	(11,946)	(13,360)
Tax Credits		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$9,893)	(\$18,824)	(\$7,590)	(\$226)	\$1,302	\$7,368	\$13,538	\$15,382	\$17,298	\$19,345
TAX DEPRECIATION		27,815	44,710	27,848	17,675	17,528	9,881	2,244	2,128	2,109	2,109
PLANT COST		(\$203,077)									
LOAN		\$182,461									
PRINCIPAL PAYMENTS		(10,104)	(11,213)	(12,334)	(13,568)	(14,925)	(16,417)	(18,059)	(19,865)	(21,851)	(24,039)
NET CASH FLOW		(\$40,815)	\$7,529	\$14,873	\$7,323	\$3,881	\$3,905	\$832	(\$2,276)	(\$2,365)	(\$2,444)
CUMULATIVE CASH FLOW		(\$40,815)	(\$33,286)	(\$18,414)	(\$10,981)	(\$8,810)	(\$2,705)	(\$1,874)	(\$4,150)	(\$6,505)	(\$8,949)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.028	1.063	1.101	1.141	1.182	1.224	1.269	1.313	1.359	1.408
CUM NPV		20.0%	(\$40,815)	(\$34,341)	(\$24,152)	(\$19,567)	(\$17,685)	(\$16,128)	(\$15,848)	(\$16,483)	(\$17,030)

20.0%

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER

TABLE 3 REQUIRED TIPPING FEE
OPTION NO. 10
1000 TPD (Dry) of 100.0% WASTE PAPER, WITHOUT GASIFICATION; ETHANOL @ \$1.50/GAL; \$50/TON LIGNIN DISPOSAL COST.

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY	360,611	360,611	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511
CASH FLOW STATEMENT										
REVENUE										
Ethanol	\$80,203	\$83,411	\$86,747	\$90,217	\$93,826	\$97,579	\$101,482	\$105,541	\$109,763	\$114,153
CO2	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	27,740	28,848	30,003	31,203	32,451	33,749	35,099	36,503	37,963	39,482
- OTD	0	0	0	0	0	0	0	0	0	0
- Waste Wood	0	0	0	0	0	0	0	0	0	0
Total Revenue	\$107,942	\$112,260	\$116,750	\$121,420	\$126,277	\$131,328	\$136,581	\$142,044	\$147,726	\$153,635
LESS O&M EXPENSES										
Labor - Supervisory	\$5,843	\$6,181	\$6,428	\$6,685	\$6,953	\$7,231	\$7,520	\$7,821	\$8,134	\$8,459
Fixed Maintenance Materials	2,755	2,866	2,990	3,099	3,223	3,352	3,487	3,628	3,771	3,922
Insurance	3,858	3,802	3,854	4,112	4,277	4,448	4,628	4,811	5,003	5,204
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Refinement	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	21,107	22,058	23,049	24,088	25,170	26,303	27,486	28,723	30,016	31,365
Chemicals	5,555	5,887	6,253	6,623	7,008	7,408	7,825	8,258	8,706	9,178
Power	13,094	13,818	14,163	14,729	15,318	15,931	16,568	17,231	17,920	18,637
Water	325	338	352	368	381	396	412	429	445	463
Waste Water	238	245	255	265	276	287	299	310	323	335
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	4,828	5,095	5,375	5,670	5,982	6,311	6,658	7,025	7,411	7,819
Feedstock - Waste Paper	0	0	0	0	0	0	0	0	0	0
- OTD	0	0	0	0	0	0	0	0	0	0
- Waste Wood	0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)	8,905	9,261	9,632	10,017	10,416	10,835	11,268	11,719	12,187	12,675
Total O&M Expenses	\$89,405	\$92,360	\$95,441	\$98,654	\$102,006	\$105,502	\$109,148	\$112,951	\$116,918	\$121,058
GROSS MARGIN	\$38,537	\$39,900	\$41,309	\$42,766	\$44,271	\$45,826	\$47,433	\$49,093	\$50,808	\$52,679
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(1,129)
TAXABLE INCOME	\$36,428	\$37,791	\$39,201	\$40,657	\$42,162	\$43,718	\$45,324	\$46,984	\$48,699	\$41,450
TAXES: Income	(14,581)	(15,436)	(16,013)	(16,606)	(17,223)	(17,859)	(18,515)	(19,193)	(19,894)	(16,932)
Tax Credits	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX	\$21,847	\$22,355	\$23,187	\$24,051	\$24,939	\$25,859	\$26,809	\$27,791	\$28,805	\$24,518
TAX DEPRECIATION	2,109	2,109	2,109	2,109	2,109	2,109	2,109	2,109	2,109	1,129
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$23,956	\$24,462	\$25,296	\$26,160	\$27,048	\$27,968	\$28,918	\$29,900	\$30,914	\$35,647
CUMULATIVE CASH FLOW	\$12,124	\$36,587	\$61,883	\$88,040	\$115,088	\$143,056	\$171,974	\$201,874	\$232,789	\$268,435
CUMULATIVE IRR	8.61%	10.84%	13.71%	16.56%	19.80%	17.87%	18.80%	19.16%	19.61%	20.00%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$14,737)	(\$11,994)	(\$8,630)	(\$7,592)	(\$5,837)	(\$4,324)	(\$3,021)	(\$1,897)	\$0

TABLE 2: CASE INPUT

CASE: 1190 TPD (net) of 100.0% WASTE PAPER, WITHOUT GASIFICATION; ETHANOL @ \$1.20/GAL; NO LIGNIN DISPOSAL COST.

INPUT:		ECONOMIC:	
CASE: Option Number: 11 Plant Size (see detail table): 1190 TPD wet, as-tipped Site not Production: 66,000 GPD Plant Size: 1 Additional byproducts: 0 CO ₂ : 0 Lignin: 0 Power: 0 (0 = No, 1 = Yes)		ECONOMIC: Inflation Rate (PPP): 4.0% Escalation Rate (Nominal): 4.0% Capital Cost: 4.0% O&M Costs: Labor: 4.0% Maintenance Materials: 4.0% Insurance: 4.0% Waste Disposal - Pretreatment: 4.0% - Fermentation: 4.0% - Solids Separation: 4.0% Chemicals: 4.0% Utilities: Power: 4.0% Water: 4.0% Natural Gas: 5.5% Steam: 4.0% Waste Water: 4.0% Feedstocks: Output: Ethanol: 4.0% CO ₂ : 4.0% Lignin: 4.0% Tax Data: Federal Income Tax rate: 30.0% State Income Tax rate: 9.0% Effective rate: 40.0% Local Taxable (Gross Receipts Tax): 8.25% Property Tax Rate: 0.0% \$/sq ft Estimated Annual Expense: 60 k/yr Ethanol Production Tax Credit: 20.00 \$/gal for max. 10,000,000 gal/yr Last year credit applies: 2000 Power from Certain Renew. Tax Credit: 0 Annul Economic Development Incentives Apply: 0 (0 = No, 1 = Yes; See Table 2) Tax Depreciation: Buildings: 31.5 100% dec. bal. Development Costs: -- include in Biomass Conv. Plant: Biomass Conversion: 5 100% dec. bal. Balance of Plant: 20 100% dec. bal. Book Depreciation: 20 years	
SCHEDULE: (Beginning of Year) Present Day: 1994 Start Construction: 1996 Control of Capital Expenditure: 1997 First Year of Operation: 1998 Economic Life: 20 years Annual Operating Schedule: 300 days/yr Maturity Capacity Factor: 63.0% First Year Capacity Factor: 63.0% (Don't change this)			
TECHNICAL: Capital Cost of Facility: 100% Sensitivity Index Land: \$15,811 k Buildings: \$19,159 k Development Costs: 80 k Plant: Biomass Conversion: \$108,486 k Balance of Plant: \$28,412 k Total Present Day Capital Cost: \$166,977 k Escalation to Control of Expenditure: \$19,100 k (Note: land not escalated) Interest During Construction: \$15,000 k Total Capital Cost at C.O.D. Date: \$209,077 k or \$170,653 per TPD Annual Operating Costs: 100% Sensitivity Index Fixed: Labor: 100% Sensitivity Index: \$0,111 /gal Ethanol \$3,300 k/yr Fixed Maintenance Materials: \$0,094 \$1,500 k/yr Insurance: 1.0% of Capital Cost: \$0,068 \$2,030 k/yr Total Fixed O&M Cost: \$0,251 /gal Ethanol \$6,860 k/yr Variable: Variable Maintenance: \$0,000 /gal Ethanol \$0 k/yr Waste Disposal - Pretreatment: \$0,000 \$0 - Fermentation: \$0,000 \$0 - Solids Separation: \$0,000 \$0 Chemicals: \$0,180 \$4,780 Utilities: Power: \$0,345 \$7,271 Water: \$0,008 \$191 Natural Gas: \$0,573 \$9,183 Steam: \$0,000 \$0 Waste Water: \$0,004 \$131 Total Variable O&M Cost: \$0,999 /gal Ethanol \$14,468 k/yr Total Fixed & Variable O&M: \$0,718 /gal Ethanol \$21,356 k/yr			
Feedstocks: Waste Paper: 100.0% 24.3 lb/gal Ethanol \$32.78 /wet ton OTD: 0.0% 0.0 \$0.00 Wood Waste: 0.0% 0.0 \$0.00 100.0% 24.3 lb/gal Average \$32.78 /wet ton Average		Annual Quantities 380,511 wet tons / year 0 0 380,511 wet tons / year	
Output: (per ton of feedstock) Ethanol: 62.95 gal/wet ton \$1.20 /gal CO ₂ : 0.00 CF/wet ton \$0.00 /CF Lignin: 0.01 tons/wet ton \$0.00 /ton Power: 0.00 ton/wet ton \$0.00 /ton		Unit Price \$1.20 /gal \$0.00 /CF \$0.00 /ton \$0.00 /ton	
Notes: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is treated as revenue. If negative, tipping fee becomes feedstock charge and is an expense.			

End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY		380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511
CASH FLOW STATEMENT											
REVENUE											
Ethanol		\$43,348	\$45,079	\$46,883	\$48,758	\$50,708	\$52,737	\$54,848	\$57,040	\$59,321	\$61,694
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper		\$32.78	14,378	14,854	15,552	16,174	16,821	17,494	18,183	18,891	20,465
- OTD		\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood		\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$57,724	\$80,033	\$82,434	\$84,932	\$87,529	\$90,230	\$93,038	\$95,961	\$98,999	\$102,159
LESS O&M EXPENSES											
Labor - Supervisory		\$4,015	\$4,176	\$4,343	\$4,518	\$4,697	\$4,885	\$5,080	\$5,283	\$5,495	\$5,715
Fixed Maintenance Materials		1,881	1,936	2,013	2,094	2,178	2,265	2,355	2,450	2,548	2,649
Insurance		2,470	2,568	2,671	2,778	2,889	3,005	3,125	3,250	3,380	3,515
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Retreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0	0
Chemicals		5,779	6,011	6,251	6,501	6,761	7,032	7,313	7,605	7,910	8,226
Power		6,646	6,200	6,588	6,951	7,348	7,763	8,193	8,641	9,105	9,581
Water		220	229	238	247	257	267	276	289	301	313
Waste Water		169	186	172	179	186	194	201	210	218	227
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		2,527	2,883	3,147	3,320	3,502	3,695	3,898	4,112	4,338	4,577
Feedstock		0	0	0	0	0	0	0	0	0	0
- Waste Paper		\$0.00	0	0	0	0	0	0	0	0	0
- OTD		\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood		\$0.00	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		4,782	4,953	5,151	5,357	5,571	5,794	6,028	6,287	6,517	6,778
Total O&M Expenses		\$30,840	\$32,220	\$33,553	\$34,843	\$36,390	\$37,898	\$39,470	\$41,107	\$42,813	\$44,591
GROSS MARGIN		\$26,784	\$27,813	\$28,981	\$29,989	\$31,139	\$32,332	\$33,570	\$34,854	\$36,186	\$37,568
INTEREST		(16,246)	(15,227)	(14,105)	(12,872)	(11,515)	(10,023)	(8,361)	(6,575)	(4,588)	(2,404)
TAX DEPRECIATION		(27,816)	(44,710)	(27,848)	(17,676)	(17,528)	(9,881)	(2,244)	(2,128)	(2,105)	(2,109)
TAXABLE INCOME		(\$17,077)	(\$32,124)	(\$13,072)	(\$558)	\$2,096	\$12,428	\$22,944	\$26,151	\$29,489	\$33,059
TAXES: Income		6,876	13,123	6,340	228	(858)	(5,077)	(8,373)	(10,853)	(12,048)	(13,503)
Tax Credits		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$10,101)	(\$19,001)	(\$7,732)	(\$330)	\$1,240	\$7,351	\$13,571	\$15,468	\$17,443	\$19,553
TAX DEPRECIATION		27,816	44,710	27,848	17,675	17,525	9,881	2,244	2,128	2,108	2,109
PLANT COST		(\$203,077)									
LOAN		\$162,481									
PRINCIPAL PAYMENTS		(10,184)	(11,213)	(12,334)	(13,568)	(14,825)	(16,417)	(18,059)	(19,865)	(21,851)	(24,038)
NET CASH FLOW		(\$40,815)	\$7,320	\$14,486	\$7,781	\$3,777	\$3,843	\$815	(\$2,243)	(\$2,269)	(\$2,375)
CUMULATIVE CASH FLOW		(\$40,815)	(\$33,295)	(\$18,789)	(\$11,018)	(\$7,241)	(\$3,398)	(\$2,583)	(\$4,826)	(\$7,095)	(\$9,395)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.013	1.052	1.092	1.134	1.178	1.223	1.270	1.318	1.369	1.421
CUM NPV	20.0%	(\$40,815)	(\$34,515)	(\$24,448)	(\$19,845)	(\$16,124)	(\$16,560)	(\$16,307)	(\$16,933)	(\$17,480)	(\$18,290)

BIO MASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER

TABLE 3 REQUIRED TIPPING FEE
OPTION NO. 11
1000 TPD (Dry) of 100.0% WASTE PAPER, WITHOUT GASIFICATION; ETHANOL @ \$1.20/GAL; NO UGMIN DISPOSAL COST.

Stone & Webster Development Corporation

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	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
End of Year	15	16	17	18	19	20	21	22	23	24
Years from P.D.	11	12	13	14	15	16	17	18	19	20
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511
CASH FLOW STATEMENT										
REVENUE										
Ethanol	\$64,162	\$68,729	\$69,398	\$72,174	\$75,081	\$78,063	\$81,165	\$84,433	\$87,810	\$91,323
CO2	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	0	0	0	0	0	0	0	0	0	0
Tipping Fee- Waste Paper	\$32.78									
- OTD	\$0.00									
- Waste Wood	\$0.00									
Total Revenue	\$85,448	\$88,864	\$89,418	\$92,115	\$95,089	\$103,858	\$108,116	\$112,441	\$116,938	\$121,016
LESS O&M EXPENSES										
Labor - Supervisory	\$5,943	\$6,181	\$6,426	\$6,685	\$6,953	\$7,231	\$7,520	\$7,821	\$8,134	\$8,469
Fixed Maintenance Materials	2,766	2,856	2,980	3,099	3,223	3,352	3,487	3,629	3,771	3,922
Insurance	3,658	3,802	3,954	4,112	4,277	4,448	4,628	4,811	5,003	5,204
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Retreatment	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	0	0	0	0	0	0	0	0	0	0
Chemicals	8,555	8,897	9,253	9,623	10,009	10,409	10,825	11,258	11,708	12,176
Power	13,084	13,618	14,163	14,729	15,318	15,931	16,569	17,231	17,920	18,637
Water	325	308	352	368	381	396	412	428	445	463
Waste Water	238	245	255	265	276	287	298	310	323	335
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	4,829	5,096	5,375	5,670	5,982	6,311	6,658	7,025	7,411	7,819
Feedstock - Waste Paper	\$0.00									
- OTD	\$0.00									
- Waste Wood	\$0.00									
Gross Receipts Tax (Income Tax Deductible)	7,049	7,331	7,624	7,929	8,247	8,577	8,920	9,276	9,647	10,033
Total O&M Expenses	\$46,443	\$48,373	\$50,384	\$52,480	\$54,688	\$58,941	\$59,313	\$61,785	\$64,363	\$67,048
GROSS MARGIN	\$38,003	\$40,490	\$42,034	\$43,634	\$45,295	\$47,017	\$48,803	\$50,655	\$52,578	\$54,568
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(2,108)	(2,108)	(2,108)	(2,108)	(2,108)	(2,108)	(2,108)	(2,108)	(2,108)	(11,128)
TAXABLE INCOME	\$36,894	\$38,382	\$39,925	\$41,526	\$43,186	\$44,906	\$46,694	\$48,546	\$50,469	\$43,439
TAXES: Income	(15,071)	(15,875)	(16,308)	(17,043)	(17,841)	(18,345)	(19,074)	(19,831)	(20,616)	(17,745)
Tax Credits	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
INCOME AFTER TAX	\$21,823	\$22,703	\$23,616	\$24,502	\$25,544	\$26,560	\$27,619	\$28,715	\$29,851	\$25,694
TAX DEPRECIATION	2,108	2,108	2,108	2,108	2,108	2,108	2,108	2,108	2,108	11,128
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$23,932	\$24,812	\$25,724	\$26,671	\$27,653	\$28,672	\$29,728	\$30,824	\$31,950	\$36,823
CUMULATIVE CASH FLOW	\$12,183	\$38,974	\$62,699	\$89,370	\$117,023	\$145,695	\$175,423	\$206,247	\$238,207	\$275,030
CUMULATIVE IRR	5.50%	10.75%	13.64%	15.53%	16.88%	17.83%	18.68%	19.16%	19.60%	20.00%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$15,089)	(\$12,288)	(\$9,882)	(\$7,804)	(\$6,008)	(\$4,488)	(\$3,119)	(\$1,981)	(\$880)

INPUT

TECHNICAL:

Annual Operating Costs: 100% Security Index

ECONOMICS

Take Care:

FINANCIAL:

Feedback:		Blend		Tipping Fee (Note)		Maximum Tipping Fee		Annual Quantities	
Waste Paper	100.0%	24.3	Regal Ethanol	\$8.00	/wet ton	0	0	360,811	wet tons / year
OTD	0.0%	0.0	"	\$0.00	"	0	0	0	"
Wood Waste	0.0%	0.0	"	\$0.00	"	0	0	0	"
	100.0%	24.3	Regal Average	\$8.00	Awet ton Average	0	0	360,811	wet tons / year

Output:		Unit Price		Annual Quantities	
Ethanol	\$2.35	/gal	\$1.50	22,154	gallons Ethanol / year
CO ₂	\$0.00	/CF	\$0.00	0	CF CO ₂ / year
Lignin	\$0.91	/ton	\$0.00	22,154	tons lignin / year
Power	\$0.00	/kwh	\$0.00	0	kwh / year

Storage & Website Development Corporation

BIOMASS-TO-ETHANOL PRODUCTION FACILITY PROFORMA FINANCIAL STATEMENT THIRD PARTY CONTRACTOR / DEVELOPER			TABLE 3 REQUIRED TIPPING FEE OPTION NO.: 12 1000 TPD (Dry) of 100.0% WASTE PAPER, WITHOUT GASIFICATION; ETHANOL @ \$1.50/GAL; NO UGMIN DISPOSAL COST.										Stone & Webster Development Corporation Page 1 of 2	
End of Year			1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	
Years from P.D.			4	5	6	7	8	9	10	11	12	13	14	
Operating Year			0	1	2	3	4	5	6	7	8	9	10	
ANNUAL CAPACITY FACTOR				83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	
ANNUAL FEEDSTOCK QUANTITY				360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	
CASH FLOW STATEMENT (\$1000's)														
REVENUE														
Ethanol			\$54,182	\$56,349	\$58,603	\$60,947	\$63,365	\$65,921	\$68,558	\$71,300	\$74,152	\$77,116		
CO2			0	0	0	0	0	0	0	0	0	0	0	
Lignin			0	0	0	0	0	0	0	0	0	0	0	
Power			0	0	0	0	0	0	0	0	0	0	0	
Tipping Fee- Waste Paper		\$8.08	3,542	3,684	3,831	3,984	4,144	4,309	4,482	4,661	4,848	5,042		
- OTD		\$0.00	0	0	0	0	0	0	0	0	0	0	0	
- Waste Wood		\$0.00	0	0	0	0	0	0	0	0	0	0	0	
Total Revenue				\$57,724	\$60,033	\$62,434	\$64,932	\$67,529	\$70,230	\$73,039	\$75,961	\$78,999	\$82,159	
LESS O&M EXPENSES														
Labor - Supervisory			\$4,016	\$4,176	\$4,343	\$4,518	\$4,697	\$4,886	\$5,080	\$5,283	\$5,495	\$5,715		
Fixed Maintenance Materials			1,881	1,838	2,013	2,094	2,178	2,265	2,355	2,450	2,548	2,649		
Insurance			2,470	2,569	2,671	2,776	2,886	3,005	3,128	3,250	3,380	3,515		
Property Taxes			0	0	0	0	0	0	0	0	0	0	0	
Variable Maintenance			0	0	0	0	0	0	0	0	0	0	0	
Waste Disposal - Retreatment			0	0	0	0	0	0	0	0	0	0	0	
- Fermentation			0	0	0	0	0	0	0	0	0	0	0	
- Solids Separation (Ash or Lignin)			0	0	0	0	0	0	0	0	0	0	0	
Chemicals			5,779	6,011	6,251	6,501	6,761	7,032	7,313	7,605	7,910	8,228		
Power	Economic Incentive Reduction:	0%	8,846	9,200	9,568	9,951	10,349	10,763	11,193	11,641	12,100	12,581		
Water			220	229	238	247	257	267	278	289	301	313		
Waste Water			159	160	172	179	186	194	201	210	218	227		
Steam			0	0	0	0	0	0	0	0	0	0	0	
Natural Gas	Economic Incentive Reduction:	0%	2,827	2,963	3,147	3,320	3,502	3,695	3,898	4,112	4,339	4,577		
Feedstock			0	0	0	0	0	0	0	0	0	0	0	
- Waste Paper		\$0.00	0	0	0	0	0	0	0	0	0	0	0	
- OTD		\$0.00	0	0	0	0	0	0	0	0	0	0	0	
- Waste Wood		\$0.00	0	0	0	0	0	0	0	0	0	0	0	
Gross Receipts Tax (Income Tax Deductible)				4,782	4,953	5,151	5,357	5,571	5,794	6,026	6,267	6,517	6,776	
Total O&M Expenses				\$30,940	\$32,220	\$33,553	\$34,943	\$36,380	\$37,866	\$39,470	\$41,107	\$42,813	\$44,581	
GROSS MARGIN				\$26,784	\$27,813	\$28,881	\$29,989	\$31,139	\$32,332	\$33,570	\$34,854	\$36,186	\$37,589	
INTEREST				(16,248)	(15,227)	(14,106)	(12,872)	(11,515)	(10,023)	(8,381)	(6,575)	(4,589)	(2,404)	
TAX DEPRECIATION				(27,616)	(44,710)	(27,848)	(17,675)	(17,528)	(9,891)	(2,244)	(2,128)	(2,109)	(2,109)	
TAXABLE INCOME				(\$17,077)	(\$32,124)	(\$13,072)	(\$556)	\$2,096	\$12,428	\$22,944	\$26,161	\$29,489	\$33,056	
TAXES: Income				6,876	13,123	5,340	228	(959)	(5,077)	(9,373)	(10,653)	(12,046)	(13,503)	
Tax Credits				0	0	0	0	0	0	0	0	0	0	
INCOME AFTER TAX				(\$10,101)	(\$19,001)	(\$7,732)	(\$330)	\$1,240	\$7,361	\$13,571	\$15,468	\$17,443	\$19,553	
TAX DEPRECIATION				27,616	44,710	27,848	17,675	17,528	9,891	2,244	2,128	2,109	2,109	
PLANT COST				(\$203,077)										
LOAN				\$162,461										
PRINCIPAL PAYMENTS				(10,194)	(11,213)	(12,334)	(13,568)	(14,925)	(16,417)	(18,058)	(19,895)	(21,951)	(24,038)	
NET CASH FLOW				(\$40,615)	\$7,320	\$14,488	\$7,761	\$3,777	\$3,843	\$915	(\$2,243)	(\$2,269)	(\$2,300)	
CUMULATIVE CASH FLOW				(\$40,615)	(\$33,295)	(\$18,799)	(\$11,018)	(\$7,241)	(\$3,398)	(\$2,583)	(\$4,826)	(\$7,095)	(\$9,395)	
CUMULATIVE IRR				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
DEBT COVERAGE RATIO				1.013	1.062	1.092	1.134	1.178	1.223	1.270	1.318	1.369	1.421	
CUM NPV			20.0%	(\$40,615)	(\$34,515)	(\$24,448)	(\$19,945)	(\$16,124)	(\$16,580)	(\$16,307)	(\$16,833)	(\$17,400)	(\$18,290)	

End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511
CASH FLOW STATEMENT										
REVENUE										
Ethanol	\$80,203	\$83,411	\$88,747	\$90,217	\$93,828	\$97,579	\$101,482	\$105,541	\$109,783	\$114,153
CO2	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$8.08	5,243	5,453	5,671	5,888	6,134	6,379	6,634	6,900	7,178
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue	\$85,448	\$88,864	\$92,418	\$96,115	\$99,856	\$103,659	\$108,116	\$112,441	\$116,683	\$121,616
LESS O&M EXPENSES										
Labor - Supervisory	\$5,943	\$6,181	\$6,428	\$6,685	\$6,953	\$7,231	\$7,520	\$7,821	\$8,134	\$8,459
Fixed Maintenance Materials	2,755	2,888	2,980	3,069	3,223	3,352	3,487	3,628	3,771	3,922
Insurance	3,658	3,802	3,854	4,112	4,277	4,448	4,628	4,811	5,003	5,204
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	0	0	0	0	0	0	0	0	0	0
Chemicals	5,855	6,097	6,253	6,623	10,008	10,408	10,825	11,258	11,708	12,178
Power	13,094	13,618	14,163	14,729	15,318	15,931	16,568	17,231	17,920	18,637
Water	325	338	352	368	381	398	412	428	445	463
Waste Water	238	245	255	265	276	287	298	310	323	335
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	4,829	5,095	5,375	5,670	5,982	6,311	6,658	7,025	7,411	7,819
Feedstock - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)	7,049	7,331	7,624	7,929	8,247	8,577	8,920	9,276	9,647	10,033
Total O&M Expenses	\$46,443	\$48,373	\$50,384	\$52,480	\$54,685	\$56,941	\$59,313	\$61,798	\$64,383	\$67,048
GROSS MARGIN	\$39,003	\$40,490	\$42,034	\$43,634	\$45,295	\$47,017	\$48,803	\$50,655	\$52,578	\$54,668
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(11,129)
TAXABLE INCOME	\$36,894	\$38,382	\$39,925	\$41,526	\$43,186	\$44,908	\$46,694	\$48,546	\$50,467	\$43,439
TAXES: Income	(16,071)	(15,879)	(16,309)	(16,953)	(17,841)	(18,346)	(19,074)	(19,831)	(20,616)	(17,745)
Tax Credits	\$0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX	\$21,823	\$22,703	\$23,616	\$24,573	\$25,344	\$26,563	\$27,619	\$28,715	\$29,851	\$25,694
TAX DEPRECIATION	2,109	2,109	2,109	2,109	2,109	2,109	2,109	2,109	2,109	11,129
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$23,932	\$24,812	\$25,724	\$26,671	\$27,453	\$28,672	\$29,728	\$30,824	\$31,960	\$36,823
CUMULATIVE CASH FLOW	\$12,163	\$38,974	\$62,699	\$89,370	\$117,023	\$145,695	\$175,423	\$206,247	\$238,207	\$275,030
CUMULATIVE IRR	5.50%	10.75%	13.64%	15.53%	16.86%	17.83%	18.58%	19.16%	19.60%	20.00%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$16,069)	(\$12,286)	(\$8,882)	(\$7,604)	(\$6,009)	(\$4,459)	(\$3,119)	(\$1,981)	\$0

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 3: REQUIRED ETHANOL PRICE
OPTION NO.: 13
500 TPD (Dry) of 100.0% WOOD WASTE, WITH GASIFICATION; WOOD @ \$20/TON

Stone & Webster Development Corporation

Page 1 of 2

End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$'000's)											
REVENUE											
Ethanol	\$2.36/gallon	\$42,608	\$44,313	\$46,085	\$47,829	\$49,648	\$51,640	\$53,813	\$56,070	\$58,312	\$60,645
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		1,082	1,104	1,148	1,194	1,242	1,292	1,343	1,397	1,453	1,511
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$43,670	\$45,417	\$47,233	\$48,923	\$51,088	\$53,131	\$55,258	\$57,467	\$59,765	\$62,156
LESS O&M EXPENSES											
Labor - Supervisory		\$5,232	\$5,441	\$5,659	\$5,885	\$6,120	\$6,365	\$6,620	\$6,884	\$7,160	\$7,446
Fixed Maintenance Materials		1,582	1,645	1,711	1,779	1,850	1,924	2,001	2,081	2,165	2,251
Insurance		2,056	2,136	2,224	2,313	2,405	2,502	2,602	2,706	2,814	2,927
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash & Lignin)		795	831	868	907	948	991	1,038	1,082	1,131	1,182
Chemicals		2,690	3,005	3,128	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power		0	0	0	0	0	0	0	0	0	0
Water		54	56	59	61	63	66	69	71	74	77
Waste Water		80	83	86	90	93	97	101	106	109	113
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood	(\$20.00)	4,386	4,562	4,744	4,934	5,131	5,336	5,550	5,772	6,003	6,243
Gross Receipts Tax (Income Tax Deductible)		3,603	3,747	3,897	4,053	4,215	4,383	4,559	4,741	4,931	5,128
Total O&M Expenses		\$20,877	\$21,508	\$22,372	\$23,272	\$24,207	\$25,180	\$26,192	\$27,246	\$28,340	\$29,480
GROSS MARGIN		\$22,793	\$23,909	\$24,861	\$25,651	\$26,881	\$27,951	\$29,064	\$30,221	\$31,425	\$32,676
INTEREST		(13,488)	(12,642)	(11,711)	(10,667)	(9,540)	(8,321)	(6,958)	(5,459)	(3,810)	(1,996)
TAX DEPRECIATION		(18,929)	(31,110)	(20,263)	(13,648)	(13,367)	(8,374)	(3,400)	(3,177)	(3,141)	(3,141)
TAXABLE INCOME		(\$9,422)	(\$10,843)	(\$7,112)	\$1,517	\$3,950	\$11,256	\$16,708	\$21,585	\$24,474	\$27,540
TAXES: Income		3,849	8,108	2,905	(620)	(1,815)	(4,598)	(7,642)	(8,818)	(9,998)	(11,250)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$5,573)	(\$11,737)	(\$4,207)	\$967	\$2,338	\$6,658	\$11,065	\$12,768	\$14,477	\$16,290
TAX DEPRECIATION		18,929	31,110	20,263	13,648	13,367	8,374	3,400	3,177	3,141	3,141
PLANT COST		(\$168,595)									
LOAN		\$154,878									
PRINCIPAL PAYMENTS		(8,483)	(9,309)	(10,240)	(11,284)	(12,391)	(13,630)	(14,993)	(16,492)	(18,141)	(19,955)
NET CASH FLOW		(\$33,720)	\$4,891	\$10,064	\$5,916	\$3,291	\$3,315	\$1,402	(\$828)	(\$547)	(\$524)
CUMULATIVE CASH FLOW		(\$33,720)	(\$28,828)	(\$18,765)	(\$12,849)	(\$9,558)	(\$6,243)	(\$4,841)	(\$6,369)	(\$6,916)	(\$7,440)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.047	1.099	1.133	1.178	1.225	1.274	1.324	1.377	1.432	1.489
CUM NPV	20.0%	(\$33,720)	(\$29,644)	(\$22,855)	(\$19,289)	(\$17,707)	(\$16,375)	(\$15,053)	(\$13,800)	(\$12,612)	(\$11,487)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER

TABLE 3: REQUIRED ETHANOL PRICE
OPTION NO. 13
600 TPD (Dry) of 100.0% WOOD WASTE, WITH GASIFICATION; WOOD @ \$20/TON

Stone & Webster Development Corporation

Page 2 of 2

End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	16	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol	\$2.35/gallon	\$63,071	\$65,594	\$68,217	\$70,846	\$73,784	\$76,735	\$79,805	\$82,987	\$86,317
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		1,571	1,634	1,700	1,768	1,838	1,912	1,988	2,068	2,238
Tipping Fee- Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$64,642	\$67,228	\$69,917	\$72,713	\$75,622	\$78,647	\$81,793	\$85,064	\$88,467
LESS O&M EXPENSES										
Labor - Supervisory		\$7,744	\$8,054	\$8,378	\$8,711	\$9,059	\$9,422	\$9,799	\$10,191	\$10,598
Fixed Maintenance Materials		2,341	2,435	2,532	2,634	2,739	2,848	2,962	3,081	3,332
Insurance		3,044	3,165	3,292	3,424	3,561	3,703	3,851	4,005	4,332
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		1,235	1,280	1,348	1,409	1,472	1,539	1,608	1,755	1,835
Chemicals		4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854
Power		0	0	0	0	0	0	0	0	0
Water		50	83	87	90	94	97	101	105	114
Waste Water		118	123	127	133	138	143	149	155	168
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0
- Waste Wood	(\$20.00)	6,403	6,752	7,022	7,303	7,589	7,889	8,215	8,544	8,888
Gross Receipts Tax (Income Tax Deductible)		3,333	5,546	5,788	5,999	6,239	6,486	6,748	7,018	7,590
Total O&M Expenses		\$30,665	\$31,897	\$33,180	\$34,514	\$35,801	\$37,345	\$38,848	\$40,408	\$42,033
GROSS MARGIN		\$33,977	\$35,330	\$36,737	\$38,200	\$39,721	\$41,302	\$42,945	\$44,656	\$46,283
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(3,141)	(3,141)	(3,141)	(3,141)	(3,141)	(3,141)	(3,141)	(3,141)	(3,141)
TAXABLE INCOME		\$30,837	\$32,189	\$33,596	\$35,059	\$36,580	\$38,161	\$39,804	\$41,516	\$43,283
TAXES: Income		(12,597)	(13,149)	(13,724)	(14,322)	(14,943)	(15,589)	(16,261)	(16,959)	(17,685)
Production Tax Credit		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$18,240	\$19,040	\$19,872	\$20,737	\$21,637	\$22,572	\$23,543	\$24,556	\$25,600
TAX DEPRECIATION		3,141	3,141	3,141	3,141	3,141	3,141	3,141	3,141	3,141
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$21,381	\$22,181	\$23,013	\$23,878	\$24,778	\$25,713	\$26,686	\$27,697	\$28,740
CUMULATIVE CASH FLOW		\$14,205	\$36,468	\$59,489	\$83,377	\$108,153	\$133,868	\$160,534	\$188,252	\$217,001
CUMULATIVE IRR		8.46%	11.13%	13.83%	15.64%	16.93%	17.89%	18.61%	19.17%	19.61%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$13,489)	(\$11,001)	(\$8,850)	(\$6,991)	(\$5,382)	(\$3,992)	(\$2,749)	(\$1,749)	\$0

TABLE 2: CASE INPUT

03/27/05
05:30 PM

CASE: 500 TPD (Dry) of 100.0% WOOD WASTE, WITHOUT GASIFICATION; WOOD @ \$20/TON; \$50/TON LIGNIN DISPOSAL COST.

INPUT:		ECONOMIC:	
CASE:	Option Number: 14	Inflation Rate (PPP): 4.0%	
Plant Size (feedstock rate)	500 TPD wet, as-tipped	Excavation Rates (Nominal): 4.0%	
Ethanol Production	48,000 GPO	Capital Cost	4.0%
Plant Site	1	O&M Costs:	
Additional byproducts?	CO2: 0	Labor	4.0%
	Lignin: 1	Maintenance Materials	4.0%
	Power: 0	Insurance	4.0%
		Waste Disposal - Pretreatment	4.5%
		- Fermentation	4.5%
		- Solids Separation	4.5%
		Chemicals	4.0%
		Utilities:	
		Power	4.0%
		Water	4.0%
		Natural Gas	4.0%
		Steam	4.0%
		Waste Water	4.0%
		Feedstock:	
		Ethanol	4.0%
		CO2	4.0%
		Lignin	4.0%
SCHEDULE:	(Beginning of Year)	Tax Data:	
Present Day	1884	Federal Income Tax Rate	35.0%
Start Construction	1888	State Income Tax Rate	9.0%
Control of Capital Expenditure	1887	Effective Rate	40.0%
		Local Tax Rate (Gross Receipts Tax)	0.0%
First Year of Operation	1888	Property Tax Rate	0.5% / \$100
Economic Life	20 years	Estimated Annual Expense	50 k/yr
Annual Operating Schedule	300 days/yr	Ethanol Production Tax Credit	30.00 /gal for max. 15,000,000 gal/yr
	85.0%	Last year credit applies	2000
	85.0%	Power from Certain Renewables Tax Credit	0 /kwh
		Economic Development Incentives	0 (Based on Table 2, Incentives Table)
		Tax Depreciation	
		Buildings	31.5 Rate 100% decl. bal.
		Development Costs	0 Include in Biomass Conv.
		Plant:	
		Biomass Conversion	5 200% decl. bal.
		Balance of Plant	20 100% decl. bal.
		Book Depreciation	20 years
TECHNICAL:	Capital Cost of Facility: 100% Sensitivity Index	FINANCIAL:	
Land	\$10,000 k	Debt Structure:	
Buildings	\$11,411 k	Debt Fraction	80%
Development Costs	\$0 k	Financing Term	10 (Note: Must be <= Economic Life)
Plant:		Interest Rate	10.0%
Biomass Conversion	\$59,182 k	Amortization of Loan	Level pay
Balance of Plant	\$18,900 k	Short Term Construction Interest	0.0%
Total Present Day Capital Cost	\$108,203 k	Target Return on Equity	20%
Excavation to Control of Expenditure	\$12,000 k (Note: land not excavated)		
Interest During Construction	\$5,500 k		
Total Capital Cost at O.O. Date	\$127,703 k or \$214,827 per TPD		
Annual Operating Costs	100% Sensitivity Index		
Fixed:			
Labor	\$0,222 /gal Ethanol		
Fixed Maintenance Materials	\$0,088 k/yr		
Insurance	\$0,084 k/yr		
Total Fixed O&M Cost	\$0,373 /gal Ethanol		
Variable:			
Variable Maintenance	\$0,000 /gal Ethanol		
Waste Disposal - Pretreatment	\$0,000 k/yr		
- Fermentation	\$0,000 k/yr		
- Solids Separation	\$0,284 k/yr		
Chemicals	\$0,160 k/yr		
Utilities:			
Power	\$0,220 k/yr		
Water	\$0,007 k/yr		
Natural Gas	\$0,340 k/yr		
Steam	\$0,000 k/yr		
Waste Water	\$0,004 k/yr		
Total Variable O&M Cost	\$0,528 /gal Ethanol		
Total Fixed & Variable O&M	\$1,301 /gal Ethanol		
Feedstock:			
Waste Paper	0.0% 0.0 /gal Ethanol		
OTD	0.0% 0.0 /gal Ethanol		
Wood Waste	100.0% 24.3 /gal Average		
	100.0% 24.3 /gal Average		
Output:	(per ton of feedstock)		
Ethanol	82.35 gal/wet ton	Unit Price	\$2.75 /gal Required 14,644,350 gallons Ethanol / year
CO2	0.00 CF/wet ton		0 CF CO2 / year
Lignin	0.00 tons/wet ton		0 tons Lignin / year
Power	0.00 kWh/wet ton		0 kWh / year

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is treated as revenue; if negative, it is an expense.

new feedstock charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 3: REQUIRED ETHANOL PRICE
OPTION NO.: 14

Stone & Webster Development Corporation

300 TPD (Dry) of 100.0% WOOD WASTE, WITHOUT GASIFICATION; WOOD @ \$26/TON; \$56/TON LIGNIN DISPOSAL COST.

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol		\$2.75 / gallon	\$49,847	\$51,833	\$53,898	\$55,846	\$58,080	\$60,403	\$62,819	\$65,332	\$67,945
CO2			0	0	0	0	0	0	0	0	0
Lignin			0	0	0	0	0	0	0	0	0
Power			0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper		\$0.00	0	0	0	0	0	0	0	0	0
- OTD		\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood		\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue			\$49,847	\$51,833	\$53,898	\$55,846	\$58,080	\$60,403	\$62,819	\$65,332	\$67,945
LESS O&M EXPENSES											
Labor - Supervisory			\$4,015	\$4,176	\$4,343	\$4,516	\$4,687	\$4,855	\$5,020	\$5,283	\$5,495
Fixed Maintenance Materials			1,168	1,215	1,263	1,314	1,368	1,421	1,478	1,537	1,598
Insurance			1,557	1,620	1,684	1,752	1,822	1,895	1,971	2,049	2,131
Property Taxes			0	0	0	0	0	0	0	0	0
Variable Maintenance			0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment			0	0	0	0	0	0	0	0	0
- Fermentation			0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)			5,474	5,721	5,978	6,247	6,528	6,822	7,129	7,450	7,785
Chemicals			2,880	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955
Power			3,981	4,140	4,306	4,478	4,657	4,843	5,037	5,238	5,448
Water			129	134	139	145	151	157	163	170	177
Waste Water			50	53	56	59	63	67	71	75	79
Steam			0	0	0	0	0	0	0	0	0
Natural Gas			4,852	4,908	5,178	5,463	5,784	6,081	6,418	6,788	7,140
Feedstock - Waste Paper			0	0	0	0	0	0	0	0	0
- OTD			0	0	0	0	0	0	0	0	0
- Waste Wood			4,398	4,562	4,744	4,934	5,131	5,338	5,560	5,772	6,003
Gross Receipts Tax (Income Tax Deductible)			4,096	4,260	4,430	4,607	4,792	4,983	5,183	5,390	5,605
Total O&M Expenses			\$32,428	\$33,822	\$35,277	\$36,786	\$38,351	\$40,035	\$41,782	\$43,584	\$45,446
GROSS MARGIN			\$17,219	\$17,810	\$18,420	\$19,059	\$19,698	\$20,367	\$21,037	\$21,748	\$22,499
INTEREST			(10,210)	(9,575)	(8,870)	(8,094)	(7,241)	(6,303)	(5,270)	(4,135)	(2,888)
TAX DEPRECIATION			(17,386)	(28,116)	(17,812)	(11,115)	(11,022)	(5,213)	(1,411)	(1,338)	(1,326)
TAXABLE INCOME			(\$10,383)	(\$19,880)	(\$7,961)	(\$159)	\$1,435	\$7,851	\$14,375	\$16,284	\$18,287
TAXES: Income			4,233	5,121	3,252	65	(588)	(3,207)	(5,872)	(9,656)	(7,470)
Production Tax Credit			0	0	0	0	0	0	0	0	0
INCOME AFTER TAX			(\$6,150)	(\$14,759)	(\$4,709)	(\$154)	\$946	\$4,644	\$8,503	\$9,638	\$10,817
TAX DEPRECIATION			17,386	28,116	17,812	11,115	11,022	5,213	1,411	1,338	1,326
PLANT COST			(\$127,703)								
LOAN			\$102,162								
PRINCIPAL PAYMENTS			(8,410)	(7,051)	(7,756)	(8,532)	(9,385)	(10,324)	(11,350)	(12,482)	(13,741)
NET CASH FLOW			(\$25,541)	\$4,826	\$9,305	\$5,046	\$2,488	\$534	(\$1,442)	(\$1,515)	(\$1,598)
CUMULATIVE CASH FLOW			(\$25,541)	(\$20,715)	(\$11,410)	(\$6,364)	(\$3,875)	(\$1,389)	(\$2,288)	(\$3,803)	(\$5,401)
CUMULATIVE IRR			NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO			1.038	1.071	1.106	1.148	1.185	1.225	1.268	1.309	1.353
CUM NPV	20.0%		(\$25,541)	(\$21,518)	(\$15,857)	(\$12,137)	(\$8,637)	(\$5,038)	(\$1,162)	(\$10,824)	(\$11,104)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER

TABLE 3: REQUIRED ETHANOL PRICE
OPTION NO. 14
500 TPD (Dry) of 100.0% WOOD WASTE, WITHOUT GASIFICATION; WOOD @ \$20/TON; \$50/TON LIGNIN DISPOSAL COST.

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol	\$2.75 /gallon	\$73,489	\$76,429	\$79,488	\$82,665	\$85,972	\$89,411	\$92,987	\$96,707	\$100,575
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tipping Fee- Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$73,489	\$76,429	\$79,488	\$82,665	\$85,972	\$89,411	\$92,987	\$96,707	\$100,575
LESS O&M EXPENSES										
Labor - Supervisory		\$3,843	\$6,161	\$6,426	\$6,685	\$6,953	\$7,231	\$7,520	\$7,821	\$8,134
Fixed Maintenance Materials		1,729	1,798	1,870	1,945	2,023	2,103	2,188	2,275	2,368
Insurance		2,305	2,397	2,493	2,593	2,697	2,805	2,917	3,033	3,155
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		8,504	8,884	9,264	9,701	10,139	10,584	11,071	11,569	12,090
Chemicals		4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854
Power		5,892	6,128	6,373	6,626	6,883	7,149	7,428	7,714	8,008
Water		191	199	208	215	223	232	242	251	261
Waste Water		118	123	127	133	138	143	149	155	161
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		7,847	8,384	8,845	9,332	9,845	10,387	10,958	11,561	12,196
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0
- Waste Wood	(\$20.00)	8,483	8,752	9,022	9,303	9,585	9,869	10,155	10,444	10,735
Gross Receipts Tax (Income Tax Deductible)		8,683	8,956	9,229	9,502	9,774	10,047	10,320	10,593	10,866
Total O&M Expenses		\$49,460	\$51,600	\$53,834	\$56,166	\$58,602	\$61,144	\$63,799	\$66,570	\$69,464
GROSS MARGIN		\$24,029	\$24,829	\$25,654	\$26,499	\$27,370	\$28,267	\$29,188	\$30,137	\$31,111
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)
TAXABLE INCOME		\$22,703	\$23,503	\$24,328	\$25,173	\$26,044	\$26,941	\$27,863	\$28,811	\$29,785
TAXES: Income		(8,274)	(8,601)	(8,937)	(9,283)	(9,639)	(10,005)	(10,382)	(10,769)	(11,156)
Production Tax Credit		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$14,429	\$14,902	\$15,391	\$15,890	\$16,405	\$16,936	\$17,481	\$18,042	\$18,629
TAX DEPRECIATION		1,326	1,326	1,326	1,326	1,326	1,326	1,326	1,326	1,326
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$14,755	\$16,228	\$16,716	\$17,216	\$17,731	\$18,262	\$18,807	\$19,367	\$19,944
CUMULATIVE CASH FLOW		\$7,631	\$22,858	\$38,574	\$54,790	\$71,521	\$88,782	\$106,589	\$124,957	\$143,901
CUMULATIVE IRR		5.70%	10.92%	13.77%	15.60%	16.93%	17.89%	18.62%	19.18%	19.61%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$1,115)	(\$7,407)	(\$3,938)	(\$4,675)	(\$3,589)	(\$2,655)	(\$1,653)	(\$1,163)	(\$570)

TABLE 2: CASE INPUT

09/27/95
09:33 PM

CASE: 500 TPD (Dry) of 100.0% WOOD WASTE, WITH GASIFICATION; WOOD @ \$40/TON.

INPUT:			
CASE: Option Number		15 (Enter an Integer based on Table 1, Master Input Table)	
Plant Size (feedstock rate)		500 TPD wet, as-tipped	
Ethanol Production		48,000 GPD	
Plant Site		1	
Additional byproducts?		CO2: 0 Lignin: 0 Power: 1 (0 = No, 1 = Yes)	
SCHEDULE: (Beginning of Year)			
Present Day		1994	
Start Construction		1995	
Control of Capital Expenditure		1997	
First Year of Operation		1998	
Economic Life		20 years	
Annual Operating Schedule		300 days/yr	
		Mature Capacity Factor	
		First Year Capacity Factor	
		83.0% (Don't change this)	
		83.0%	
TECHNICAL:			
Capital Cost of Facility		100% Sensitivity Index	
Land		\$10,000 k	
Buildings		\$11,411 k	
Development Costs		\$0 k	
Plant:			
Biomass Conversion		\$68,182 k	
Balance of Plant		\$50,289 k	
Total Present Day Capital Cost		\$118,491 k	
Escalation to Control of Expenditure		\$18,200 k (Note: had not escalated)	
Interest During Construction		\$12,000 k	
Total Capital Cost @ C.O.D.		\$169,599 k	
Annual Operating Costs		100% Sensitivity Index	
Fixed:			
Labor		100% Sensitivity Index	
Fixed Maintenance Materials		\$0.280 /gal Ethanol	
Insurance		1.0% of Capital Cost	
Total Fixed O&M Cost		\$0.491 /gal Ethanol	
Variable:			
Variable Maintenance		\$0.000 /gal Ethanol	
Waste Disposal - Pretreatment		\$0.000	
- Fermentation		\$0.000	
- Solids Separation		\$0.043	
Chemicals		\$0.160	
Utilities:			
Power		\$0.000	
Water		\$0.003	
Natural Gas		\$0.000	
Steam		\$0.000	
Waste Water		\$0.004	
Total Variable O&M Cost		\$0.210 /gal Ethanol	
Total Fixed & Variable O&M		\$0.701 /gal Ethanol	
Feedstock:			
Blend			
Waste Paper		0.0 lb/gal Ethanol	
OTO		0.0	
Wood Waste		100.0% 24.3 lb/gal Average	
		100.0% 24.3 lb/gal Average	
Output:			
(per ton of feedstock)			
Ethanol		62.35 gal/wet ton	
CO2		0.00 CF/wet ton	
Lignin		0.00 tons/wet ton	
Power		1.8134 kWh/wet ton	
		Unit Price	
		\$2.62 /gal Required	
		\$0.00 /CF	
		\$0.00 /ton	
		\$0.05 /kWh	
		14,844,590 gallons Ethanol / year	
		0 CF CO2 / year	
		0 tons Lignin / year	
		29,063,200 kWh / year	
ECONOMIC:			
Inflation Rate (PP)		4.0%	
Escalation Rates (Nominal)			
Capital Cost		4.0%	
O&M Costs:			
Labor		4.0%	
Maintenance Materials		4.0%	
Insurance		4.0%	
Waste Disposal - Pretreatment		4.5%	
- Fermentation		4.5%	
- Solids Separation		4.5%	
Chemicals		4.0%	
Utilities:			
Power		4.0%	
Water		4.0%	
Natural Gas		4.5%	
Steam		4.0%	
Waste Water		4.0%	
Feedstock:			
Output:			
Ethanol		4.0%	
CO2		4.0%	
Lignin		4.0%	
Tax Data:			
Federal Income tax rate		35.0%	
State Income tax rate		6.0%	
Effective rate		40.8%	
Local tax rate (Gross Receipts Tax)		0.0%	
Property Tax Rate		0.0%	
Estimated Annual Expense		\$0 /yr	
Ethanol Production Tax Credit		\$0.00 /gal for max. 15,000,000 gal/yr	
Last year credit applies		2000	
Power from Certain Renew. Tax Credit		0 /yr	
Economic Development Incentives		0 /yr	
Tax Depreciation		LIR Rate	
Buildings		31.5 100% incl. bal.	
Development Costs		-- Include in Biomass Conv.	
Plant:			
Biomass Conversion		5 200% incl. bal.	
Balance of Plant		20 150% incl. bal.	
Book Depreciation		20 years	
FINANCIAL:			
Debt Structure:			
Debt Fraction		80%	
Financing Term		10 (Note: Must be <= Economic Life)	
Interest Rate		10.0%	
Amortization of Loan		Level pay	
Short Term Construction Interest		8.0%	
Target Return on Equity		20%	
Annual Quantities			
Wet tons / year		0	
Dry tons / year		0	
Wet tons / year		180,258	
Wet tons / year		180,258	
Tipping Fee			
Blend			
Waste Paper		0.0 lb/gal Ethanol	
OTO		0.0	
Wood Waste		100.0% 24.3 lb/gal Average	
		100.0% 24.3 lb/gal Average	
Output:			
(per ton of feedstock)			
Ethanol		62.35 gal/wet ton	
CO2		0.00 CF/wet ton	
Lignin		0.00 tons/wet ton	
Power		1.8134 kWh/wet ton	
		Unit Price	
		\$2.62 /gal Required	
		\$0.00 /CF	
		\$0.00 /ton	
		\$0.05 /kWh	
		14,844,590 gallons Ethanol / year	
		0 CF CO2 / year	
		0 tons Lignin / year	
		29,063,200 kWh / year	

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is treated as revenue. If negative, it becomes feedstock charge and is not expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/DEVELOPER

TABLE 3: REQUIRED ETHANOL PRICE
OPTION NO.: 13
500 TPD (Dry) of 100.0% WOOD WASTE, WITH GASIFICATION; WOOD @ \$40/TON.

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol		\$2.62/gallon									
CO2											
Lignin											
Power											
Tipping Fee - Waste Paper											
- OTD											
- Waste Wood											
Total Revenue		\$48,450	\$50,388	\$52,404	\$54,500	\$56,680	\$58,947	\$61,305	\$63,757	\$66,308	\$68,960
LESS O&M EXPENSES											
Labor - Supervisory		\$5,232	\$5,441	\$5,659	\$5,885	\$6,120	\$6,365	\$6,620	\$6,884	\$7,160	\$7,448
Fixed Maintenance Materials		1,582	1,645	1,711	1,779	1,850	1,924	2,001	2,081	2,165	2,251
Insurance		2,056	2,138	2,224	2,313	2,405	2,502	2,602	2,706	2,814	2,927
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		795	\$31	\$88	\$97	\$98	\$91	1,035	1,082	1,131	1,182
Chemicals		2,890	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power		0	0	0	0	0	0	0	0	0	0
Water		54	58	59	61	63	66	69	71	74	77
Waste Water		80	83	86	90	93	97	101	105	109	113
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood		8,772	9,123	9,488	9,868	10,262	10,673	11,100	11,544	12,006	12,486
Gross Receipts Tax (Income Tax Deductible)		3,897	4,187	4,323	4,498	4,676	4,863	5,058	5,260	5,470	5,689
Total O&M Expenses		\$26,457	\$28,480	\$29,543	\$30,648	\$31,800	\$33,086	\$34,241	\$35,536	\$36,883	\$38,284
GROSS MARGIN		\$22,993	\$21,908	\$22,861	\$23,851	\$24,881	\$25,861	\$27,064	\$28,221	\$29,425	\$30,676
INTEREST		(13,488)	(12,642)	(11,711)	(10,667)	(9,580)	(8,321)	(6,958)	(5,459)	(3,810)	(1,886)
TAX DEPRECIATION		(18,928)	(31,110)	(20,283)	(13,648)	(13,367)	(8,974)	(3,400)	(3,177)	(3,141)	(3,141)
TAXABLE INCOME		(\$9,423)	(\$10,843)	(\$1,132)	\$1,517	\$3,953	\$11,256	\$18,708	\$21,585	\$24,474	\$27,540
TAXES: Income		3,849	8,106	2,906	(\$20)	(1,615)	(4,598)	(7,642)	(8,818)	(8,998)	(11,250)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$5,573)	(\$11,737)	(\$4,207)	\$897	\$2,338	\$6,658	\$11,066	\$12,768	\$14,477	\$16,290
TAX DEPRECIATION		18,928	31,110	20,283	13,648	13,367	8,974	3,400	3,177	3,141	3,141
PLANT COST		(\$168,596)									
LOAN		\$134,878									
PRINCIPAL PAYMENTS		(8,483)	(8,308)	(10,240)	(11,264)	(12,381)	(13,630)	(14,993)	(16,482)	(18,141)	(19,935)
NET CASH FLOW		(\$33,720)	\$4,891	\$10,084	\$8,816	\$3,284	\$3,315	\$1,402	(\$526)	(\$547)	(\$524)
CUMULATIVE CASH FLOW		(\$33,720)	(\$28,828)	(\$18,745)	(\$9,929)	(\$6,645)	(\$3,330)	(\$1,928)	(\$2,454)	(\$2,901)	(\$3,375)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.047	1.089	1.133	1.178	1.225	1.274	1.324	1.377	1.432	1.489
CUM NPV		20.0%	(\$33,720)	(\$28,844)	(\$18,280)	(\$7,707)	(\$6,375)	(\$5,053)	(\$3,730)	(\$2,408)	(\$1,086)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 3: REQUIRED ETHANOL PRICE
OPTION NO. 15
500 TPD (Dry) of 100.0% WOOD WASTE, WITH GASIFICATION; WOOD @ \$40/TON.

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT										
(\$'000's)										
REVENUE										
Ethanol	\$2.82 /gallon	\$70,147	\$72,953	\$75,871	\$78,806	\$82,062	\$85,345	\$88,758	\$92,309	\$96,001
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		1,571	1,634	1,700	1,768	1,838	1,912	1,988	2,068	2,236
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$71,718	\$74,587	\$77,571	\$80,573	\$83,900	\$87,258	\$90,747	\$94,377	\$98,152
LESS O&M EXPENSES										
Labor - Supervisory		\$7,744	\$8,054	\$8,376	\$8,711	\$9,059	\$9,422	\$9,799	\$10,191	\$10,598
Fixed Maintenance Materials		2,341	2,435	2,532	2,634	2,739	2,848	2,962	3,081	3,204
Insurance		3,044	3,165	3,292	3,424	3,561	3,703	3,851	4,005	4,165
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		1,235	1,290	1,348	1,409	1,472	1,539	1,608	1,680	1,756
Chemicals		4,277	4,439	4,627	4,812	5,004	5,204	5,412	5,629	5,854
Power		0	0	0	0	0	0	0	0	0
Water		80	83	87	90	94	97	101	105	110
Waste Water		118	123	127	133	138	143	149	155	161
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0
- Waste Wood	\$40.00	12,885	13,505	14,045	14,607	15,191	15,799	16,430	17,086	17,771
Gross Receipts Tax (Income Tax Deductible)		5,917	6,153	6,400	6,656	6,922	7,199	7,487	7,788	8,098
Total O&M Expenses		\$37,741	\$39,257	\$40,834	\$42,474	\$44,180	\$45,954	\$47,800	\$49,720	\$51,717
GROSS MARGIN		\$33,977	\$35,330	\$36,737	\$38,200	\$39,721	\$41,302	\$42,947	\$44,656	\$46,434
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(3,141)	(3,141)	(3,141)	(3,141)	(3,141)	(3,141)	(3,141)	(3,141)	(3,141)
TAXABLE INCOME		\$30,837	\$32,189	\$33,596	\$35,059	\$36,580	\$38,161	\$39,806	\$41,516	\$43,293
TAXES: Income		(12,587)	(13,149)	(13,729)	(14,322)	(14,943)	(15,599)	(16,281)	(16,990)	(17,726)
Production Tax Credit		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$18,249	\$19,040	\$19,867	\$20,737	\$21,637	\$22,562	\$23,525	\$24,526	\$25,567
TAX DEPRECIATION		3,141	3,141	3,141	3,141	3,141	3,141	3,141	3,141	3,141
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$21,391	\$22,181	\$23,013	\$23,878	\$24,778	\$25,713	\$26,686	\$27,697	\$28,748
CUMULATIVE CASH FLOW		\$14,305	\$36,486	\$59,499	\$83,377	\$108,155	\$133,868	\$160,554	\$188,252	\$216,999
CUMULATIVE IRR		6.45%	11.13%	13.83%	15.64%	16.83%	17.86%	18.77%	19.57%	20.27%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$13,489)	(\$11,001)	(\$8,850)	(\$6,991)	(\$5,382)	(\$3,982)	(\$2,748)	(\$1,649)	\$0

item: firebrick charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 16

500 TPD (Dry) of 100.0% WOOD WASTE, WITHOUT GASIFICATION; WOOD @ \$40/TON; \$50/TON LIGNIN DISPOSAL COST.

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.O.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,560	14,844,560	14,844,550	14,844,560	14,844,560	14,844,560	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$'000's)											
REVENUE											
Ethanol	\$3.01/gallon	\$54,427	\$56,604	\$58,866	\$61,223	\$63,672	\$66,219	\$68,866	\$71,623	\$74,487	\$77,467
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$54,427	\$56,604	\$58,866	\$61,223	\$63,672	\$66,219	\$68,866	\$71,623	\$74,487	\$77,467
LESS O&M EXPENSES											
Labor - Supervisory		\$4,015	\$4,178	\$4,343	\$4,518	\$4,687	\$4,863	\$5,040	\$5,223	\$5,409	\$5,595
Fixed Maintenance Materials		1,168	1,215	1,263	1,314	1,366	1,421	1,478	1,537	1,598	1,662
Insurance		1,857	1,820	1,864	1,782	1,822	1,856	1,871	2,048	2,131	2,217
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		5,474	5,721	5,978	6,247	6,528	6,822	7,129	7,450	7,785	8,135
Chemicals		2,890	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power		3,981	4,140	4,306	4,478	4,657	4,843	5,037	5,238	5,448	5,666
Water		129	134	139	145	151	157	163	170	177	184
Waste Water		60	63	66	90	93	97	101	105	109	113
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		4,652	4,908	5,178	5,463	5,764	6,081	6,415	6,768	7,140	7,533
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood	(\$40.00)	8,772	9,123	9,488	9,868	10,262	10,673	11,100	11,544	12,008	12,488
Gross Receipts Tax (Income Tax Deductible)		4,490	4,670	4,857	5,051	5,253	5,463	5,682	5,909	6,148	6,391
Total O&M Expenses		\$37,209	\$38,784	\$40,446	\$42,174	\$43,974	\$45,852	\$47,811	\$49,866	\$51,999	\$54,214
GROSS MARGIN		\$17,219	\$17,810	\$18,420	\$19,050	\$19,699	\$20,367	\$21,057	\$21,767	\$22,489	\$23,253
INTEREST		(10,218)	(9,575)	(8,870)	(8,094)	(7,241)	(6,303)	(5,270)	(4,135)	(2,886)	(1,511)
TAX DEPRECIATION		(17,366)	(26,118)	(17,512)	(11,115)	(11,022)	(8,213)	(1,419)	(1,335)	(1,326)	(1,326)
TAXABLE INCOME		(\$10,365)	(\$19,880)	(\$7,061)	(\$609)	\$1,435	\$7,851	\$14,376	\$16,294	\$18,237	\$20,416
TAXES: Income		4,233	5,121	3,252	65	(586)	(3,207)	(5,872)	(8,558)	(7,479)	(9,340)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$6,130)	(\$14,759)	(\$4,709)	(\$644)	\$849	\$4,644	\$8,503	\$8,036	\$10,817	\$12,076
TAX DEPRECIATION		17,366	26,116	17,512	11,115	11,022	5,213	1,411	1,338	1,326	1,326
PLANT COST	(\$127,703)										
LOAN	\$102,182										
PRINCIPAL PAYMENTS		(\$4,410)	(7,051)	(7,750)	(8,532)	(9,385)	(10,324)	(11,350)	(12,462)	(13,741)	(15,115)
NET CASH FLOW		(\$25,541)	\$4,826	\$9,305	\$3,046	\$2,486	\$334	(\$1,442)	(\$1,515)	(\$1,586)	(\$1,713)
CUMULATIVE CASH FLOW		(\$25,541)	(\$20,715)	(\$11,410)	(\$8,364)	(\$5,878)	(\$1,390)	(\$859)	(\$3,613)	(\$5,411)	(\$7,124)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.038	1.071	1.108	1.148	1.185	1.225	1.268	1.309	1.353	1.399
CUM NPV	20.0%	(\$25,541)	(\$21,519)	(\$15,057)	(\$12,137)	(\$9,937)	(\$8,938)	(\$10,182)	(\$10,514)	(\$10,824)	(\$11,301)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/DEVELOPER

TABLE 2: REQUIRED ETHANOL PRICE
OPTION NO. 18

500 TPD (Dry) of 100.0% WOOD WASTE, WITHOUT GASIFICATION; WOOD @ \$40/TON; \$50/TON LIGNIN DISPOSAL COST.

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol	\$3.01/gallon	\$60,566	\$63,788	\$67,140	\$69,825	\$69,250	\$68,020	\$101,841	\$108,019	\$114,870
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$60,566	\$63,788	\$67,140	\$69,825	\$69,250	\$68,020	\$101,841	\$108,019	\$114,870
LESS O&M EXPENSES										
Labor - Supervisory		\$5,943	\$6,181	\$6,426	\$6,685	\$6,953	\$7,231	\$7,520	\$7,821	\$8,134
Fixed Maintenance Materials		1,729	1,798	1,870	1,945	2,023	2,103	2,188	2,275	2,461
Insurance		2,305	2,397	2,493	2,593	2,697	2,805	2,917	3,033	3,281
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		8,501	8,684	9,264	9,701	10,136	10,584	11,071	11,589	12,090
Chemicals		4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854
Power		5,882	6,128	6,373	6,628	6,893	7,169	7,456	7,754	8,064
Water		191	189	206	215	223	232	242	251	272
Waste Water		118	123	127	133	138	143	149	155	168
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		7,947	8,384	8,845	9,332	9,845	10,387	10,958	11,561	12,198
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0
- Waste Wood	(\$40.00)	12,985	13,505	14,045	14,607	15,191	15,798	16,430	17,089	17,771
Gross Receipts Tax (Income Tax Deductible)		6,847	6,913	7,189	7,477	7,776	8,087	8,410	8,747	9,096
Total O&M Expenses		\$50,536	\$56,359	\$61,486	\$64,120	\$66,800	\$69,754	\$72,732	\$75,862	\$79,149
GROSS MARGIN		\$24,029	\$24,829	\$25,652	\$26,499	\$27,370	\$28,267	\$29,109	\$30,137	\$31,111
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)
TAXABLE INCOME		\$22,703	\$23,503	\$24,326	\$25,173	\$26,044	\$26,941	\$27,833	\$28,810	\$29,785
TAXES: Income		(9,274)	(9,801)	(9,837)	(10,283)	(10,639)	(11,005)	(11,382)	(11,769)	(12,167)
Production Tax Credit		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$13,429	\$13,902	\$14,389	\$14,890	\$15,405	\$15,935	\$16,451	\$17,041	\$17,618
TAX DEPRECIATION		1,326	1,326	1,326	1,326	1,326	1,326	1,326	1,326	1,326
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$14,755	\$15,228	\$15,715	\$16,216	\$16,731	\$17,262	\$17,807	\$18,367	\$18,944
CUMULATIVE CASH FLOW		\$7,831	\$22,859	\$38,574	\$54,790	\$71,521	\$88,782	\$106,589	\$124,957	\$143,901
CUMULATIVE IRR		5.70%	10.92%	13.77%	15.63%	16.93%	17.89%	18.62%	19.18%	19.61%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$9,115)	(\$7,407)	(\$5,938)	(\$4,678)	(\$3,589)	(\$2,658)	(\$1,163)	(\$570)	30

TABLE 2: CASE INPUT

03/27/05
 06:30 PM

CASE: 500 TPD (Dry) of 100.0% WOOD WASTE, WITHOUT GASIFICATION; WOOD @ \$20/TON; NO LIGNIN DISPOSAL COST.

INPUT:		ECONOMIC:	
CASE: Option Number: 17 (Enter an Integer based on Table 1, Master Input Table) Plant Size (feedstock rate): 500 TPD wet, as-tipped Ethanol Production: 48,000 GPD Plant Size: 1 (0 = No, 1 = Yes) Additional byproducts? CO2: 0 Lignin: 1 Power: 0		ECONOMIC: Inflation Rate (PP): 4.0% Escalation Rates (Nominal): Capital Cost: 4.0% O&M Costs: Labor: 4.0% Maintenance Materials: 4.0% Insurance: 4.0% Waste Disposal - Pretreatment: 4.5% - Fermentation: 4.5% - Solids Separation: 4.5% Chemicals: 4.0% Utilities: Power: 4.0% Water: 4.0% Natural Gas: 5.5% Steam: 4.0% Waste Water: 4.0% Feedstock: Output: Ethanol: 4.0% CO2: 4.0% Lignin: 4.0%	
SCHEDULE: (Beginning of Year) Present Day: 1994 Start Construction: 1994 Control of Capital Expenditure: 1997 First Year of Operation: 1998 Economic Life: 20 years Annual Operating Schedule: 303 days/yr (Don't change this) 93.0% Mature Capacity Factor 93.0% First Year Capacity Factor		Tax Data: Federal income tax rate: 35.0% State income tax rate: 5.5% Effective rate: 40.8% Local tax rate (Gross Receipts Tax): 0.22% Property Tax Rate: 0.2% / \$100 Estimated Annual Expense: \$0 k/yr Ethanol Production Tax Credit: \$0.00 / gal for max. 15,000,000 gal/yr Last year credit applies: 2000 Power from Certain Renewable Tax Credit: 0 Economic Development Incentives: 0 (based on Table 2, Incentives Table) Tax Depreciation: Buildings: 31.5 100% decl. bal. Development Costs: 0 includes in Biomass Conv. Plant: Biomass Conversion: 5 100% decl. bal. Balance of Plant: 25 100% decl. bal. Book Depreciation: 20 years	
TECHNICAL: Capital Cost of Facility: 100% Sensitivity Index Land: \$10,000 k Buildings: \$11,411 k Development Costs: \$0 k Plant: Biomass Conversion: \$98,182 k Balance of Plant: \$16,800 k Total Present Day Capital Cost: \$125,203 k Escalation to Control of Expenditure: \$12,000 k (Note: land not escalated) Interest During Construction: \$9,500 k Total Capital Cost C.O.D. Date: \$127,703 k or \$214,627 per TPD Annual Operating Costs: 100% Sensitivity Index Fixed: Labor: \$0.222 / gal Ethanol \$3,300 k/yr Fixed Maintenance Materials: \$0.005 " \$600 k/yr Insurance: \$0.008 " \$1,200 k/yr Total Fixed O&M Cost: \$0.237 / gal Ethanol \$5,540 k/yr Variable: Variable Maintenance: \$0.000 / gal Ethanol \$0 k/yr Waste Disposal - Pretreatment: \$0.000 " \$0 " - Fermentation: \$0.000 " \$0 " - Solids Separation: \$0.000 " \$0 " Chemicals: \$0.160 " \$2,475 " Utilities: Power: \$0.220 " \$3,372 " Water: \$0.007 " \$106 " Natural Gas: \$0.240 " \$3,590 " Steam: \$0.000 " \$0 " Waste Water: \$0.004 " \$60 " Total Variable O&M Cost: \$0.632 / gal Ethanol \$9,376 k/yr Total Fixed & Variable O&M: \$1.065 / gal Ethanol \$14,916 k/yr		FINANCIAL: Debt Structure: Debt Fraction: 50% Financing Term: 10 (Note: Must be <= Economic Life) Interest Rate: 10.0% Amortization of Loan: Level pay Short Term Construction Interest: 6.0% Target Return on Equity: 20%	
Feedstock: Blend: Waste Paper: 0.0% 0.0 lb/gal Ethanol GFC: 0.0% 0.0 " Wood Waste: 100.0% 24.3 " 100.0% 24.3 (avg) Average		Tipping Fee: (Note: \$20.00 / wet ton) Maximum Tipping Fee: \$20.00 / wet ton Annual Quantities: 0 wet tons / year 0 " 180,255 " 180,255 wet tons / year	
Output: (per ton of feedstock) Ethanol: 62.38 gal/wet ton CO2: 0.00 GPD/wet ton Lignin: 0.48 tons/wet ton Power: 0.00 kWh/wet ton		Unit Price: \$2.41 / gal Required: 14,944,850 gal Biomass Ethanol / year \$0.00 / CF \$0.00 / ton \$0.00 / kWh	

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is treated as revenue; if negative, tipping

fee comes feedstock charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY PROFORMA FINANCIAL STATEMENT THIRD PARTY CONTRACTOR / DEVELOPER			TABLE 3: REQUIRED ETHANOL PRICE OPTION NO.: 17 50k TPD (Dry) of 100.0% WOOD WASTE, WITHOUT GASIFICATION; WOOD @ \$20/TON; NO LIGNIN DISPOSAL COST.										Stone & Webster Development Corporation Page 1 of 2								
End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007										
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14										
Operating Year	0	1	2	3	4	5	6	7	8	9	10										
ANNUAL CAPACITY FACTOR												83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)												180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)												14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$'000's)																					
REVENUE																					
Ethanol	\$2.41 /gallon	\$43,525	\$45,266	\$47,077	\$48,960	\$50,919	\$52,955	\$55,073	\$57,276	\$59,567	\$61,950										
CO2		0	0	0	0	0	0	0	0	0	0										
Lignin		0	0	0	0	0	0	0	0	0	0										
Power		0	0	0	0	0	0	0	0	0	0										
Tipping Fee- Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0										
- OTD	\$0.00	0	0	0	0	0	0	0	0	0	0										
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0										
Total Revenue		\$43,525	\$45,266	\$47,077	\$48,960	\$50,919	\$52,955	\$55,073	\$57,276	\$59,567	\$61,950										
LESS O&M EXPENSES																					
Labor - Supervisory		\$4,015	\$4,176	\$4,343	\$4,516	\$4,697	\$4,885	\$5,080	\$5,283	\$5,495	\$5,715										
Fixed Maintenance Materials		1,168	1,215	1,263	1,314	1,368	1,421	1,478	1,537	1,598	1,662										
Insurance		1,857	1,820	1,684	1,752	1,822	1,895	1,971	2,049	2,131	2,217										
Property Taxes		0	0	0	0	0	0	0	0	0	0										
Variable Maintenance		0	0	0	0	0	0	0	0	0	0										
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0										
- Fermentation		0	0	0	0	0	0	0	0	0	0										
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0	0										
Chemicals		2,890	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113										
Power		3,981	4,140	4,306	4,478	4,657	4,843	5,037	5,236	5,446	5,660										
Water		129	134	139	145	151	157	163	170	177	184										
Waste Water		80	83	86	90	93	97	101	105	109	113										
Steam		0	0	0	0	0	0	0	0	0	0										
Natural Gas		4,652	4,908	5,178	5,463	5,764	6,091	6,445	6,788	7,140	7,533										
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0										
- OTD		0	0	0	0	0	0	0	0	0	0										
- Waste Wood	\$20.00	4,386	4,562	4,744	4,934	5,131	5,338	5,550	5,772	6,003	6,243										
Gross Receipts Tax (Income Tax Deductible)		3,591	3,734	3,884	4,039	4,201	4,369	4,544	4,726	4,914	5,111										
Total O&M Expense		\$26,449	\$27,577	\$28,753	\$29,981	\$31,262	\$32,599	\$33,994	\$35,450	\$36,970	\$38,558										
GROSS MARGIN		\$17,077	\$17,689	\$18,324	\$18,979	\$19,656	\$20,356	\$21,079	\$21,826	\$22,598	\$23,394										
INTEREST		(10,218)	(9,575)	(8,870)	(8,094)	(7,241)	(6,303)	(5,270)	(4,135)	(2,886)	(1,511)										
TAX DEPRECIATION		(17,365)	(25,116)	(17,512)	(11,115)	(11,022)	(5,213)	(1,411)	(1,338)	(1,326)	(1,326)										
TAXABLE INCOME		(\$10,505)	(\$20,001)	(\$8,058)	(\$230)	\$1,393	\$7,840	\$14,397	\$16,353	\$18,386	\$20,567										
TAXES: Income		4,281	8,170	3,292	84	(569)	(3,203)	(5,881)	(8,880)	(7,511)	(6,987)										
Production Tax Credit		0	0	0	0	0	0	0	0	0	0										
INCOME AFTER TAX		(\$4,214)	(\$11,831)	(\$4,766)	(\$136)	\$624	\$4,637	\$8,518	\$7,473	\$10,875	\$12,159										
TAX DEPRECIATION		17,365	25,116	17,512	11,115	11,022	5,213	1,411	1,338	1,326	1,326										
PLANT COST	(\$127,703)																				
LOAN	\$102,162																				
PRINCIPAL PAYMENTS		(6,410)	(7,051)	(7,758)	(8,532)	(9,385)	(10,324)	(11,356)	(12,482)	(13,741)	(15,115)										
NET CASH FLOW	(\$25,541)	\$4,742	\$8,234	\$4,986	\$2,447	\$2,461	\$327	(\$1,429)	(\$1,481)	(\$1,539)	(\$1,629)										
CUMULATIVE CASH FLOW	(\$25,541)	(\$20,799)	(\$11,565)	(\$6,579)	(\$4,130)	(\$1,669)	(\$1,142)	(\$2,570)	(\$4,051)	(\$5,590)	(\$7,220)										
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA										
DEBT COVERAGE RATIO		1.027	1.064	1.102	1.142	1.182	1.224	1.268	1.313	1.358	1.407										
CUM NPV	20.0%	(\$25,541)	(\$21,589)	(\$15,177)	(\$12,290)	(\$11,110)	(\$10,121)	(\$10,343)	(\$10,857)	(\$10,986)	(\$11,249)										

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 3: REQUIRED ETHANOL PRICE
OPTION NO. 17

Stone & Webster Development Corporation

500 TPD (Dry) of 100.0% WOOD WASTE, WITHOUT GASIFICATION; WOOD @ \$20/TON; NO LIGNIN DISPOSAL COST.

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	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
End of Year	15	16	17	18	19	20	21	22	23	24
Years from P.D.	11	12	13	14	15	16	17	18	19	20
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol \$2.41 /gallon	\$64,428	\$67,005	\$69,886	\$72,473	\$75,372	\$78,387	\$81,522	\$84,783	\$88,174	\$91,701
CO2	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	0	0	0	0	0	0	0	0	0	0
- OTD	0	0	0	0	0	0	0	0	0	0
- Waste Wood	0	0	0	0	0	0	0	0	0	0
Total Revenue	\$64,428	\$67,005	\$69,886	\$72,473	\$75,372	\$78,387	\$81,522	\$84,783	\$88,174	\$91,701
LESS O&M EXPENSES										
Labor - Supervisory	\$5,843	\$6,181	\$6,428	\$6,685	\$6,953	\$7,231	\$7,520	\$7,821	\$8,134	\$8,459
Fixed Maintenance Materials	1,729	1,798	1,870	1,945	2,023	2,103	2,188	2,275	2,368	2,461
Insurance	2,305	2,397	2,493	2,593	2,697	2,805	2,917	3,033	3,155	3,281
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	0	0	0	0	0	0	0	0	0	0
Chemicals	4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854	6,088
Power	5,892	6,128	6,373	6,628	6,893	7,168	7,456	7,754	8,064	8,387
Water	191	199	208	215	223	232	242	251	261	272
Waste Water	118	123	127	133	138	143	149	155	161	168
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	7,847	8,384	8,845	9,332	9,845	10,387	10,958	11,561	12,199	12,867
Feedstock - Waste Paper	0	0	0	0	0	0	0	0	0	0
- OTD	0	0	0	0	0	0	0	0	0	0
- Waste Wood (\$20.00)	5,493	5,752	6,022	6,303	6,595	6,899	7,215	7,544	7,886	8,241
Gross Receipt Tax (Income Tax Deductible)	5,315	5,528	5,749	5,979	6,218	6,467	6,726	6,995	7,274	7,565
Total O&M Expenses	\$40,211	\$41,939	\$43,742	\$45,624	\$47,589	\$49,640	\$51,782	\$54,016	\$56,352	\$58,789
GROSS MARGIN	\$24,217	\$25,067	\$26,144	\$26,849	\$27,783	\$28,746	\$29,740	\$30,766	\$31,822	\$32,913
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(8,898)
TAXABLE INCOME	\$22,891	\$23,741	\$24,817	\$25,523	\$26,457	\$27,420	\$28,414	\$29,439	\$30,497	\$25,914
TAXES: Income	(8,351)	(9,698)	(10,058)	(10,428)	(10,807)	(11,201)	(11,607)	(12,028)	(12,456)	(14,588)
Production Tax Credit	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX	\$13,540	\$14,043	\$14,759	\$15,095	\$15,650	\$16,219	\$16,807	\$17,411	\$18,039	\$15,326
TAX DEPRECIATION	1,326	1,326	1,326	1,326	1,326	1,326	1,326	1,326	1,326	8,898
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$14,866	\$15,369	\$16,085	\$16,421	\$16,976	\$17,545	\$18,133	\$18,740	\$19,365	\$22,322
CUMULATIVE CASH FLOW	\$7,645	\$23,015	\$38,902	\$55,323	\$72,300	\$89,845	\$107,979	\$126,718	\$146,083	\$166,410
CUMULATIVE IRR	8.83%	10.88%	13.72%	15.58%	16.81%	17.87%	18.60%	19.17%	19.61%	20.00%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV 20.0%	(\$2,248)	(\$7,524)	(\$6,040)	(\$4,760)	(\$3,659)	(\$2,710)	(\$1,892)	(\$1,189)	(\$582)	\$0

CASE: 500 TPD (Dry) of 100.0% WOOD WASTE, WITHOUT GASIFICATION: WOOD @ \$40/TON: NO UGHIN DISPOSAL COST.

Note: The average listing fee is calculated so that the project yields the Target Return on Equity. If value is positive, Under fee is treated as revenue. If negative, Under fee becomes feeback charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 1B

500 TPD (Dry) of 100.0% WOOD WASTE, WITHOUT GASIFICATION; WOOD @ \$40/TON; NO LIGNIN DISPOSAL COST.

Bone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.O.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,256	180,256	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,580	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT											
REVENUE											
Ethanol	\$2.67 /gal ton	\$48,306	\$50,238	\$52,248	\$54,338	\$56,511	\$58,772	\$61,122	\$63,567	\$66,110	\$68,754
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tippling Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$48,306	\$50,238	\$52,248	\$54,338	\$56,511	\$58,772	\$61,122	\$63,567	\$66,110	\$68,754
LESS O&M EXPENSES											
Labor - Supervisory		\$4,015	\$4,176	\$4,343	\$4,516	\$4,687	\$4,863	\$5,040	\$5,223	\$5,405	\$5,715
Fixed Maintenance Materials		1,168	1,215	1,263	1,314	1,366	1,421	1,478	1,537	1,598	1,662
Insurance		1,557	1,620	1,684	1,752	1,822	1,895	1,971	2,049	2,131	2,217
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0	0
Chemicals		2,890	3,005	3,128	3,251	3,381	3,518	3,658	3,803	3,955	4,113
Power		3,681	4,140	4,308	4,478	4,657	4,843	5,037	5,238	5,448	5,666
Water		129	134	139	145	151	157	163	170	177	184
Waste Water		80	83	86	90	93	97	101	105	109	113
Sewer		0	0	0	0	0	0	0	0	0	0
Natural Gas		4,652	4,908	5,178	5,463	5,764	6,081	6,418	6,768	7,140	7,533
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood	(\$40.00)	8,772	9,123	9,488	9,868	10,262	10,673	11,100	11,544	12,008	12,488
Gross Receipts Tax (Income Tax Deductible)		3,985	4,145	4,310	4,483	4,662	4,849	5,043	5,244	5,454	5,672
Total O&M Expenses		\$31,229	\$32,548	\$33,924	\$35,356	\$36,855	\$38,415	\$40,043	\$41,741	\$43,512	\$45,380
GROSS MARGIN		\$17,077	\$17,690	\$18,324	\$18,979	\$19,656	\$20,358	\$21,079	\$21,826	\$22,598	\$23,374
INTEREST		(10,218)	(9,575)	(8,870)	(8,094)	(7,241)	(6,303)	(5,270)	(4,135)	(2,888)	(1,511)
TAX DEPRECIATION		(17,366)	(28,118)	(17,512)	(11,115)	(11,022)	(5,213)	(1,411)	(1,338)	(1,326)	(1,326)
TAXABLE INCOME		(\$10,505)	(\$20,001)	(\$8,058)	(\$230)	\$1,393	\$7,840	\$14,397	\$18,353	\$18,386	\$20,557
TAXES: Income		4,281	8,170	3,292	94	(569)	(3,203)	(5,881)	(6,680)	(7,511)	(8,397)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$6,214)	(\$11,831)	(\$4,766)	(\$136)	\$824	\$4,637	\$8,518	\$11,673	\$10,875	\$12,159
TAX DEPRECIATION		17,366	28,118	17,512	11,115	11,022	5,213	1,411	1,338	1,326	1,326
PLANT COST	(\$127,703)										
LOAN	\$102,162										
PRINCIPAL PAYMENTS		(6,410)	(7,051)	(7,756)	(8,532)	(9,385)	(10,324)	(11,358)	(12,492)	(13,741)	(15,115)
NET CASH FLOW	(\$25,541)	\$4,742	\$9,234	\$4,989	\$2,447	\$2,481	\$527	(\$1,429)	(\$1,481)	(\$1,539)	(\$1,029)
CUMULATIVE CASH FLOW	(\$25,541)	(\$20,799)	(\$11,565)	(\$6,576)	(\$4,130)	(\$1,649)	(\$1,122)	(\$2,550)	(\$4,031)	(\$5,570)	(\$7,220)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.027	1.064	1.102	1.142	1.182	1.224	1.268	1.313	1.359	1.407
CUM NPV	20.0%	(\$25,541)	(\$21,589)	(\$15,177)	(\$12,290)	(\$11,110)	(\$9,121)	(\$6,941)	(\$10,343)	(\$10,587)	(\$11,240)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO. 18

500 TPD (Dry) of 100.0% WOOD WASTE, WITHOUT GASIFICATION, WOOD @ \$40/TON; NO LIGNIN DISPOSAL COST.

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol	\$2.67/gallon	\$71,505	\$74,365	\$77,339	\$80,433	\$83,650	\$86,998	\$90,476	\$94,095	\$97,859
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$71,505	\$74,365	\$77,339	\$80,433	\$83,650	\$86,998	\$90,476	\$94,095	\$97,859
LESS O&M EXPENSES										
Labor - Supervisory		\$5,943	\$6,151	\$6,428	\$6,685	\$6,953	\$7,231	\$7,520	\$7,821	\$8,134
Fixed Maintenance Materials		1,729	1,769	1,870	1,945	2,023	2,103	2,188	2,275	2,366
Insurance		2,305	2,397	2,493	2,593	2,697	2,805	2,917	3,033	3,155
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0
Chemicals		4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854
Power		5,892	6,128	6,373	6,628	6,893	7,169	7,458	7,754	8,064
Water		191	199	208	215	223	232	242	251	261
Waste Water		119	123	127	133	138	143	149	155	161
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		7,947	8,384	8,846	9,332	9,845	10,387	10,958	11,561	12,196
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0
- Waste Wood		12,985	13,505	14,045	14,607	15,191	15,798	16,430	17,088	17,771
Gross Receipts Tax (Income Tax Deductible)		5,899	6,135	6,380	6,639	6,901	7,177	7,464	7,763	8,073
Total O&M Expenses		\$47,267	\$49,298	\$51,396	\$53,584	\$55,868	\$58,250	\$60,736	\$63,330	\$66,036
GROSS MARGIN		\$24,217	\$25,067	\$25,944	\$26,849	\$27,783	\$28,748	\$29,740	\$30,768	\$31,823
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)
TAXABLE INCOME		\$22,891	\$23,741	\$24,617	\$25,523	\$26,457	\$27,422	\$28,414	\$29,442	\$30,497
TAXES: Income		(8,351)	(8,698)	(9,056)	(9,426)	(9,807)	(10,201)	(10,607)	(11,026)	(11,458)
Production Tax Credit		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$14,540	\$15,043	\$15,561	\$16,097	\$16,650	\$17,221	\$17,807	\$18,416	\$19,039
TAX DEPRECIATION		1,326	1,326	1,326	1,326	1,326	1,326	1,326	1,326	1,326
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$14,866	\$15,369	\$15,887	\$16,423	\$16,976	\$17,547	\$18,133	\$18,740	\$19,365
CUMULATIVE CASH FLOW		\$7,648	\$23,016	\$38,902	\$55,325	\$72,300	\$89,845	\$107,979	\$126,719	\$146,083
CUMULATIVE IRR		5.63%	10.56%	13.72%	15.59%	16.91%	17.87%	18.60%	19.17%	19.61%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$9,248)	(\$7,524)	(\$4,040)	(\$4,780)	(\$3,659)	(\$2,710)	1	(\$1,169)	(\$562)

TABLE 2: CASE INPUT

03/27/00
09:38 PM

CASE: 1000 TPD (Dry) of 100.0% WOOD WASTE, WITH GASIFICATION; WOOD @ \$20/TON

INPUT:			
CASE: Option Number: 18 (Enter an Integer based on Table 1, Master Input Table)			
Plant Size (headstock rate)	1180	TPD wet, as-tipped	
Ethanol Production	98,000	GPD	
Plant Site	1		
Additional byproducts?	CO2: 0 Lignin: 0 Power: 1	(0 = No, 1 = Yes)	
SCHEDULE: (Beginning of Year)			
Present Day	1994		
Start Construction	1996		
Control of Capital Expenditure	1997		
First Year of Operation	1998		
Economic Life	20	years	
Annual Operating Schedule	303	days/yr	
	93.0%	Machine Capacity Factor	
	93.0%	First Year Capacity Factor	
(Don't change this)			
TECHNICAL:			
Capital Cost of Facility	100%	Sensitivity Index	
Land	\$15,811	k	
Buildings	\$18,158	k	
Development Costs	\$0	k	
Plant:			
Biomass Conversion	\$104,468	k	
Balance of Plant	\$50,023	k	
Total Present Day Capital Cost	\$222,459	k	
Escalation to Control of Expenditure	\$25,800	k	(Note: land not escalated)
Interest During Construction	\$18,620	k	
Total Capital Cost at C.O.D.	\$266,879	k	or \$225,452 per TPD
Annual Operating Costs	100%	Sensitivity Index	
Fixed:			
Labor	\$0,145	/gal Ethanol	\$4,200 k/yr
Fixed Maintenance Materials	\$0,070		\$2,070 k/yr
Insurance	\$0,090		\$2,590 k/yr
Total Fixed O&M Cost	\$0,305	/gal Ethanol	\$8,860 k/yr
Variable:			
Variable Maintenance	\$0,000	/gal Ethanol	\$0 k/yr
Waste Disposal - Pretreatment	\$0,000		\$0
- Fermentation	\$0,000		\$0
- Solids Separation	\$0,043		\$1,278
Chemicals	\$0,180		\$4,750
Utilities:			
Power	\$0,000		\$0
Water	\$0,003		\$80
Natural Gas	\$0,000		\$0
Sewer	\$0,000		\$0
Waste Water	\$0,004		\$121
Total Variable O&M Cost	\$0,210	/gal Ethanol	\$5,248 k/yr
Total Fixed & Variable O&M	\$0,515	/gal Ethanol	\$15,280 k/yr
Feedstock:			
Waste Paper	0.0%	0.0	lb/gal Ethanol
OTD	0.0%	0.0	
Wood Waste	100.0%	24.3	
	100.0%	24.3	lb/gal Average
Output:			
Ethanol	62.35	gal/wet ton	\$1.67 /gal Required
CO2	0.50	CF/wet ton	\$0.00 /CF
Lignin	0.50	tons/wet ton	\$0.00 /ton
Power	191.34	kwh/wet ton	\$0.00 /kwh
FINANCIAL:			
Debt Structure:			
Debt Fraction	60%		
Financing Term	10	years	(Note: Must be <= Economic Life)
Interest Rate	10.0%		
Amortization of Loan	Level		
Short Term Construction Interest	8.0%		
Target Return on Equity	20%		
Tipping Fee			
(Note)			
Maximum Tipping Fee	\$20.00	/wet ton	
Annual Quantities			
Wet tons / year	0		
CF CO2 / year	0		
tons Lignin / year	0		
kwh / year	58,195,400		

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is treated as revenue. If negative, tipping fee becomes feedstock charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/DEVELOPER

TABLE 3: REQUIRED ETHANOL PRICE
OPTION NO.: 19
1000 TPD (Dry) of 100.0% WOOD WASTE, WITH GASIFICATION; WOOD @ \$20/TON

Stone & Webster Development Corporation

Page 1 of 2

End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol	\$1.87/gallon	\$67,850	\$70,356	\$73,170	\$76,097	\$79,141	\$82,307	\$85,599	\$89,023	\$92,584	\$96,287
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		2,123	2,206	2,295	2,388	2,484	2,583	2,688	2,794	2,908	3,022
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$69,773	\$72,564	\$75,467	\$78,485	\$81,625	\$84,890	\$88,285	\$91,817	\$95,490	\$99,309
LESS O&M EXPENSES											
Labor - Supervisory		\$5,232	\$5,441	\$5,659	\$5,885	\$6,120	\$6,365	\$6,620	\$6,884	\$7,160	\$7,446
Fixed Maintenance Materials		2,618	2,619	2,724	2,833	2,946	3,064	3,187	3,314	3,447	3,585
Insurance		3,261	3,291	3,527	3,668	3,814	3,967	4,126	4,291	4,462	4,641
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		1,590	1,662	1,736	1,815	1,898	1,982	2,071	2,164	2,261	2,363
Chemicals		6,779	6,911	6,261	6,301	6,761	7,032	7,313	7,605	7,910	8,228
Power		0	0	0	0	0	0	0	0	0	0
Water		108	113	117	122	127	132	137	142	146	151
Waste Water		150	166	172	179	186	194	201	210	218	227
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$20.00	0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		5,776	5,987	6,226	6,475	6,734	7,003	7,284	7,575	7,878	8,193
Total O&M Expenses		\$33,176	\$34,511	\$35,900	\$37,345	\$38,848	\$40,411	\$42,037	\$43,729	\$45,489	\$47,320
GROSS MARGIN		\$36,597	\$38,053	\$39,567	\$41,141	\$42,777	\$44,479	\$46,248	\$48,088	\$50,000	\$51,989
INTEREST		(21,463)	(20,116)	(18,635)	(17,005)	(15,213)	(13,241)	(11,072)	(8,687)	(6,062)	(3,175)
TAX DEPRECIATION		(30,119)	(48,505)	(32,244)	(21,717)	(21,271)	(13,325)	(6,410)	(5,056)	(4,998)	(4,998)
TAXABLE INCOME		(\$14,985)	(\$31,568)	(\$11,312)	\$2,418	\$6,294	\$17,913	\$28,766	\$34,345	\$38,940	\$43,815
TAXES: Income		6,122	12,998	4,621	(988)	(2,571)	(7,317)	(12,150)	(14,030)	(16,907)	(17,999)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$8,864)	(\$18,673)	(\$6,691)	\$1,430	\$3,723	\$10,595	\$16,616	\$20,315	\$22,033	\$25,817
TAX DEPRECIATION		30,119	48,505	32,244	21,717	21,271	13,325	5,410	5,056	4,998	4,998
PLANT COST	(\$268,268)										
LOAN	\$214,630										
PRINCIPAL PAYMENTS		(13,467)	(14,814)	(16,295)	(17,925)	(19,717)	(21,689)	(23,958)	(26,244)	(28,668)	(31,755)
NET CASH FLOW		(\$53,855)	\$7,788	\$16,019	\$8,259	\$5,223	\$5,278	\$2,231	(\$841)	(\$872)	(\$840)
CUMULATIVE CASH FLOW		(\$53,855)	(\$46,068)	(\$29,851)	(\$20,593)	(\$15,370)	(\$10,094)	(\$7,863)	(\$8,705)	(\$9,577)	(\$11,254)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.048	1.068	1.133	1.178	1.225	1.273	1.324	1.377	1.431	1.488
CUM NPV	20.0%	(\$53,855)	(\$47,167)	(\$30,043)	(\$30,898)	(\$28,167)	(\$26,047)	(\$25,536)	(\$25,737)	(\$25,900)	(\$26,035)

BIOASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 3: REQUIRED ETHANOL PRICE
OPTION NO. 19
1800 TPD (Dry) of 100.0% WOOD WASTE, WITH GASIFICATION; WOOD @ \$20/TON

Stone & Webster Development Corporation

Page 2 of 2

End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol	\$1.67 /gallon	\$100,139	\$104,144	\$108,310	\$112,643	\$117,148	\$121,834	\$126,708	\$131,776	\$137,047
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		3,143	3,288	3,399	3,535	3,678	3,823	3,978	4,135	4,273
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$103,281	\$107,433	\$111,709	\$116,178	\$120,825	\$125,658	\$130,684	\$135,911	\$141,348
LESS O&M EXPENSES										
Labor - Supervisory		\$7,744	\$8,054	\$8,376	\$8,711	\$9,059	\$9,422	\$9,799	\$10,191	\$10,598
Fixed Maintenance Materials		3,728	3,877	4,032	4,193	4,361	4,536	4,717	4,904	5,102
Insurance		4,827	5,020	5,220	5,429	5,648	5,872	6,107	6,351	6,605
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		2,489	2,581	2,697	2,818	2,945	3,077	3,216	3,361	3,512
Chemicals		8,565	8,897	9,253	9,623	10,008	10,408	10,825	11,258	11,708
Power		0	0	0	0	0	0	0	0	0
Water		180	187	173	180	187	195	203	211	219
Waste Water		230	245	255	265	276	287	298	310	323
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0
- Waste Wood	\$20.00	12,985	13,505	14,045	14,607	15,191	15,798	16,430	17,089	17,771
Gross Receipts Tax (Income Tax Deductible)		6,521	6,882	7,216	7,585	7,969	8,367	8,781	9,210	9,651
Total O&M Expenses		\$49,225	\$51,206	\$53,267	\$55,411	\$57,642	\$59,962	\$62,375	\$64,887	\$67,500
GROSS MARGIN		\$54,057	\$56,227	\$58,442	\$60,766	\$63,183	\$65,695	\$68,308	\$71,024	\$73,848
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(4,998)	(4,998)	(4,998)	(4,998)	(4,998)	(4,998)	(4,998)	(4,998)	(15,485)
TAXABLE INCOME		\$49,059	\$51,229	\$53,444	\$55,768	\$58,185	\$60,697	\$63,310	\$66,026	\$68,833
TAXES: Income		(20,040)	(20,919)	(21,832)	(22,781)	(23,768)	(24,795)	(25,862)	(26,972)	(28,125)
Production Tax Credit		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$29,019	\$30,310	\$31,612	\$32,987	\$34,416	\$35,902	\$37,448	\$39,054	\$40,725
TAX DEPRECIATION		4,998	4,998	4,998	4,998	4,998	4,998	4,998	4,998	15,485
PLANT COST										
LOAD										
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$34,018	\$35,298	\$36,610	\$37,985	\$39,414	\$40,899	\$42,446	\$44,052	\$45,723
CUMULATIVE CASH FLOW		\$22,763	\$58,060	\$94,660	\$132,645	\$172,059	\$212,960	\$255,408	\$299,458	\$345,181
CUMULATIVE IRR		8.46%	11.13%	13.84%	15.84%	18.03%	19.83%	21.37%	22.61%	23.60%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$21,457)	(\$17,499)	(\$14,078)	(\$11,119)	(\$8,581)	(\$6,349)	(\$4,381)	(\$2,781)	(\$1,350)

TABLE 2: CASE INPUT

03/27/03
 05:08 PM
 CASE: 1000 TPD (Dry) of 100.0% WOOD WASTE, WITHOUT GASIFICATION; WOOD @ \$20/TON; \$50/TON UGHS DISPOSAL COST.

INPUT:		ECONOMIC:	
CASE:	Option Number	20 (Enter an integer based on Table 1, Master Input Table)	
	Plant Size (headlock tons)	1100 TPD wet, as-tipped	
	Ethanol Production	94,000 GPD	
	Plant Size	1	
	Additional byproducts?	CO2: 0 (0 = No, 1 = Yes)	
		Lignin: 1	
		Power: 0	
SCHEDULE:	(Beginning of Year)		
	Present Day	1994	
	Start Construction	1995	
	Centroid of Capital Expenditure	1997	
	First Year of Operation	1998	
	Economic Life	20 years	
	Annual Operating Schedule	300 days/yr	
		65.0% Machine Capacity Factor	
	(Don't change this)	65.0% First Year Capacity Factor	
TECHNICAL:	Capital Cost of Facility	100% Sensitivity Index	
	Land	\$15,611 k	
	Buildings	\$18,158 k	
	Development Costs	\$0 k	
	Plant:		
	Biomass Conversion	\$100,409 k	
	Balance of Plant	\$20,412 k	
	Total Present Day Capital Cost	\$188,977 k	
	Escalation to Centroid of Expenditure	\$19,100 k (Note: land not escalated)	
	Interest During Construction	\$15,000 k	
	Total Capital Cost at C.D. Date	\$203,977 k or \$179,953 per TPD	
	Annual Operating Costs	100% Sensitivity Index	
	Fixed:		
	Labor	\$0,111 /gal Ethanol	\$3,300 k/yr
	Fixed Maintenance Materials	\$0,002	\$1,500 k/yr
	Insurance	\$0,088	\$2,030 k/yr
	Total Fixed O&M Cost	\$0,201 /gal Ethanol	\$6,830 k/yr
	Variable:		
	Variable Maintenance	\$0,000	\$0 k/yr
	Waste Disposal - Pretreatment	\$0,000	\$0 k/yr
	- Fermentation	\$0,000	\$0 k/yr
	- Solids Separation	\$0,296	\$8,788 k/yr
	Chemicals	\$0,180	\$4,750 k/yr
	Utilities:		
	Power	\$0,220	\$6,544 k/yr
	Water	\$0,007	\$212 k/yr
	Natural Gas	\$0,240	\$7,120 k/yr
	Steam	\$0,000	\$0 k/yr
	Waste Water	\$0,004	\$121 k/yr
	Total Variable O&M Cost	\$0,528 /gal Ethanol	\$17,542 k/yr
	Total Fixed & Variable O&M	\$1,159 /gal Ethanol	\$34,402 k/yr
	Feedstock:		
	Waste Paper	0.0%	0.0 lb/gal Ethanol
	OTD	0.0%	0.0
	Wood Waste	100.0%	24.3
		100.0%	24.3 lb/gal Average
	Output:	(per ton of feedstock)	Unit Price
	Ethanol	62.35 gal/wet ton	\$2.38 /gal Required
	CO2	0.00 CF/wet ton	\$3,000 /ACF
	Lignin	0.49 tons/wet ton	\$5.00 /ton
	Power	0.00 kWh/wet ton	\$0.03 /kwh
	Required	29,859,100 gal Ethanol / year	
		0 CF CO2 / year	
		175,711 tons Lignin / year	
		0 kWh / year	
	Annual Quantities		
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		200,611 wet tons / year	
	Annual Quantities		
		0 wet tons / year	
		0	
		200,511	
		200,611 wet tons / year	
	Annual Quantities		
		0 wet tons / year	
		0	
		200,511	
		200,611 wet tons / year	
	Annual Quantities		
		0 wet tons / year	
		0	
		200,511	
		200,611 wet tons / year	
	Annual Quantities		
		0 wet tons / year	
		0	
		200,511	
		200,611 wet tons / year	
	Annual Quantities		
		0 wet tons / year	
		0	
		200,511	
		200,611 wet tons / year	
	Annual Quantities		
		0 wet tons / year	

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 20

1000 TPD (Dry) at 100.0% WOOD WASTE, WITHOUT GASIFICATION; WOOD @ \$20/TON; \$50/TON LIGNIN DISPOSAL COST.

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.O.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol <input type="text" value="\$2.39"/> /gallon		\$88,240	\$89,689	\$93,277	\$97,008	\$100,888	\$104,924	\$109,121	\$113,485	\$118,025	\$122,748
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper <input type="text" value="\$0.00"/>		0	0	0	0	0	0	0	0	0	0
- OTD <input type="text" value="\$0.00"/>		0	0	0	0	0	0	0	0	0	0
- Waste Wood <input type="text" value="\$0.00"/>		0	0	0	0	0	0	0	0	0	0
Total Revenue		\$88,240	\$89,689	\$93,277	\$97,008	\$100,888	\$104,924	\$109,121	\$113,485	\$118,025	\$122,748
LESS O&M EXPENSES											
Labor - Supervisory		\$4,015	\$4,176	\$4,343	\$4,516	\$4,697	\$4,885	\$5,080	\$5,283	\$5,495	\$5,715
Fixed Maintenance Materials		1,861	1,938	2,013	2,094	2,179	2,265	2,355	2,450	2,548	2,649
Insurance		2,470	2,589	2,671	2,778	2,889	3,005	3,128	3,250	3,380	3,515
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		10,848	11,441	11,858	12,494	13,056	13,644	14,258	14,898	15,570	16,270
Chemicals		5,779	6,011	6,251	6,501	6,761	7,032	7,313	7,605	7,910	8,228
Power		7,861	8,280	8,811	9,356	9,914	9,896	10,074	10,477	10,896	11,332
Water		258	268	279	290	302	314	328	339	353	367
Waste Water		159	168	172	179	188	194	201	210	218	227
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		9,305	9,817	10,357	10,926	11,527	12,161	12,830	13,538	14,280	15,066
Feedstock - Waste Paper <input type="text" value="\$0.00"/>		0	0	0	0	0	0	0	0	0	0
- OTD <input type="text" value="\$0.00"/>		0	0	0	0	0	0	0	0	0	0
- Waste Wood <input type="text" value="\$20.00"/>		8,772	9,123	9,458	9,868	10,262	10,673	11,100	11,544	12,008	12,486
Gross Receipts Tax (Income Tax Deductible)		7,115	7,329	7,695	8,063	8,323	8,656	9,002	9,363	9,737	10,127
Total O&M Expenses		\$58,845	\$61,185	\$63,837	\$66,805	\$69,486	\$72,514	\$75,865	\$78,955	\$82,381	\$85,979
GROSS MARGIN		\$27,595	\$28,504	\$29,440	\$30,402	\$31,382	\$32,410	\$33,455	\$34,530	\$35,634	\$36,767
INTEREST		(16,246)	(16,227)	(14,106)	(12,872)	(11,515)	(10,023)	(8,381)	(6,575)	(4,589)	(2,404)
TAX DEPRECIATION		(27,613)	(44,710)	(27,648)	(17,675)	(17,528)	(9,881)	(2,244)	(2,128)	(2,109)	(2,109)
TAXABLE INCOME		(\$16,267)	(\$31,433)	(\$12,513)	(\$144)	\$2,349	\$12,506	\$22,630	\$25,827	\$28,936	\$32,254
TAXES: Income		6,645	12,840	5,112	59	(960)	(5,109)	(9,328)	(10,550)	(11,820)	(13,178)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$9,622)	(\$18,592)	(\$7,402)	(\$85)	\$1,389	\$7,397	\$13,504	\$15,277	\$17,116	\$19,076
TAX DEPRECIATION		27,613	44,710	27,648	17,675	17,528	9,881	2,244	2,128	2,109	2,109
PLANT COST											
LOAN											
PRINCIPAL PAYMENTS		(10,194)	(11,213)	(12,334)	(13,588)	(14,925)	(16,417)	(18,059)	(19,865)	(21,851)	(24,038)
NET CASH FLOW		(\$40,615)	\$7,800	\$14,905	\$6,182	\$4,022	\$3,993	\$861	(\$2,310)	(\$2,460)	(\$2,627)
CUMULATIVE CASH FLOW		(\$40,615)	(\$32,815)	(\$17,911)	(\$8,799)	(\$5,777)	(\$1,785)	(\$924)	(\$3,234)	(\$5,694)	(\$8,321)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.044	1.078	1.113	1.150	1.187	1.226	1.265	1.305	1.348	1.391
CUM NPV											
20.0%		(\$40,615)	(\$34,115)	(\$23,786)	(\$18,071)	(\$17,131)	(\$15,527)	(\$13,853)	(\$16,455)	(\$18,964)	(\$17,424)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 3: REQUIRED ETHANOL PRICE
OPTION NO. 20
1000 TPD (Dry) of 100.0% WOOD WASTE, WITHOUT GASIFICATION; WOOD @ \$20/TON; \$50/TON LIGNIN DISPOSAL COST.

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol	\$2.39 /gallon	\$127,856	\$132,782	\$138,072	\$143,595	\$149,339	\$155,313	\$161,525	\$167,998	\$174,705
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$127,856	\$132,782	\$138,072	\$143,595	\$149,339	\$155,313	\$161,525	\$167,998	\$174,705
LESS O&M EXPENSES										
Labor - Supervisory		\$5,943	\$6,181	\$6,428	\$6,685	\$6,953	\$7,231	\$7,520	\$7,821	\$8,134
Fixed Maintenance Materials		2,795	2,968	3,080	3,099	3,223	3,392	3,487	3,626	3,771
Insurance		3,656	3,802	3,954	4,112	4,277	4,449	4,628	4,811	5,003
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		17,003	17,768	18,567	19,409	20,276	21,188	22,142	23,138	24,179
Chemicals		8,535	8,897	9,263	9,623	10,008	10,408	10,825	11,268	11,708
Power		11,785	12,256	12,747	13,258	13,787	14,338	14,912	15,508	16,128
Water		382	397	413	430	447	465	483	502	523
Waste Water		238	245	255	265	278	287	298	310	323
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		15,894	16,768	17,681	18,654	19,690	20,773	21,916	23,121	24,393
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0
- Waste Wood		12,985	13,508	14,048	14,507	15,101	15,798	16,430	17,098	17,771
Gross Receipts Tax (Income Tax Deductible)		10,532	10,933	11,391	11,847	12,320	12,813	13,328	13,859	14,413
Total O&M Expenses		\$89,728	\$93,838	\$97,724	\$101,991	\$106,447	\$111,102	\$115,964	\$121,042	\$126,348
GROSS MARGIN		\$37,930	\$39,124	\$40,349	\$41,604	\$42,892	\$44,210	\$45,561	\$46,944	\$48,367
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(1,129)
TAXABLE INCOME		\$35,821	\$37,015	\$38,240	\$39,495	\$40,783	\$42,102	\$43,452	\$44,835	\$46,238
TAXES: Income		(14,933)	(15,121)	(15,621)	(16,134)	(16,660)	(17,199)	(17,750)	(18,315)	(18,893)
Production Tax Credit		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$21,188	\$21,894	\$22,619	\$23,361	\$24,123	\$24,903	\$25,702	\$26,520	\$27,345
TAX DEPRECIATION		2,109	2,109	2,109	2,109	2,109	2,109	2,109	2,109	1,129
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$23,297	\$24,003	\$24,728	\$25,470	\$26,232	\$27,012	\$27,811	\$28,629	\$29,468
CUMULATIVE CASH FLOW		\$12,127	\$36,131	\$60,859	\$86,329	\$112,561	\$139,573	\$167,384	\$196,013	\$225,479
CUMULATIVE IRR		5.78%	10.95%	13.62%	15.67%	16.96%	17.91%	18.63%	19.16%	19.62%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	29.0%	(\$14,289)	(\$11,597)	(\$8,288)	(\$7,302)	(\$5,596)	(\$4,139)	(\$2,885)	(\$1,809)	(\$887)

TABLE 2: CASE INPUT

03/27/06
05:38 PM

CASE: 1000 TPD (Dry) of 100.0% WOOD WASTE, WITH GASIFICATION; WOOD @ \$40/TON

INPUT:				ECONOMICS:			
CASE:		Option Number: 21 (Enter an Integer based on Table 1, Master Input Table)		ECONOMICS:		Inflation Rate (PPH): 4.0%	
Plant Size (feedstock rate): 1000 TPD wet, as-shipped		GPD		Escalation Rates (Nominal):		Capital Cost: 4.0%	
Ethanol Production: 88,000				O&M Costs:		Labor: 4.0%	
Plant Site: 1				Maintenance Materials: 4.0%		Repairs: 4.0%	
Additional byproducts? CO2: 0 (0 = No, 1 = Yes)				Waste Disposal - Pretreatment: 4.5%		- Fermentation: 4.5%	
Light: 0				- Solids Separation: 4.5%		Chemicals: 4.0%	
Power: 1				Utilities:		Power: 4.0%	
				Water: 4.0%		Natural Gas: 8.0%	
				Steam: 4.0%		Waste Water: 4.0%	
				Feedstock:		Ethanol: 4.0%	
				Output:		CO2: 4.0%	
				Liquor: 4.0%			
SCHEDULE: (Beginning of Year)				Tax Data:			
Present Day: 1994				Federal Income Tax Rate: 35.0%			
Start Construction: 1996				State Income Tax Rate: 8.0%			
Ceasid of Capital Expenditure: 1997				Effective Rate: 40.8%			
First Year of Operation: 1998				Local Tax Rate (Gross Receipts Tax): 8.25%			
Economic Life: 20 years				Property Tax Rate: 0.0% / \$100			
Annual Operating Schedule: 300 days/yr				Estimated Annual Expense: \$0 / yr			
Mature Capacity Factor: 83.0%				Ethanol Production Tax Credit: \$0.00 / gal for max. 15,000,000 gal/yr			
First Year Capacity Factor: 83.0%				Last year credit applies: 5000			
TECHNICAL:				Power from Certain Renew. Tax Credit: 0 / kWh (based on Table 2, Incentive Table)			
Capital Cost of Facility: 100% Sensitivity Index				Economic Development Incentive: 0			
Land: \$15,611 k				Tax Depreciation:		Life: 31.5 Rate: 100% decl. bal.	
Buildings: \$18,156 k				Buildings:		20 100% decl. bal.	
Development Costs: 60 k				Development Costs:		20 100% decl. bal.	
Plant:				Plant:		20 100% decl. bal.	
Biomass Conversion Balance of Plant: \$109,485 k				Biomass Conversion Balance of Plant:		20 100% decl. bal.	
Total Present Day Capital Cost: \$222,548 k				Book Depreciation:		20 100% decl. bal.	
Escalation to Ceasid of Expenditure: \$25,940 k (Note: land not escalated)				Debt Structure:		Debt Fraction: 60%	
Interest During Construction: \$19,930 k				Debt Fraction:		10 (Note: Must be <= Economic Life)	
Total Capital Cost at C.O. Date: \$268,388 k or \$225,452 per TPD				Financing Terms:		Interest Rate: 10.0%	
Annual Operating Costs: 100% Sensitivity Index				Amortization of Loan:		Short Term Construction Interest: 8.0%	
Fixed:				Target Return on Equity: 30%			
Labor: 100% Sensitivity Index: \$2,143 / gal Ethanol \$4,300 / yr							
Fixed Maintenance Materials: \$2,070 / yr							
Insurance: 1.0% of Capital Cost: \$2,080 / yr							
Total Fixed O&M Cost: \$6,453 / gal Ethanol \$12,650 / yr							
Variable:							
Variable Maintenance: \$0.000 / gal Ethanol \$0 / yr							
Waste Disposal - Pretreatment: \$0.000 / yr							
- Fermentation: \$0.000 / yr							
- Solids Separation: \$0.043 / yr							
Chemicals: \$2,180 / yr							
Utilities:							
Power: \$2,000 / yr							
Water: \$2,000 / yr							
Natural Gas: \$2,000 / yr							
Steam: \$2,000 / yr							
Waste Water: \$2,004 / yr							
Total Variable O&M Cost: \$2,210 / gal Ethanol \$4,248 / yr							
Total Fixed & Variable O&M: \$8,663 / gal Ethanol \$16,898 / yr							
Feedstock:				Annual Quantities:			
Waste Paper: 0.0% 0.0 / gal Ethanol				Wet tons / year: 0			
OTD: 0.0% 0.0 / gal Ethanol				CF CO2 / year: 0			
Wood Waste: 100.0% 243 / gal Avg. gal				Wet tons / year: 389,511			
				Wet tons / year: 389,511			
Output:							
Ethanol: 82.35 gal/wet ton							
CO2: 0.00 CF/wet ton							
Liquor: 0.00 ton/wet ton							
Power: (gt 34) ton/wet ton							

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is biomass revenue. If negative, tipping fee becomes feedstock charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 3: REQUIRED ETHANOL PRICE
OPTION NO.: 21
1000 TPD (Dry) of 100.0% WOOD WASTE, WITH GASIFICATION; WOOD @ \$40/TON

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (tons per Year)		380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol	\$2.14 /gallon	\$77,211	\$80,300	\$83,512	\$86,632	\$89,326	\$93,919	\$97,897	\$101,605	\$105,069	\$109,099
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		2,123	2,208	2,296	2,368	2,464	2,553	2,656	2,794	2,906	3,022
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$79,334	\$82,508	\$85,808	\$89,240	\$92,810	\$96,522	\$100,383	\$104,399	\$108,575	\$112,918
LESS O&M EXPENSES											
Labor - Supervisory		\$5,232	\$5,441	\$5,659	\$5,885	\$6,120	\$6,365	\$6,620	\$6,884	\$7,160	\$7,448
Fixed Maintenance Materials		2,518	2,619	2,724	2,833	2,946	3,064	3,187	3,314	3,447	3,585
Insurance		3,261	3,381	3,527	3,668	3,814	3,967	4,126	4,291	4,462	4,641
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		1,590	1,662	1,736	1,816	1,896	1,982	2,071	2,164	2,261	2,363
Chemicals		5,779	6,011	6,251	6,501	6,761	7,032	7,313	7,606	7,910	8,226
Power		0	0	0	0	0	0	0	0	0	0
Water		100	113	117	122	127	132	137	142	148	154
Waste Water		159	168	172	179	186	194	201	210	218	227
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$40.00	17,545	18,246	18,976	19,735	20,525	21,348	22,200	23,088	24,011	24,972
Gross Receipts Tax (Income Tax Deductible)		8,545	8,807	9,079	9,362	9,657	9,963	10,282	10,613	10,957	11,316
Total O&M Expenses		\$42,738	\$44,456	\$46,241	\$48,100	\$50,033	\$52,044	\$54,135	\$56,311	\$58,574	\$60,929
GROSS MARGIN		\$36,597	\$38,053	\$39,567	\$41,141	\$42,777	\$44,478	\$46,248	\$48,088	\$50,000	\$51,989
INTEREST		(21,463)	(20,110)	(18,635)	(17,005)	(15,213)	(13,241)	(11,072)	(8,687)	(6,082)	(3,175)
TAX DEPRECIATION		(30,110)	(48,505)	(32,244)	(21,717)	(21,271)	(13,325)	(5,410)	(3,058)	(4,988)	(4,988)
TAXABLE INCOME		(\$14,976)	(\$31,562)	(\$11,312)	\$2,419	\$9,294	\$17,012	\$29,765	\$34,345	\$36,940	\$43,815
TAXES, Income		0.122	12,898	4,821	(988)	(2,571)	(7,317)	(12,158)	(14,030)	(15,907)	(17,889)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$14,976)	(\$31,562)	(\$11,312)	\$2,419	\$9,294	\$17,012	\$29,765	\$34,345	\$36,940	\$43,815
TAX DEPRECIATION		(30,110)	(48,505)	(32,244)	(21,717)	(21,271)	(13,325)	(5,410)	(3,058)	(4,988)	(4,988)
PLANT COST	(\$268,285)										
LOAN	\$214,630										
PRINCIPAL PAYMENTS		(13,487)	(14,814)	(16,295)	(17,925)	(19,717)	(21,689)	(23,856)	(26,244)	(28,869)	(31,755)
NET CASH FLOW	(\$53,858)	\$7,788	\$16,019	\$9,258	\$5,223	\$5,276	\$2,231	(\$841)	(\$872)	(\$837)	(\$840)
CUMULATIVE CASH FLOW	(\$53,858)	(\$46,069)	(\$29,851)	(\$20,593)	(\$15,370)	(\$10,094)	(\$7,863)	(\$8,708)	(\$8,577)	(\$10,414)	(\$11,254)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.048	1.089	1.133	1.175	1.225	1.279	1.324	1.377	1.431	1.488
CUM NPV	20.0%	(\$53,858)	(\$47,167)	(\$36,043)	(\$30,686)	(\$28,167)	(\$26,047)	(\$24,300)	(\$25,335)	(\$25,737)	(\$26,036)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 22

1000 TPD (Dry) of 100.0% WOOD WASTE, WITHOUT GASIFICATION; WOOD @ \$40/TON; \$60/TON LIGNIN DISPOSAL COST.

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		20,680,100	20,680,100	20,680,100	20,680,100	20,680,100	20,680,100	20,680,100	20,680,100	20,680,100	20,680,100
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol	\$2.65/gallon	\$95,801	\$98,833	\$103,618	\$107,763	\$112,073	\$116,556	\$121,218	\$126,067	\$131,110	\$136,354
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$95,801	\$98,833	\$103,618	\$107,763	\$112,073	\$116,556	\$121,218	\$126,067	\$131,110	\$136,354
LESS O&M EXPENSES											
Labor - Supervisory		\$4,035	\$4,176	\$4,343	\$4,516	\$4,697	\$4,885	\$5,080	\$5,283	\$5,495	\$5,716
Fixed Maintenance Materials		1,661	1,836	2,013	2,094	2,176	2,265	2,355	2,450	2,548	2,648
Insurance		2,470	2,569	2,671	2,778	2,889	3,005	3,125	3,250	3,380	3,515
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		10,948	11,441	11,850	12,484	13,056	13,644	14,255	14,889	15,570	16,279
Chemicals		5,779	6,011	6,251	6,501	6,761	7,032	7,313	7,605	7,910	8,228
Power		7,901	8,280	8,611	8,928	9,314	9,686	10,074	10,477	10,896	11,332
Water		268	268	279	290	302	314	328	339	353	367
Waste Water		189	186	172	179	186	184	201	210	218	227
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		9,305	9,817	10,357	10,926	11,527	12,161	12,830	13,636	14,280	15,086
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood	(\$40.00)	17,545	18,248	18,978	19,735	20,525	21,348	22,200	23,086	24,011	24,972
Gross Receipts Tax (Income Tax Deductible)		7,904	8,220	8,548	8,890	9,248	9,618	10,001	10,401	10,817	11,249
Total O&M Expenses		\$68,208	\$71,128	\$74,178	\$77,360	\$80,691	\$84,140	\$87,763	\$91,537	\$95,476	\$99,587
GROSS MARGIN		\$27,593	\$28,504	\$29,440	\$30,402	\$31,382	\$32,416	\$33,455	\$34,530	\$35,634	\$36,767
INTEREST		(16,246)	(15,227)	(14,105)	(12,872)	(11,515)	(10,023)	(8,381)	(6,578)	(4,589)	(2,404)
TAX DEPRECIATION		(27,615)	(44,710)	(27,848)	(17,675)	(17,528)	(9,861)	(2,244)	(2,128)	(2,108)	(2,109)
TAXABLE INCOME		(\$16,267)	(\$31,433)	(\$12,513)	(\$144)	\$2,349	\$12,508	\$22,830	\$25,827	\$28,936	\$32,254
TAXES: Income		5,646	12,840	5,112	58	(590)	(5,109)	(3,328)	(10,550)	(11,820)	(13,175)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$10,622)	(\$18,592)	(\$7,402)	(\$86)	\$1,359	\$7,397	\$19,504	\$15,277	\$17,116	\$19,079
TAX DEPRECIATION		27,615	44,710	27,848	17,675	17,528	9,881	2,244	2,128	2,109	2,109
PLANT COST		(\$203,077)									
LOAN		\$182,461									
PRINCIPAL PAYMENTS		(10,194)	(11,213)	(12,934)	(13,588)	(14,925)	(16,417)	(18,059)	(19,885)	(21,851)	(24,036)
NET CASH FLOW		(\$40,615)	\$7,900	\$14,505	\$8,112	\$4,022	\$3,993	\$961	(\$2,370)	(\$2,460)	(\$2,827)
CUMULATIVE CASH FLOW		(\$40,615)	(\$32,915)	(\$17,911)	(\$9,799)	(\$5,777)	(\$1,785)	(\$924)	(\$3,234)	(\$5,694)	(\$8,321)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.044	1.078	1.113	1.150	1.187	1.228	1.265	1.308	1.348	1.391
CUM NPV	20.0%	(\$40,615)	(\$34,115)	(\$23,765)	(\$10,071)	(\$17,131)	(\$15,527)	(\$14,478)	(\$13,853)	(\$13,455)	(\$13,424)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 3: REQUIRED ETHANOL PRICE
OPTION NO. 21
1000 TPD (Dry) of 100.0% WOOD WASTE, WITH GASIFICATION; WOOD @ \$40/TON

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100
CASH FLOW STATEMENT (\$'000's)										
REVENUE										
Ethanol	\$2.14/gallon	\$114,292	\$118,563	\$123,616	\$128,563	\$133,705	\$139,053	\$144,615	\$150,400	\$156,416
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		3,143	3,288	3,399	3,535	3,676	3,823	3,976	4,135	4,301
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$117,434	\$122,132	\$127,017	\$132,098	\$137,381	\$142,877	\$148,592	\$154,535	\$160,717
LESS O&M EXPENSES										
Labor - Supervisory		\$7,744	\$8,064	\$8,378	\$8,711	\$9,059	\$9,422	\$9,799	\$10,191	\$10,598
Fixed Maintenance Materials		3,728	3,877	4,032	4,193	4,361	4,536	4,717	4,906	5,102
Insurance		4,627	5,020	5,220	5,429	5,646	5,872	6,107	6,351	6,603
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		2,469	2,581	2,697	2,816	2,945	3,077	3,216	3,361	3,512
Chemicals		8,565	8,897	9,263	9,623	10,008	10,408	10,825	11,258	11,708
Power		0	0	0	0	0	0	0	0	0
Water		160	167	173	180	187	195	203	211	219
Waste Water		236	245	255	265	276	287	298	310	323
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0
- Waste Wood	\$40.00	28,970	27,009	28,090	29,213	30,382	31,597	32,861	34,175	35,542
Gross Receipts Tax (Income Tax Deductible)		9,988	10,076	10,479	10,888	11,334	11,787	12,259	12,749	13,259
Total O&M Expenses		\$63,376	\$65,925	\$68,575	\$71,331	\$74,199	\$77,181	\$80,284	\$83,512	\$86,969
GROSS MARGIN		\$54,057	\$56,207	\$58,442	\$60,768	\$63,183	\$65,695	\$68,308	\$71,024	\$73,748
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(4,998)	(4,998)	(4,998)	(4,998)	(4,998)	(4,998)	(4,998)	(4,998)	(15,486)
TAXABLE INCOME		\$49,059	\$51,209	\$53,444	\$55,768	\$58,185	\$60,697	\$63,310	\$66,026	\$68,850
TAXES: Income		(20,040)	(20,819)	(21,832)	(22,781)	(23,768)	(24,795)	(25,862)	(26,972)	(28,125)
Production Tax Credit		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$29,019	\$30,390	\$31,612	\$32,987	\$34,418	\$35,902	\$37,448	\$39,054	\$40,725
TAX DEPRECIATION		4,998	4,998	4,998	4,998	4,998	4,998	4,998	4,998	15,486
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$34,016	\$35,388	\$36,610	\$37,985	\$39,414	\$40,900	\$42,446	\$44,052	\$45,723
CUMULATIVE CASH FLOW		\$22,763	\$58,050	\$94,660	\$132,645	\$172,059	\$212,960	\$255,406	\$299,458	\$345,181
CUMULATIVE IRR		6.46%	11.13%	13.84%	15.84%	16.93%	17.89%	18.61%	19.17%	19.61%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$21,457)	(\$17,499)	(\$14,078)	(\$11,119)	(\$8,561)	(\$6,349)	(\$4,438)	(\$2,781)	(\$1,350)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO. 22

1000 TPD (Dry) of 100.0% WOOD WASTE, WITHOUT GASIFICATION; WOOD @ \$40/TON; \$50/TON LIGNIN DISPOSAL COST.

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol	\$2.65/gallon	\$141,608	\$147,481	\$153,350	\$159,515	\$165,896	\$172,532	\$179,433	\$186,610	\$194,075
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tipping Fee- Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$141,608	\$147,481	\$153,350	\$159,515	\$165,896	\$172,532	\$179,433	\$186,610	\$194,075
LESS O&M EXPENSES										
Labor - Supervisory		\$5,943	\$6,181	\$6,426	\$6,665	\$6,953	\$7,231	\$7,520	\$7,821	\$8,134
Fixed Maintenance Materials		2,765	2,866	2,980	3,099	3,223	3,352	3,487	3,626	3,771
Insurance		3,656	3,902	3,954	4,112	4,277	4,446	4,628	4,811	5,003
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		17,003	17,768	18,567	19,403	20,276	21,188	22,142	23,138	24,179
Chemicals		8,555	8,897	9,253	9,623	10,006	10,405	10,825	11,268	11,708
Power		11,765	12,256	12,747	13,256	13,797	14,336	14,912	15,505	16,129
Water		382	397	413	430	447	465	483	502	523
Waste Water		236	245	255	265	276	287	298	310	323
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		15,894	16,768	17,691	18,664	19,690	20,773	21,916	23,121	24,390
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0
- Waste Wood		25,970	27,000	28,090	29,213	30,382	31,597	32,861	34,175	35,542
Gross Receipts Tax (Income Tax Deductible)		11,599	12,167	12,654	13,160	13,686	14,234	14,803	15,395	16,011
Total O&M Expenses		\$103,878	\$108,357	\$113,031	\$117,911	\$123,004	\$128,321	\$133,871	\$139,668	\$145,715
GROSS MARGIN		\$37,730	\$39,124	\$40,319	\$41,604	\$42,892	\$44,210	\$45,561	\$46,942	\$48,360
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(11,129)
TAXABLE INCOME		\$35,621	\$37,015	\$38,210	\$39,495	\$40,783	\$42,102	\$43,452	\$44,833	\$46,251
TAXES: Income		(14,633)	(15,121)	(15,621)	(16,134)	(16,660)	(17,198)	(17,750)	(18,315)	(18,893)
Production Tax Credit		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$21,188	\$21,894	\$22,589	\$23,362	\$24,123	\$24,903	\$25,702	\$26,520	\$27,357
TAX DEPRECIATION		2,109	2,109	2,109	2,109	2,109	2,109	2,109	2,109	11,129
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$23,297	\$24,003	\$24,728	\$25,470	\$26,232	\$27,012	\$27,811	\$28,629	\$29,466
CUMULATIVE CASH FLOW		\$12,127	\$36,131	\$60,858	\$86,329	\$112,561	\$139,573	\$167,384	\$196,013	\$225,479
CUMULATIVE IRR		5.78%	10.88%	13.82%	15.87%	16.96%	17.91%	18.63%	19.18%	20.00%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$14,289)	(\$11,597)	(\$8,289)	(\$7,302)	(\$5,599)	(\$4,136)	(\$2,895)	(\$1,809)	(\$887)

TABLE 2: CASE INPUT

03/27/05
05:38 PM

CASE: 1000 TPD (Dry) of 100.0% WOOD WASTE, WITHOUT GABIFICATION; WOOD @ \$40/TON; \$50/TON UGHER DISPOSAL COST.

INPUT:				ECONOMIC:			
CASE:		Option Number: 22 (Enter as Integer based on Table 1, Master Input Table)		ECONOMIC:		Inflation Rate (PP)	
Plant Size (feedstock rate)		1000 TPD wet, as-shipped GPD		Escalation Rate (Nominal)		4.0%	
Ethanol Production		99,000		Capital Cost		4.0%	
Plant Site		1		O&M Costs:			
Additional byproducts?		CO2: 0 (0 = No, 1 = Yes)		Labor		4.0%	
		Lignin: 1		Maintenance Materials		4.0%	
		Power: 0		Insurance		4.0%	
SCHEDULE:		Beginning of Year		Waste Disposal - Pretreatment		4.0%	
Present Day		1994		- Fermentation		4.0%	
Start Construction		1995		- Solids Separation		4.0%	
Centroid of Capital Expenditure		1997					
First Year of Operation		1998		Chemicals		4.0%	
Economic Life		20 years		Utilities			
Annual Operating Schedule		300 days/yr		Power		4.0%	
		Machine Capacity Factor		Water		4.0%	
		First Year Capacity Factor		Natural Gas		8.0%	
				Steam		4.0%	
				Waste Water		4.0%	
				Feedstock		4.0%	
				Output:			
				Ethanol		4.0%	
				CO2		4.0%	
				Lignin		4.0%	
TECHNICAL:		Capital Cost of Facility: 100% Sensitivity Index		Tax Data:			
Land		\$15,811 k		Federal Income Tax Rate		35.0%	
Buildings		\$18,158 k		State Income Tax Rate		6.0%	
Development Costs		\$0 k		Effective Rate		40.0%	
Plant:				Local Tax Rate (Gross Receipts Tax)		8.25%	
Biomass Conversion		\$108,498 k		Property Tax Rate		0.0% / \$100	
Balance of Plant		\$28,412 k		Estimated Annual Expense		\$0 k/yr	
Total Present Day Capital Cost		\$168,977 k		Ethanol Production Tax Credit		\$0.00 / gal for max. 15,000,000 gal/yr	
Escalation to Centroid of Expenditure		\$19,180 k (Note: Land not escalated)		Last year credit applies		2000 / year	
Interest During Construction		\$15,000 k		Power from Certain Renewable Tax Credit		0 / (Based on Table 2, Incentives Table)	
Total Capital Cost at C.O.D.		\$203,077 k or \$179,853 per TPD		Economic Development Incentives		0 /	
Annual Operating Costs		100% Sensitivity Index		Tax Depreciation		Life: 31.5, Rate: 100% decl. bal.	
Fixed:				Buildings		- / Include in Biomass Conv.	
Labor		100% Sensitivity Index: \$0.111 / gal Ethanol		Development Costs			
Fixed Maintenance Materials		\$0.082 k/yr		Plant:			
Insurance		1.0% of Capital Cost: \$0.088 k/yr		Biomass Conversion		3 / 200% decl. bal.	
Total Fixed O&M Cost		\$0.201 k/yr		Balance of Plant		20 / 100% decl. bal.	
Variable:				Book Depreciation		20 / years	
Variable Maintenance		\$0.000 k/yr		FINANCIAL:			
Waste Disposal - Pretreatment		\$0.000 k/yr		Debt Structure:			
- Fermentation		\$0.000 k/yr		Cost Fraction		80%	
- Solids Separation		\$0.288 k/yr		Financing Term		10 (Note: Must be <= Economic Life)	
Chemicals		\$0.180 k/yr		Interest Rate		10.0%	
Utilities				Amortization of Loan		Level pay	
Power		\$0.220 k/yr		Short Term Construction Interest		8.0%	
Water		\$0.007 k/yr		Target Return on Equity		20%	
Natural Gas		\$0.240 k/yr					
Steam		\$0.000 k/yr					
Waste Water		\$0.004 k/yr					
Total Variable O&M Cost		\$0.828 k/yr					
Total Fixed & Variable O&M		\$1.159 k/yr					
Feedstock:		Blend		Tipping Fee		Maximum Tipping Fee	
Waste Paper		0.0% 0.0 k/gal Ethanol		None		Annual Quantities	
OTD		0.0% 0.0 k/gal Ethanol		(\$40.00) / wet ton		0 wet tons / year	
Wood Waste		100.0% 24.3 k/gal Average		(\$40.00) / wet ton		360,511 wet tons / year	
		100.0% 24.3 k/gal Average				360,511 wet tons / year	
Output:		(per ton of feedstock)		Unit Price			
Ethanol		\$2.35 gal/wet ton		\$2.85 / gal Required		28,889,100 gal Biom Ethanol / year	
CO2		0.00 CF/wet ton		\$0.00 / CF		0 CF CO2 / year	
Lignin		0.48 tons/wet ton		\$0.00 / ton		175,711 tons Lignin / year	
Power		0.00 kWh/wet ton		\$0.00 / kWh		0 kWh / year	

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is treated as revenue. If negative, tipping fee becomes feedstock charge and is an expense.

TABLE 2: CASE INPUT

03/27/95
08:28 PM

CASE: 1000 TPD (Dry) of 100.0% WOOD WASTE, WITHOUT GASIFICATION; WOOD @ \$20/TON; NO LIGNIN DISPOSAL COST.

INPUT:		ECONOMIC:	
CASE:	Option Number	23	(Enter an integer based on Table 1, Master Input Table)
	Plant Size (feedstock rate)	1100	TPD wet, as-shipped
	Ethanol Production	88,000	GPD
	Plant Size	1	(S = No, 1 = Yes)
	Additional byproducts?	0	
	CO2:	0	
	Lignin:	1	
	Power:	0	
SCHEDULE:	(Beginning of Year)		
	Present Day	1994	
	Start Construction	1995	
	Control of Capital Expenditure	1997	
	First Year of Operation	1998	
	Economic Life	20	years
	Annual Operating Schedule	300	days/yr
		83.0%	Mature Capacity Factor
		83.0%	First Year Capacity Factor
TECHNICAL:			
	Capital Cost of Facility	100%	Sensitivity Index
	Land	\$15,811	k
	Buildings	\$16,150	k
	Development Costs	\$0	k
	Plant		
	Biomass Conversion	\$108,488	k
	Balance of Plant	\$28,412	k
	Total Present Day Capital Cost	\$136,877	k
	Escalation to Control of Expenditure	\$18,100	k (Note: land not escalated)
	Interest During Construction	\$15,000	k
	Total Capital Cost at C.O.D. Date	\$203,877	k or \$170,853 per TPD
	Annual Operating Costs	100%	Sensitivity Index
	Fixed:		
	Labor	\$0.111	/gal Ethanol
	Fixed Maintenance Materials	\$0.058	k/yr
	Insurance	\$0.008	k/yr
	Total Fixed O&M Cost	\$0.231	/gal Ethanol
	Variable:		
	Variable Maintenance	\$0.000	/gal Ethanol
	Waste Disposal - Pretreatment	\$0.000	k/yr
	- Fermentation	\$0.000	k/yr
	- Solids Separation	\$0.000	k/yr
	Chemicals	\$0.180	k/yr
	Utilities		
	Power	\$0.220	k/yr
	Water	\$0.007	k/yr
	Natural Gas	\$0.240	k/yr
	Steam	\$0.000	k/yr
	Waste Water	\$0.004	k/yr
	Total Variable O&M Cost	\$0.932	/gal Ethanol
	Total Fixed & Variable O&M	\$0.863	/gal Ethanol
	Feedstock:		
	Blend		
	Waste Paper	0.0%	0.0
	OTD	0.0%	0.0
	Wood Waste	100.0%	24.3
		100.0%	24.3
	Output:		
	Ethanol	82.35	gal/wet ton
	CO2	0.00	CF/wet ton
	Lignin	0.69	tons/wet ton
	Power	0.00	kwh/wet ton
	Feedstock:		
	Waste Paper	0.0%	0.0
	OTD	0.0%	0.0
	Wood Waste	100.0%	24.3
		100.0%	24.3
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	Output:		
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	CO2	0.00	CF/wet ton
	Lignin	0.69	tons/wet ton
	Power	0.00	kwh/wet ton
	Feedstock:		
</			

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/DEVELOPER

TABLE 3: REQUIRED ETHANOL PRICE
OPTION NO.: 29
1000 TPD (Dry) of 100.0% WOOD WASTE, WITHOUT CLASSIFICATION; WOOD @ \$20/TON; NO LIGNIN DISPOSAL COST.

Stone & Webster Development Corporation

Page 1 of 2

End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol	\$2.05/gallon	\$73,997	\$76,057	\$80,035	\$83,238	\$86,566	\$90,028	\$93,630	\$97,375	\$101,270	\$105,321
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$73,997	\$76,057	\$80,035	\$83,238	\$86,566	\$90,028	\$93,630	\$97,375	\$101,270	\$105,321
LESS O&M EXPENSES											
Labor - Supervisory		\$4,015	\$4,178	\$4,343	\$4,516	\$4,697	\$4,885	\$5,080	\$5,283	\$5,495	\$5,715
Fixed Maintenance Materials		1,861	1,936	2,013	2,094	2,178	2,265	2,355	2,450	2,548	2,649
Insurance		2,470	2,509	2,671	2,778	2,868	3,005	3,125	3,250	3,389	3,515
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0	0
Chemicals		5,779	6,011	6,251	6,501	6,761	7,032	7,313	7,605	7,910	8,226
Power		7,981	8,280	8,611	8,968	9,314	9,688	10,074	10,477	10,896	11,332
Water		268	268	279	290	302	314	326	339	353	367
Waste Water		159	166	172	179	186	194	201	210	218	227
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		9,305	9,617	10,357	10,926	11,527	12,161	12,830	13,536	14,280	15,066
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood	(\$20.00)	8,772	9,123	9,468	9,868	10,292	10,873	11,100	11,544	12,008	12,486
Gross Receipts Tax (Income Tax Deductible)		6,105	6,349	6,603	6,867	7,142	7,427	7,724	8,033	8,355	8,689
Total O&M Expenses		\$48,886	\$49,893	\$50,788	\$52,575	\$55,258	\$57,841	\$60,129	\$62,727	\$65,436	\$68,271
GROSS MARGIN		\$27,311	\$26,263	\$29,247	\$30,261	\$31,308	\$32,387	\$33,500	\$34,648	\$35,834	\$37,050
INTEREST		(18,246)	(15,227)	(14,195)	(12,872)	(11,515)	(10,023)	(8,381)	(6,575)	(4,589)	(2,404)
TAX DEPRECIATION		(27,615)	(14,710)	(27,848)	(17,675)	(17,528)	(9,561)	(2,244)	(2,128)	(2,109)	(2,109)
TAXABLE INCOME		(\$16,551)	(\$1,673)	(\$12,797)	(\$985)	\$2,265	\$12,844	\$22,075	\$25,945	\$29,133	\$32,537
TAXES: Income		6,761	12,939	5,191	117	(925)	(5,100)	(9,344)	(10,598)	(11,901)	(13,291)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$9,790)	(\$16,735)	(\$7,516)	(\$169)	\$1,340	\$7,384	\$13,830	\$15,346	\$17,232	\$19,246
TAX DEPRECIATION		27,615	14,710	27,848	17,675	17,528	9,561	2,244	2,128	2,109	2,109
PLANT COST	(\$203,077)										
LOAN	\$162,461										
PRINCIPAL PAYMENTS		(10,194)	(11,213)	(12,334)	(13,569)	(14,925)	(16,417)	(18,059)	(19,865)	(21,851)	(24,038)
NET CASH FLOW		(\$40,615)	\$7,632	\$14,762	\$7,998	\$3,936	\$3,943	\$948	(\$2,284)	(\$2,390)	(\$2,510)
CUMULATIVE CASH FLOW		(\$40,615)	(\$32,984)	(\$18,221)	(\$10,224)	(\$6,288)	(\$2,343)	(\$1,485)	(\$3,779)	(\$6,170)	(\$8,680)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.033	1.069	1.106	1.145	1.184	1.225	1.267	1.310	1.355	1.401
CUM NPV	20.0%	(\$40,615)	(\$34,255)	(\$24,004)	(\$19,378)	(\$17,477)	(\$15,602)	(\$15,608)	(\$16,246)	(\$16,802)	(\$17,288)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO. 23

Stone & Webster Development Corporation

1000 TPD (Dry) of 100.0% WOOD WASTE, WITHOUT GASIFICATION; WOOD @ \$20/TON; NO LIGNIN DISPOSAL COST.

Page 2 of 2

End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	29,699,100	29,699,100	29,699,100	29,699,100	29,699,100	29,699,100	29,699,100	29,699,100	29,699,100	29,699,100
CASH FLOW STATEMENT (\$'000's)										
REVENUE										
Ethanol	\$2.05/gallon	\$109,534	\$113,915	\$116,471	\$123,210	\$126,139	\$133,264	\$138,595	\$144,139	\$149,904
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$109,534	\$113,915	\$116,471	\$123,210	\$126,139	\$133,264	\$138,595	\$144,139	\$149,904
LESS O&M EXPENSES										
Labor - Supervisory		\$5,943	\$6,181	\$6,428	\$6,685	\$6,958	\$7,231	\$7,520	\$7,821	\$8,134
Fixed Maintenance Materials		2,755	2,666	2,660	2,699	3,229	3,352	3,487	3,628	3,771
Insurance		3,856	3,502	3,554	4,112	4,277	4,448	4,626	4,811	5,003
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0
Chemicals		8,555	8,597	9,253	9,623	10,008	10,409	10,825	11,258	11,708
Power		11,785	12,256	12,747	13,266	13,787	14,338	14,912	15,508	16,129
Water		382	397	413	430	447	465	483	502	523
Waste Water		230	245	255	265	276	287	298	310	323
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		16,694	16,765	17,691	18,684	19,690	20,773	21,846	23,121	24,393
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		12,985	13,505	14,045	14,607	15,191	15,798	16,430	17,088	17,771
		8,037	8,398	8,774	9,165	9,571	10,004	11,434	11,891	12,367
Total O&M Expenses		\$71,226	\$74,315	\$77,539	\$80,906	\$84,423	\$88,095	\$91,930	\$95,936	\$100,120
GROSS MARGIN		\$38,308	\$39,600	\$40,932	\$42,304	\$43,716	\$45,169	\$46,665	\$48,202	\$49,784
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(1,129)
TAXABLE INCOME		\$36,197	\$37,491	\$38,823	\$40,195	\$41,607	\$43,061	\$44,556	\$46,094	\$47,675
TAXES: Income		(14,788)	(15,315)	(15,859)	(16,420)	(16,997)	(17,590)	(18,201)	(18,829)	(19,475)
Production Tax Credit		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$21,410	\$22,176	\$22,964	\$23,775	\$24,611	\$25,470	\$26,355	\$27,264	\$28,200
TAX DEPRECIATION		2,109	2,109	2,109	2,109	2,109	2,109	2,109	2,109	1,129
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$23,519	\$24,285	\$25,073	\$25,884	\$26,720	\$27,579	\$28,464	\$29,373	\$30,309
CUMULATIVE CASH FLOW		\$12,158	\$36,443	\$61,513	\$87,400	\$114,119	\$141,699	\$170,162	\$199,535	\$229,844
CUMULATIVE IRR		5.86%	10.90%	13.78%	15.62%	16.93%	17.69%	18.61%	19.17%	20.09%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$14,556)	(\$11,532)	(\$9,489)	(\$7,473)	(\$5,738)	(\$4,247)	(\$2,964)	(\$1,680)	\$0

TABLE 2: CASE INPUT

03/27/03
05:28 PM

CASE: 1000 TPD (Dry) of 100.0% WOOD WASTE, WITHOUT GASIFICATION; WOOD @ \$40/TON; NO LIGNIN DISPOSAL COST.

INPUT:		ECONOMIC:	
CASE: Option Number: 24 (Enter an integer based on Table 1, Master Input Table) Plant Size (feedstock rate): 1000 TPD wet, as-shipped Ethanol Production: 68,000 GPD Plant Site: 1 Additional byproducts: CO2: 0 (0 = No, 1 = Yes) Lignin: 1 Power: 0		ECONOMIC: Inflation Rate (FPI): 4.0% Escalation Rates (Nominal): Capital Cost: 4.0% O&M Costs: Labor: 4.0% Maintenance Materials: 4.0% Insurance: 4.0% Waste Disposal - Pretreatment: 4.0% - Fermentation: 4.0% - Solids Separation: 4.0% Chemicals: 4.0% Utilities: Power: 4.0% Water: 4.0% Natural Gas: 4.0% Steam: 4.0% Waste Water: 4.0% Feedstock: Output: Ethanol: 4.0% CO2: 4.0% Lignin: 4.0%	
SCHEDULE: (Beginning of Year) Present Day: 1994 Start Construction: 1995 Control of Capital Expenditure: 1997 First Year of Operation: 1998 Economic Life: 20 years Annual Operating Schedule: 300 days/yr Makeup Capacity Factor: 80.0% First Year Capacity Factor: 80.0% (Don't change this)		Tax Data: Federal income tax rate: 35.0% State income tax rate: 5.0% Effective rate: 40.0% Local tax rate (Gross Receipts Tax): 0.25% Property Tax Rate: 0.0% \$/100 Estimated Annual Expense: \$0 k/yr Ethanol Production Tax Credit: \$0.00 /gal for max 15,000,000 gal/yr Last year credit applies: 2000 Power from Certain Renew, Tax Credit: /kwh (based on Table 2, Incentives Table) Economic Development Incentives: 0 Tax Depreciation: Buildings: 31.9 100% decl. bal. Development Costs: 100% incl. in Biomass Conv. Plant: 20 200% decl. bal. Balance of Plant: 20 150% decl. bal. Book Depreciation: 20 years	
TECHNICAL: Capital Cost of Facility: 100% Sensitivity Index Land: \$15,811 k Buildings: \$18,158 k Development Costs: \$0 k Plant: Biomass Conversion: \$108,488 k Balance of Plant: \$28,412 k Total Present Day Capital Cost: \$136,900 k Escalation to Control of Expenditure: \$19,100 k (Note: land not escalated) Interest During Construction: \$15,000 k Total Capital Cost at C O Date: \$209,077 k or \$170,853 per TPD Annual Operating Costs: 100% Sensitivity Index Fixed: Labor: \$0.111 /gal Ethanol \$3,300 k/yr Food/Maintenance Materials: \$0.052 " \$1,530 k/yr Insurance: \$0.009 " \$2,630 k/yr Total Fixed O&M Cost: \$0.221 /gal Ethanol \$6,460 k/yr Variable: Variable Maintenance: \$0.000 /gal Ethanol \$0 k/yr Waste Disposal - Pretreatment: \$0.000 " \$0 " - Fermentation: \$0.000 " \$0 " - Solids Separation: \$0.000 " \$0 " Chemicals: \$0.180 " \$4,750 " Utilities: Power: \$0.230 " \$6,544 " Water: \$0.007 " \$212 " Natural Gas: \$0.240 " \$7,120 " Steam: \$0.000 " \$0 " Waste Water: \$0.004 " \$101 " Total Variable O&M Cost: \$0.632 /gal Ethanol \$16,709 k/yr Total Fixed & Variable O&M: \$0.853 /gal Ethanol \$23,169 k/yr		FINANCIAL: Debt Structure: Debt Fraction: 80% Financing Term: 10 (Note: Must be <= Economic Life) Interest Rate: 10.0% Amortization of Loan: 10 years Short Term Construction Interest: 6.0% Target Return on Equity: 20%	
Feedstock: Waste Paper: 0.0% 0.0 lb/gal Ethanol QTD: 0.0% 0.0 " Wood Waste: 100.0% 24.3 " 100.0% 24.3 (lb/gal Average)		Output: (per ton of feedstock) Ethanol: 62.35 gal/wet ton CO2: 0.00 CF/wet ton Lignin: 0.48 tons/wet ton Power: 0.00 kwh/wet ton Unit Price: Ethanol: \$2.91 /gal Required: 89,898,100 gal More Ethanol / year CO2: \$0.00 /ACF 0 CF CO2 / year Lignin: \$0.00 /ton 135,211 tons Lignin / year Power: \$0.00 /kwh 0 kwh / year	
Feeding Fee: (Note) \$40.00 /wet ton Maximum Feeding Fee: \$40.00		Annual Quantities: 0 wet tons / year 0 " 240,511 " 240,511 wet tons / year	

Note: The average feeding fee is calculated so that the project yields the Target Return on Equity. If value is positive, feeding fee is treated as revenue. If negative, feeding fee becomes feedstock charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 24

1000 TPD (Dry) of 100.0% WOOD WASTE, WITHOUT GASIFICATION; WOOD @ \$40/TON; NO LIGNIN DISPOSAL COST.

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100
CASH FLOW STATEMENT (\$'000's)											
REVENUE											
Ethanol	\$2.31/gallon	\$83,558	\$86,900	\$90,376	\$93,891	\$97,751	\$101,861	\$105,728	\$109,957	\$114,355	\$118,929
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$83,558	\$86,900	\$90,376	\$93,891	\$97,751	\$101,861	\$105,728	\$109,957	\$114,355	\$118,929
LESS O&M EXPENSES											
Labor - Supervisory		\$4,015	\$4,179	\$4,343	\$4,518	\$4,697	\$4,885	\$5,080	\$5,283	\$5,495	\$5,715
Fixed Maintenance Materials		1,881	1,938	2,013	2,094	2,178	2,285	2,355	2,450	2,548	2,649
Insurance		2,470	2,589	2,671	2,778	2,889	3,005	3,125	3,250	3,380	3,515
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0	0
Chemicals		5,779	6,011	6,251	6,501	6,781	7,092	7,313	7,608	7,910	8,228
Power		7,961	8,280	8,611	8,958	9,314	9,688	10,074	10,477	10,898	11,332
Water		259	268	279	290	302	314	328	339	353	367
Waste Water		159	166	172	179	186	194	201	210	218	227
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		9,305	9,617	10,057	10,528	11,027	11,561	12,130	12,736	13,380	14,066
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood	(\$40.00)	17,545	18,248	18,976	19,735	20,525	21,346	22,200	23,088	24,011	24,972
Gross Receipts Tax (Income Tax Deductible)		6,894	7,169	7,456	7,754	8,064	8,387	8,723	9,071	9,434	9,812
Total O&M Expenses		\$56,247	\$58,637	\$61,130	\$63,730	\$66,443	\$69,274	\$72,227	\$75,309	\$78,524	\$81,879
GROSS MARGIN		\$27,311	\$28,263	\$29,247	\$30,161	\$31,308	\$32,587	\$33,500	\$34,648	\$35,831	\$37,050
INTEREST		(18,246)	(15,227)	(14,106)	(12,672)	(11,516)	(10,023)	(8,381)	(6,575)	(4,589)	(2,404)
TAX DEPRECIATION		(27,615)	(44,710)	(27,846)	(17,675)	(17,528)	(9,881)	(2,244)	(2,128)	(2,109)	(2,109)
TAXABLE INCOME		(\$18,551)	(\$31,673)	(\$12,707)	(\$585)	\$2,285	\$12,484	\$22,875	\$25,945	\$29,133	\$32,537
TAXES: Income		5,761	12,939	6,191	117	(825)	(5,100)	(9,344)	(10,588)	(11,901)	(13,291)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$12,790)	(\$18,735)	(\$7,516)	(\$568)	\$1,460	\$7,384	\$13,530	\$15,357	\$17,232	\$19,246
TAX DEPRECIATION		27,615	44,710	27,846	17,675	17,528	9,881	2,244	2,128	2,109	2,109
PLANT COST	(\$253,077)										
LOAN	\$182,461										
PRINCIPAL PAYMENTS		(10,194)	(11,213)	(12,334)	(13,569)	(14,926)	(16,417)	(18,069)	(19,865)	(21,851)	(24,036)
NET CASH FLOW	(\$40,815)	\$7,632	\$14,762	\$7,998	\$1,936	\$3,943	\$848	(\$2,284)	(\$2,380)	(\$2,510)	(\$2,882)
CUMULATIVE CASH FLOW	(\$40,815)	(\$32,984)	(\$18,221)	(\$10,224)	(\$8,288)	(\$2,345)	(\$1,496)	(\$3,779)	(\$6,170)	(\$8,680)	(\$11,561)
CUMULATIVE EIRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.033	1.069	1.106	1.145	1.184	1.225	1.267	1.310	1.355	1.401
CUM NPV	20.0%	(\$40,815)	(\$34,233)	(\$24,004)	(\$19,376)	(\$17,477)	(\$15,892)	(\$15,608)	(\$16,248)	(\$17,288)	(\$17,721)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER

TABLE 3: REQUIRED ETHANOL PRICE
OPTION NO. 24
1000 TPD (Dry) of 100.0% WOOD WASTE, WITHOUT GASIFICATION; WOOD @ \$40/TON; NO LIGNIN DISPOSAL COST.

Stone & Webster Development Corporation

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End of Year	2006	2008	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	18	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol	\$2.31/gallon	\$123,666	\$128,634	\$133,779	\$139,130	\$144,695	\$150,483	\$156,503	\$162,763	\$169,273
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tipping Fee- Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$123,666	\$128,634	\$133,779	\$139,130	\$144,695	\$150,483	\$156,503	\$162,763	\$169,273
LESS O&M EXPENSES										
Labor - Supervisory		\$5,943	\$6,181	\$6,428	\$6,685	\$6,953	\$7,231	\$7,520	\$7,821	\$8,134
Fixed Maintenance Materials		2,765	2,965	3,090	3,099	3,223	3,352	3,487	3,626	3,771
Insurance		3,856	3,802	3,954	4,112	4,277	4,448	4,626	4,811	5,004
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0
Chemicals		5,555	6,997	8,253	9,623	10,006	10,408	10,825	11,258	11,708
Power		11,765	12,286	12,747	13,256	13,767	14,306	14,812	15,508	16,129
Water		382	387	413	430	447	465	483	502	543
Waste Water		238	245	265	285	278	287	298	310	335
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		15,884	16,768	17,691	18,684	19,690	20,773	21,816	23,121	25,734
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		25,970	27,009	28,090	29,213	30,382	31,597	32,861	34,175	35,542
Total O&M Expenses		\$55,381	\$69,034	\$82,847	\$96,826	\$100,979	\$105,314	\$109,836	\$114,590	\$119,490
GROSS MARGIN		\$38,306	\$39,600	\$40,932	\$42,304	\$43,716	\$45,169	\$46,667	\$48,202	\$49,784
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(1,129)
TAXABLE INCOME		\$36,197	\$37,491	\$38,823	\$40,195	\$41,607	\$43,061	\$44,558	\$46,094	\$48,655
TAXES: Income		(14,788)	(15,315)	(15,859)	(16,420)	(16,997)	(17,590)	(18,201)	(18,829)	(19,475)
Production Tax Credit		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$21,410	\$22,176	\$22,964	\$23,775	\$24,611	\$25,470	\$26,357	\$27,264	\$29,180
TAX DEPRECIATION		2,109	2,109	2,109	2,109	2,109	2,109	2,109	2,109	1,129
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$23,519	\$24,285	\$25,073	\$25,884	\$26,720	\$27,579	\$28,464	\$29,373	\$30,309
CUMULATIVE CASH FLOW		\$12,150	\$36,443	\$61,515	\$87,400	\$114,119	\$141,698	\$170,162	\$199,535	\$229,844
CUMULATIVE IRR		5.68%	10.90%	13.79%	15.82%	18.83%	17.89%	18.81%	19.17%	20.00%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$14,556)	(\$11,832)	(\$8,489)	(\$7,475)	(\$3,738)	(\$4,247)	(\$2,864)	(\$1,680)	(\$912)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 4-6: REQUIRED TIPPING FEE WITH ECONOMIC INCENTIVES
OPTION NO.: 1
500 TPD (Dry) of 100.0% WASTE PAPER, WITH GASIFICATION; ETHANOL @ \$1.20/GAL

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT											
REVENUE											
Ethanol		\$21,873	\$22,540	\$23,441	\$24,379	\$25,354	\$26,368	\$27,423	\$28,520	\$29,661	\$30,847
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		1,858	1,832	2,009	2,060	2,173	2,280	2,351	2,445	2,542	2,644
Tipping Fee - Waste Paper		5,432	5,689	5,957	7,235	7,524	7,825	8,138	8,464	8,802	9,155
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
Total Revenue		\$29,862	\$31,161	\$32,407	\$33,704	\$35,052	\$36,454	\$37,912	\$39,426	\$41,006	\$42,646
LESS O&M EXPENSES											
Labor - Supervisory		\$5,232	\$5,441	\$5,658	\$5,885	\$6,120	\$6,365	\$6,620	\$6,884	\$7,160	\$7,448
Fixed Maintenance Materials		1,582	1,645	1,711	1,779	1,850	1,924	2,001	2,081	2,165	2,251
Insurance		2,058	2,138	2,224	2,313	2,405	2,502	2,602	2,708	2,814	2,927
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		1,001	1,048	1,093	1,143	1,194	1,248	1,304	1,363	1,424	1,488
Chemicals		2,890	3,005	3,128	3,251	3,381	3,518	3,666	3,803	3,955	4,110
Power		0	0	0	0	0	0	0	0	0	0
Water		54	55	59	61	63	66	69	71	74	77
Waste Water		80	83	88	90	93	97	101	105	109	113
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		2,472	2,571	2,674	2,781	2,892	3,007	3,126	3,253	3,383	3,518
Total O&M Expenses		\$15,368	\$15,968	\$16,630	\$17,301	\$17,999	\$18,725	\$19,480	\$20,266	\$21,083	\$21,933
GROSS MARGIN		\$14,598	\$15,176	\$15,777	\$16,403	\$17,053	\$17,729	\$18,432	\$19,163	\$19,923	\$20,712
INTEREST		(9,441)	(9,788)	(10,027)	(10,245)	(10,407)	(10,512)	(10,553)	(10,628)	(10,690)	(10,749)
TAX DEPRECIATION		(16,928)	(31,110)	(20,263)	(13,648)	(13,387)	(8,374)	(3,400)	(3,177)	(3,141)	(3,141)
TAXABLE INCOME		(\$13,773)	(\$24,693)	(\$12,513)	(\$4,490)	(\$2,721)	\$3,844	\$10,479	\$12,458	\$14,351	\$16,315
TAXES: Income		5,826	10,087	5,111	1,834	1,112	(1,570)	(4,281)	(6,088)	(5,583)	(6,665)
Tax Credits		16,969	5,187	5,187	5,187	120	0	0	0	0	0
INCOME AFTER TAX		\$8,842	(\$9,410)	(\$2,215)	\$2,531	(\$1,481)	\$2,274	\$4,198	\$7,369	\$8,488	\$9,550
TAX DEPRECIATION		18,928	31,110	20,263	13,648	13,387	8,374	3,400	3,177	3,141	3,141
PLANT COST											
LOAN											
PRINCIPAL PAYMENTS		(9,782)	(10,448)	(11,177)	(11,959)	(12,798)	(13,682)	(14,650)	(15,678)	(16,773)	(17,947)
NET CASH FLOW		(\$33,720)	\$18,007	\$11,245	\$8,872	\$4,220	(\$910)	(\$3,045)	(\$5,062)	(\$5,130)	(\$5,155)
CUMULATIVE CASH FLOW		(\$33,720)	(\$15,712)	(\$4,467)	\$2,405	\$6,624	\$5,714	\$2,669	(\$2,383)	(\$7,513)	(\$12,658)
CUMULATIVE IRR		NA	NA	4.19%	9.98%	8.06%	6.11%	NA	NA	NA	NA
DEBT COVERAGE RATIO		0.780	0.790	0.822	0.854	0.888	0.923	0.960	0.998	1.037	1.079
CUM NPV	20.0%	(\$33,720)	(\$18,713)	(\$10,904)	(\$6,928)	(\$4,893)	(\$2,258)	(\$6,278)	(\$7,588)	(\$8,881)	(\$10,711)

BOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 4-6: REQUIRED TIPPING FEE WITH ECONOMIC INCENTIVES
OPTION NO. 1
500 TPD (Dry) of 100.0% WASTE PAPER, WITH GASIFICATION; ETHANOL @ \$1.20/GAL

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	16	18	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY	180,255	180,255	180,255	180,285	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT	(\$1000's)									
REVENUE										
Ethanol	\$32,081	\$33,364	\$34,889	\$36,087	\$37,530	\$39,031	\$40,593	\$42,216	\$43,905	\$45,661
CO2	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	2,760	2,660	2,674	3,083	3,217	3,348	3,479	3,619	3,763	3,914
Tipping Fee- Waste Paper	\$28.33	8,521	8,802	10,298	10,710	11,138	11,583	12,047	12,529	13,030
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue	\$44,352	\$48,126	\$47,671	\$49,880	\$51,585	\$53,961	\$56,119	\$58,364	\$60,688	\$63,126
LESS O&M EXPENSES										
Labor - Supervisory	\$7,744	\$8,054	\$8,376	\$8,711	\$9,058	\$9,422	\$9,799	\$10,191	\$10,598	\$11,022
Fixed Maintenance Materials	2,341	2,435	2,532	2,634	2,739	2,848	2,962	3,081	3,204	3,332
Insurance	3,044	3,168	3,292	3,424	3,561	3,703	3,851	4,005	4,165	4,332
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	1,656	1,625	1,698	1,774	1,854	1,936	2,026	2,116	2,211	2,311
Chemicals	4,277	4,440	4,627	4,812	5,004	5,204	5,412	5,629	5,854	6,088
Power Economic Incentive Reduction:	0	0	0	0	0	0	0	0	0	0
Water	80	83	87	90	94	97	101	105	110	114
Waste Water	118	123	127	133	138	143	149	155	161	168
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas Economic Incentive Reduction:	0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)	3,858	3,806	3,858	4,116	4,291	4,452	4,630	4,815	5,008	5,208
Total O&M Expenses	\$22,818	\$23,739	\$24,696	\$25,693	\$26,729	\$27,808	\$28,930	\$30,097	\$31,312	\$32,576
GROSS MARGIN	\$21,533	\$22,387	\$22,974	\$24,187	\$25,156	\$26,153	\$27,189	\$28,267	\$29,387	\$30,551
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(3,141)	(3,141)	(3,141)	(3,141)	(3,141)	(3,141)	(3,141)	(3,141)	(3,141)	(3,732)
TAXABLE INCOME	\$18,393	\$19,246	\$20,134	\$21,066	\$22,015	\$23,012	\$24,048	\$25,126	\$26,246	\$26,819
TAXES: Income	(7,513)	(7,862)	(8,225)	(8,601)	(8,993)	(9,400)	(9,824)	(10,264)	(10,721)	(11,205)
Tax Credits	\$18,880	0	0	0	0	0	0	0	0	0
Investment	\$129									
Wages										
INCOME AFTER TAX	\$10,879	\$11,384	\$11,909	\$12,465	\$13,022	\$13,612	\$14,225	\$14,862	\$15,524	\$16,315
TAX DEPRECIATION	3,141	3,141	3,141	3,141	3,141	3,141	3,141	3,141	3,141	3,732
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$14,020	\$14,525	\$15,060	\$15,595	\$16,163	\$16,752	\$17,365	\$18,003	\$18,665	\$19,346
CUMULATIVE CASH FLOW	(\$3,792)	\$10,733	\$25,793	\$41,378	\$57,541	\$74,293	\$91,659	\$109,661	\$128,327	\$150,373
CUMULATIVE IRR	NA	7.88%	12.17%	14.89%	16.35%	17.52%	18.38%	19.04%	19.55%	20.02%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$6,824)	(\$7,195)	(\$5,768)	(\$4,573)	(\$3,624)	(\$2,818)	(\$1,839)	(\$1,159)	(\$576)

BOMASS-TO-ETHANOL PRODUCTION FACILITY PROFORMA FINANCIAL STATEMENT THIRD PARTY CONTRACTOR / DEVELOPER		TABLE 4-7 REQUIRED TIPPING FEE OPTION NO.: 2 500 TPD (Dry) of 100.0% WASTE PAPER, WITHOUT GASIFICATION; ETHANOL @ \$1.20/GAL; \$60/TON LIGNIN DISPOSAL COST.		WITH ECONOMIC INCENTIVES		Stone & Webster Development Corporation						Page 1 of 2
End of Year		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.		4	5	6	7	8	9	10	11	12	13	14
Operating Year		0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR			83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY			180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT	(\$1000's)											
REVENUE												
Ethanol			\$21,873	\$22,540	\$23,441	\$24,379	\$25,354	\$26,368	\$27,423	\$28,520	\$29,661	\$30,847
CO2			0	0	0	0	0	0	0	0	0	0
Lignin			0	0	0	0	0	0	0	0	0	0
Power			0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper			12,586	13,096	13,591	14,135	14,700	15,286	15,893	16,534	17,197	17,885
- OTD			0	0	0	0	0	0	0	0	0	0
- Waste Wood			0	0	0	0	0	0	0	0	0	0
			\$57.30									
			\$0.00									
			\$0.00									
Total Revenue			\$34,239	\$35,636	\$37,033	\$38,514	\$40,054	\$41,657	\$43,323	\$45,050	\$46,858	\$48,732
LESS O&M EXPENSES												
Labor - Supervisory			\$4,015	\$4,176	\$4,343	\$4,516	\$4,687	\$4,865	\$5,049	\$5,233	\$5,416	\$5,615
Fixed Maintenance Materials			1,168	1,215	1,263	1,314	1,366	1,421	1,476	1,537	1,594	1,652
Insurance			1,657	1,680	1,694	1,752	1,822	1,885	1,971	2,048	2,131	2,217
Property Taxes			0	0	0	0	0	0	0	0	0	0
Variable Maintenance			0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment			0	0	0	0	0	0	0	0	0	0
- Fermentation			0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)			8,796	7,101	7,421	7,755	8,104	8,468	8,850	9,248	9,664	10,098
Chemicals			2,690	3,005	3,128	3,251	3,381	3,516	3,655	3,803	3,955	4,113
Power	Economic Incentive Reduction: -41%		2,690	2,702	2,811	2,923	3,040	3,162	3,288	3,419	3,553	3,685
Water			110	114	118	124	129	134	139	145	150	156
Waste Water			80	83	86	90	93	97	101	105	109	113
Steam			0	0	0	0	0	0	0	0	0	0
Natural Gas	Economic Incentive Reduction: -32%		958	1,010	1,066	1,125	1,186	1,252	1,320	1,383	1,450	1,519
Feedstock - Waste Paper			0	0	0	0	0	0	0	0	0	0
- OTD			0	0	0	0	0	0	0	0	0	0
- Waste Wood			0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)			2,825	2,838	3,055	3,177	3,304	3,437	3,574	3,717	3,866	4,020
Total O&M Expenses			\$22,996	\$23,984	\$24,873	\$25,826	\$27,122	\$28,265	\$29,457	\$30,699	\$31,991	\$33,079
GROSS MARGIN			\$11,243	\$11,652	\$12,160	\$12,688	\$12,932	\$13,392	\$13,866	\$14,351	\$14,867	\$15,653
INTEREST			(7,151)	(8,534)	(8,060)	(5,497)	(4,853)	(4,175)	(3,448)	(2,672)	(1,841)	(952)
TAX DEPRECIATION			(17,366)	(20,116)	(17,512)	(11,115)	(11,022)	(8,213)	(1,411)	(1,339)	(1,326)	(1,326)
TAXABLE INCOME			(\$13,274)	(\$23,106)	(\$11,532)	(\$4,113)	(\$2,943)	\$3,003	\$9,008	\$10,348	\$5,500	\$9,775
TAXES: Income			5,423	8,438	4,711	1,690	1,202	(1,227)	(3,679)	(4,227)	(3,472)	(3,943)
Tax Credits			12,899	3,930	3,930	3,930	99	0	0	0	0	0
			\$12,770	\$89								
			Investment	Wages								
INCOME AFTER TAX			\$5,017	(\$9,737)	(\$2,892)	\$1,497	(\$1,942)	\$1,776	\$5,327	\$4,120	\$5,028	\$5,782
TAX DEPRECIATION			17,366	20,116	17,512	11,115	11,022	8,213	1,411	1,339	1,326	1,326
PLANT COST			(\$127,703)									
LOAN			\$102,182									
PRINCIPAL PAYMENTS			(7,384)	(7,912)	(8,466)	(9,058)	(9,692)	(10,371)	(11,087)	(11,874)	(12,705)	(13,594)
NET CASH FLOW			(\$25,541)	\$14,989	\$10,467	\$8,156	\$3,553	(\$312)	(\$2,381)	(\$4,358)	(\$8,351)	(\$6,490)
CUMULATIVE CASH FLOW			(\$25,541)	(\$10,552)	(\$60)	\$8,070	\$9,623	\$9,310	\$6,930	\$2,571	(\$1,844)	(\$14,881)
CUMULATIVE IRR			NA	NA	13.50%	18.06%	18.31%	16.83%	10.65%	NA	NA	NA
DEBT COVERAGE RATIO			0.773	0.801	0.829	0.859	0.889	0.921	0.953	0.987	0.902	0.829
CUM NPV	20.0%		(\$25,541)	(\$13,050)	(\$5,781)	(\$2,220)	(\$506)	(\$632)	(\$1,429)	(\$2,645)	(\$3,672)	(\$4,903)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/DEVELOPER

TABLE 4-7 REQUIRED TIPPING FEE
OPTION NO. 2
600 TPD (Dry) of 100.0% WASTE PAPER, WITHOUT GASIFICATION; ETHANOL @ \$1.20/GAL; \$50/TON LIQUID DISPOSAL COST.

WITH ECONOMIC INCEN*

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY	180,255	180,255	180,255	180,265	180,265	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT										
REVENUE										
Ethanol	\$32,081	\$33,384	\$34,860	\$36,087	\$37,530	\$39,031	\$40,603	\$42,216	\$43,905	\$45,681
CO2	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	0	0	0	0	0	0	0	0	0	0
Tipping Fee- Waste Paper	\$57.30	16,601	16,345	20,118	20,823	21,780	22,631	23,538	24,477	25,458
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue	\$50,682	\$52,709	\$54,817	\$57,010	\$58,280	\$61,862	\$64,129	\$66,694	\$68,381	\$72,136
LESS O&M EXPENSES										
Labor - Supervisory	\$5,043	\$6,181	\$6,428	\$6,885	\$6,953	\$7,231	\$7,520	\$7,821	\$8,134	\$8,459
Fixed Maintenance Materials	1,729	1,768	1,870	1,945	2,020	2,109	2,188	2,276	2,368	2,461
Insurance	2,305	2,307	2,493	2,593	2,697	2,805	2,917	3,033	3,155	3,281
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	10,553	11,028	11,524	12,043	12,585	13,151	13,743	14,362	15,008	15,683
Chemicals	4,277	4,449	4,827	4,912	5,004	5,204	5,412	5,629	5,854	6,089
Power	8,547	8,808	7,081	7,385	7,858	8,284	8,616	8,960	9,319	9,690
Water	163	166	178	183	188	194	200	214	223	231
Waste Water	118	123	127	133	138	143	149	155	161	168
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	2,414	2,547	2,687	2,835	2,991	3,156	3,329	3,512	3,705	3,909
Feedstock - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)	4,181	4,346	4,522	4,703	4,891	5,087	5,291	5,502	5,722	5,951
Total O&M Expenses	\$38,231	\$39,860	\$41,537	\$43,296	\$45,131	\$47,044	\$49,039	\$51,119	\$53,296	\$55,550
GROSS MARGIN	\$12,450	\$12,849	\$13,280	\$13,714	\$14,150	\$14,818	\$15,090	\$15,575	\$16,073	\$16,586
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(1,326)	(0,998)
TAXABLE INCOME	\$11,124	\$11,533	\$11,954	\$12,388	\$12,833	\$13,292	\$13,764	\$14,249	\$14,747	\$9,587
TAXES: Income	(4,544)	(4,711)	(4,853)	(5,050)	(5,242)	(5,430)	(5,622)	(5,821)	(6,024)	(3,816)
Tax Credits	\$12,770	\$99	0	0	0	0	0	0	0	0
INCOME AFTER TAX	\$6,580	\$6,822	\$7,071	\$7,327	\$7,591	\$7,862	\$8,141	\$8,428	\$8,723	\$5,771
TAX DEPRECIATION	1,326	1,326	1,326	1,326	1,326	1,326	1,326	1,326	1,326	0,998
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$7,906	\$8,148	\$8,397	\$8,653	\$8,917	\$9,188	\$9,467	\$9,754	\$10,049	\$12,889
CUMULATIVE CASH FLOW	(\$0,775)	\$1,373	\$9,770	\$18,424	\$27,341	\$36,529	\$45,996	\$55,750	\$65,799	\$78,489
CUMULATIVE IRR	NA	3.30%	11.12%	14.28%	16.18%	17.42%	18.32%	19.00%	19.61%	20.00%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$4,987)	(\$3,973)	(\$3,188)	(\$2,514)	(\$1,935)	(\$1,438)	(\$1,011)	(\$645)	(\$30)

BIO MASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER

TABLE 4-8: REQUIRED TIPPING FEE WITH ECONOMIC INCENTIVES
OPTION NO.: 7
1000 TPD (Dry) of 100.0% WASTE PAPER, WITH GASIFICATION: ETHANOL @ \$1.20/GAL

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY		360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511
CASH FLOW STATEMENT											
REVENUE											
Ethanol		\$43,348	\$45,079	\$46,883	\$48,758	\$50,706	\$52,737	\$54,848	\$57,040	\$59,321	\$61,694
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		3,716	3,664	4,019	4,179	4,348	4,620	4,701	4,889	5,095	5,289
Tipping Fee - Waste Paper		\$0.00	0	0	0	0	0	0	0	0	0
- OTD		\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood		\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$47,061	\$48,843	\$50,901	\$52,937	\$55,055	\$57,257	\$59,547	\$61,929	\$64,406	\$66,982
LESS O&M EXPENSES											
Labor - Supervisory		\$5,232	\$5,441	\$5,659	\$5,886	\$6,120	\$6,368	\$6,620	\$6,884	\$7,160	\$7,448
Fixed Maintenance Materials		2,518	2,819	2,724	2,833	2,948	3,064	3,187	3,314	3,447	3,585
Insurance		3,261	3,391	3,627	3,868	3,914	3,987	4,128	4,291	4,462	4,641
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Retreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		2,002	2,069	2,187	2,266	2,388	2,485	2,608	2,725	2,848	2,978
Chemicals		5,779	6,011	6,251	6,501	6,761	7,032	7,313	7,605	7,910	8,228
Power		0	0	0	0	0	0	0	0	0	0
Water		106	113	117	122	127	132	137	142	148	154
Waste Water		159	166	172	179	186	194	201	210	218	227
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper		888	924	981	1,000	1,040	1,081	1,124	1,169	1,216	1,265
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		3,883	4,038	4,199	4,367	4,542	4,724	4,913	5,109	5,314	5,528
Total O&M Expenses		\$23,531	\$24,784	\$25,787	\$26,840	\$27,928	\$29,053	\$30,228	\$31,450	\$32,722	\$34,045
GROSS MARGIN		\$23,230	\$24,140	\$25,104	\$26,098	\$27,130	\$28,203	\$29,318	\$30,479	\$31,684	\$32,937
INTEREST		(15,034)	(13,937)	(12,773)	(11,828)	(10,190)	(8,771)	(7,240)	(5,614)	(3,888)	(1,999)
TAX DEPRECIATION		(30,118)	(49,505)	(32,244)	(21,717)	(21,271)	(13,325)	(5,410)	(5,058)	(4,699)	(4,599)
TAXABLE INCOME		(\$21,914)	(\$39,293)	(\$19,913)	(\$7,148)	(\$4,337)	\$8,108	\$16,864	\$19,809	\$22,819	\$26,340
TAXES: Income		8,962	10,061	8,134	2,920	1,771	(2,495)	(6,807)	(8,082)	(9,321)	(10,597)
Tax Credits		\$26,829	\$129	8,177	8,177	128	0	0	0	0	0
INCOME AFTER TAX		\$13,896	(\$16,084)	(\$3,001)	\$3,949	(\$2,436)	\$8,613	\$9,857	\$11,717	\$13,497	\$15,344
TAX DEPRECIATION		30,118	49,506	32,244	21,717	21,271	13,325	5,410	5,058	4,699	4,599
PLANT COST											
LOAN											
PRINCIPAL PAYMENTS		(16,534)	(16,822)	(17,785)	(19,030)	(20,362)	(21,768)	(23,313)	(24,945)	(26,661)	(28,560)
NET CASH FLOW		(\$53,658)	\$28,590	\$17,819	\$10,858	\$8,636	(\$1,528)	(\$8,047)	(\$8,172)	(\$8,196)	(\$8,218)
CUMULATIVE CASH FLOW		(\$53,658)	(\$25,077)	(\$7,258)	\$3,599	\$10,238	\$8,706	\$3,857	(\$4,189)	(\$12,381)	(\$20,597)
CUMULATIVE IRR		NA	NA	3.94%	9.71%	9.81%	4.88%	NA	NA	NA	NA
DEBT COVERAGE RATIO		0.790	0.790	0.822	0.854	0.888	0.923	0.959	0.997	1.037	1.079
CUM NPV	20.0%	(\$53,658)	(\$28,041)	(\$17,466)	(\$11,183)	(\$7,993)	(\$8,597)	(\$10,221)	(\$12,467)	(\$14,367)	(\$17,253)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 4-3: REQUIRED TIPPING FEE WITH ECONOMIC INCENTIVES
OPTION NO. 7
1000 TPD (Dry) of 100.0% WASTE PAPER, WITH GASIFICATION; ETHANOL @ \$1.20/GAL

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY	380,611	380,611	380,611	380,611	380,611	380,611	380,611	380,611	380,611	380,611
CASH FLOW STATEMENT										
REVENUE										
Ethanol	\$84,162	\$86,728	\$89,398	\$72,174	\$75,061	\$78,063	\$81,166	\$84,433	\$87,810	\$91,323
CO ₂	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	5,500	5,720	5,946	6,188	6,434	6,691	6,959	7,237	7,527	7,828
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue	\$89,662	\$72,448	\$75,346	\$78,360	\$81,494	\$84,754	\$88,144	\$91,670	\$85,337	\$89,150
LESS O&M EXPENSES										
Labor - Supervisory	\$7,744	\$5,054	\$5,376	\$8,711	\$8,059	\$9,422	\$9,799	\$10,191	\$10,598	\$11,022
Fixed Maintenance Materials	3,728	3,677	4,032	4,193	4,361	4,536	4,717	4,908	5,102	5,308
Insurance	4,827	5,020	5,220	6,429	6,846	5,872	6,107	6,351	6,605	6,870
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	3,110	3,250	3,398	3,649	3,708	3,875	4,050	4,232	4,422	4,621
Chemicals	8,555	8,587	8,253	9,823	10,008	10,406	10,825	11,256	11,708	12,176
Power	0	0	0	0	0	0	0	0	0	0
Water	160	167	173	180	187	195	203	211	218	228
Waste Water	230	246	255	266	276	287	298	310	323	335
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper	\$2.03	1,315	1,388	1,423	1,480	1,539	1,600	1,664	1,731	1,802
- OTD	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)	5,747	5,977	6,218	6,466	6,723	6,992	7,272	7,563	7,866	8,180
Total O&M Expenses	\$38,422	\$38,854	\$38,345	\$39,895	\$41,509	\$43,189	\$44,935	\$46,752	\$48,643	\$50,611
GROSS MARGIN	\$34,240	\$35,594	\$37,002	\$38,465	\$39,985	\$41,565	\$43,210	\$44,918	\$46,693	\$48,539
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(4,998)	(4,998)	(4,998)	(4,998)	(4,998)	(4,998)	(4,998)	(4,998)	(4,998)	(15,488)
TAXABLE INCOME	\$29,242	\$30,596	\$32,004	\$33,467	\$34,988	\$36,567	\$38,212	\$39,920	\$41,695	\$33,053
TAXES: Income	(11,945)	(12,486)	(13,073)	(13,671)	(14,292)	(14,938)	(15,609)	(16,307)	(17,033)	(13,502)
Tax Credits	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX	\$17,297	\$18,098	\$18,930	\$19,796	\$20,696	\$21,630	\$22,602	\$23,613	\$24,663	\$19,551
TAX DEPRECIATION	4,998	4,998	4,998	4,998	4,998	4,998	4,998	4,998	4,998	15,488
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$22,295	\$23,096	\$23,928	\$24,794	\$25,694	\$26,628	\$27,600	\$28,611	\$29,661	\$35,037
CUMULATIVE CASH FLOW	(\$5,480)	\$18,618	\$40,544	\$65,337	\$91,030	\$117,659	\$145,259	\$173,869	\$203,530	\$238,567
CUMULATIVE IRR	NA	7.44%	11.98%	14.53%	16.20%	17.39%	18.25%	19.01%	19.42%	19.88%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$14,282)	(\$11,802)	(\$9,455)	(\$7,324)	(\$5,657)	(\$4,417)	(\$3,172)	(\$2,098)	(\$1,189)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY PROFORMA FINANCIAL STATEMENT THIRD PARTY CONTRACTOR / DEVELOPER		TABLE 4-0 REQUIRED TIPPING FEE OPTION NO.: 0 1000 TPD (Dry) of 100.0% WASTE PAPER, WITHOUT GASIFICATION; ETHANOL @ \$1.20/GAL; \$50/TON LIGNIN DISPOSAL COST		WITH ECONOMIC INCENTIVES		Stone & Webster Development Corporation						Page 1 of 2
End of Year		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.		4	5	6	7	8	9	10	11	12	13	14
Operating Year		0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR			83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY			360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511
CASH FLOW STATEMENT	(\$1000's)											
REVENUE												
Ethanol			\$43,348	\$45,079	\$46,883	\$48,758	\$50,706	\$52,737	\$54,848	\$57,040	\$59,321	\$61,694
CO2			0	0	0	0	0	0	0	0	0	0
Lignin			0	0	0	0	0	0	0	0	0	0
Power			0	0	0	0	0	0	0	0	0	0
Tipping Fee- Waste Paper			14,075	15,574	16,197	16,845	17,519	18,220	18,949	19,706	20,495	21,315
- OTD			0	0	0	0	0	0	0	0	0	0
- Waste Wood			0	0	0	0	0	0	0	0	0	0
Total Revenue			\$59,321	\$60,654	\$63,080	\$65,603	\$68,227	\$70,950	\$73,795	\$76,746	\$79,816	\$83,009
LESS O&M EXPENSES												
Labor - Supervisory			\$4,015	\$4,178	\$4,343	\$4,518	\$4,697	\$4,885	\$5,080	\$5,283	\$5,495	\$5,715
Fixed Maintenance Materials			1,861	1,938	2,013	2,094	2,178	2,265	2,355	2,450	2,549	2,649
Insurance			2,470	2,569	2,671	2,778	2,889	3,006	3,128	3,250	3,380	3,515
Property Taxes			0	0	0	0	0	0	0	0	0	0
Variable Maintenance			0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment			0	0	0	0	0	0	0	0	0	0
- Fermentation			0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)			13,591	14,203	14,842	15,510	16,208	16,937	17,699	18,490	19,328	20,198
Chemicals			5,778	6,011	6,251	6,501	6,761	7,032	7,313	7,605	7,910	8,226
Power	Economic Incentive Reduction: -41%		5,187	5,405	5,621	5,848	6,080	6,323	6,578	6,839	7,106	7,381
Water			220	229	238	247	257	267	278	289	301	313
Waste Water			159	168	172	179	186	194	201	210	218	227
Steam			0	0	0	0	0	0	0	0	0	0
Natural Gas	Economic Incentive Reduction: -32%		1,915	2,021	2,132	2,249	2,373	2,503	2,641	2,788	2,939	3,095
Feedstock - Waste Paper			0	0	0	0	0	0	0	0	0	0
- OTD			0	0	0	0	0	0	0	0	0	0
- Waste Wood			0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)			4,811	5,004	5,204	5,412	5,629	5,854	6,088	6,332	6,585	6,848
Total O&M Expenses			\$40,020	\$41,717	\$43,487	\$45,333	\$47,257	\$49,264	\$51,357	\$53,539	\$55,808	\$58,158
GROSS MARGIN			\$19,301	\$18,937	\$19,593	\$20,270	\$20,970	\$21,692	\$22,438	\$23,207	\$23,908	\$24,851
INTEREST			(11,372)	(10,549)	(9,668)	(8,726)	(7,718)	(6,639)	(5,484)	(4,249)	(2,927)	(1,513)
TAX DEPRECIATION			(27,616)	(44,710)	(27,848)	(17,675)	(17,626)	(9,881)	(2,244)	(2,129)	(2,108)	(2,108)
TAXABLE INCOME			(\$20,688)	(\$36,329)	(\$17,923)	(\$9,130)	(\$4,275)	\$5,172	\$14,709	\$16,830	\$12,571	\$14,526
TAXES: Income			9,450	14,838	7,322	2,504	1,747	(2,113)	(5,008)	(8,975)	(5,135)	(5,935)
Tax Credits			20,406	6,191	6,191	6,191	99	0	0	0	0	0
INCOME AFTER TAX			\$8,170	(\$15,284)	(\$4,411)	\$2,565	(\$2,430)	\$3,059	\$8,700	\$9,955	\$7,438	\$8,593
TAX DEPRECIATION			27,616	44,710	27,848	17,675	17,626	9,881	2,244	2,128	2,108	2,108
PLANT COST												
LOAN												
PRINCIPAL PAYMENTS			(11,769)	(12,682)	(13,482)	(14,405)	(15,413)	(16,482)	(17,646)	(18,882)	(20,203)	(21,618)
NET CASH FLOW			(\$40,616)	\$24,027	\$16,535	\$8,673	\$5,835	(\$316)	(\$3,552)	(\$6,702)	(\$9,799)	(\$10,658)
CUMULATIVE CASH FLOW			(\$40,616)	(\$16,589)	\$247	\$10,221	\$16,056	\$15,741	\$12,189	\$5,487	(\$1,312)	(\$11,970)
CUMULATIVE IRR			NA	0.43%	14.25%	19.48%	19.28%	17.06%	12.12%	NA	NA	NA
DEBT COVERAGE RATIO			0.781	0.819	0.847	0.878	0.907	0.938	0.970	1.003	0.781	0.785
CUM NPV	20.0%		(\$40,616)	(\$20,583)	(\$8,902)	(\$3,129)	(\$316)	(\$442)	(\$1,832)	(\$3,502)	(\$5,063)	(\$7,149)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 4-9 REQUIRED TIPPING FEE
OPTION NO. 6
1000 TPD (Dry) of 100.0% WASTE PAPER, WITHOUT GASIFICATION: ETHANOL @ \$1.20/GAL; \$50/TON LIGNIN DISPOSAL COST.

WITH ECONOMIC INCEN*

Stone & Webster Development Corporation

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	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
End of Year	18	19	20	21	22	23	24	25	26	27
Years from P.D.	18	19	20	21	22	23	24	25	26	27
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY	300,511	300,511	300,511	300,511	300,511	300,511	300,511	300,511	300,511	300,511
CASH FLOW STATEMENT										
REVENUE										
Ethanol	\$84,182	\$85,728	\$86,368	\$72,174	\$75,081	\$78,083	\$81,185	\$84,433	\$87,810	\$91,323
CO2	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$34.14									
- OTD	0	0	0	0	0	0	0	0	0	0
- Waste Wood	0	0	0	0	0	0	0	0	0	0
Total Revenue	\$84,182	\$85,728	\$86,368	\$72,174	\$75,081	\$78,083	\$81,185	\$84,433	\$87,810	\$91,323
LESS O&M EXPENSES										
Labor - Supervisory	\$5,843	\$6,161	\$6,426	\$6,835	\$6,953	\$7,231	\$7,520	\$7,821	\$8,134	\$8,459
Fixed Maintenance Materials	2,755	2,888	2,990	3,099	3,223	3,352	3,487	3,628	3,771	3,922
Insurance	3,556	3,802	3,954	4,112	4,277	4,446	4,620	4,811	5,003	5,204
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Retreatment	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	21,107	22,050	23,049	24,086	25,170	26,303	27,488	28,723	30,018	31,368
Chemicals	8,555	8,897	9,253	9,623	10,008	10,408	10,825	11,258	11,708	12,176
Power	13,094	13,618	14,163	14,729	15,318	15,931	16,569	17,231	17,920	18,637
Water	325	338	352	368	381	396	412	428	445	463
Waste Water	238	245	255	265	275	287	298	310	323	335
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	4,829	5,095	5,375	5,670	5,982	6,311	6,656	7,025	7,411	7,819
Feedstock - Waste Paper	0	0	0	0	0	0	0	0	0	0
- OTD	0	0	0	0	0	0	0	0	0	0
- Waste Wood	0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)	7,122	7,407	7,703	8,011	8,332	8,665	9,012	9,372	9,747	10,137
Total O&M Expenses	\$87,822	\$90,505	\$93,512	\$76,849	\$79,920	\$83,332	\$86,822	\$90,805	\$94,478	\$98,518
GROSS MARGIN	\$16,707	\$16,277	\$16,861	\$20,460	\$21,073	\$21,700	\$22,342	\$22,999	\$23,689	\$24,355
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(2,109)	(1,129)
TAXABLE INCOME	\$14,598	\$14,168	\$14,753	\$18,351	\$18,964	\$19,591	\$20,233	\$20,890	\$21,581	\$23,226
TAXES: Income	(5,790)	(7,013)	(7,262)	(7,496)	(7,747)	(8,003)	(8,269)	(8,533)	(8,808)	(9,403)
Tax Credits	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX	\$8,808	\$7,155	\$7,491	\$10,855	\$11,217	\$11,588	\$11,964	\$12,357	\$12,773	\$13,823
TAX DEPRECIATION	2,109	2,109	2,109	2,109	2,109	2,109	2,109	2,109	2,109	1,129
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$10,917	\$9,164	\$9,591	\$12,964	\$13,326	\$13,697	\$14,073	\$14,466	\$14,882	\$14,952
CUMULATIVE CASH FLOW	(\$10,859)	\$1,305	\$13,914	\$26,878	\$40,204	\$53,901	\$67,978	\$82,443	\$97,305	\$118,257
CUMULATIVE IRR	NA	2.47%	11.13%	14.33%	16.20%	17.46%	18.35%	19.01%	19.62%	20.00%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	(\$7,307)	(\$5,931)	(\$4,753)	(\$3,743)	(\$2,878)	(\$2,137)	(\$1,603)	(\$1,095)	(\$644)	\$0

BIOMASS-TO-ETHANOL PRODUCTION FACILITY PROFORMA FINANCIAL STATEMENT THIRD PARTY CONTRACTOR / DEVELOPER			TABLE 4-10: REQUIRED TIPPING FEE OPTION NO.: 1 500 TPD (Dry) of 100.0% WASTE PAPER, WITH GASIFICATION; ETHANOL @ \$1.20/GAL.		10 YEARS ECONOMIC LIFE						Stone & Webster Development Corporation		
			Page 1 of 1										
End of Year			1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.O.			4	5	6	7	8	9	10	11	12	13	14
Operating Year			0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR				83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY				180,256	180,256	180,255	180,265	180,256	180,255	180,256	180,255	180,258	180,256
CASH FLOW STATEMENT													
REVENUE													
Ethanol				\$21,673	\$22,540	\$23,441	\$24,379	\$25,354	\$26,368	\$27,423	\$28,520	\$29,661	\$30,847
CO2				0	0	0	0	0	0	0	0	0	0
Lignin				0	0	0	0	0	0	0	0	0	0
Power				1,858	1,932	2,009	2,080	2,173	2,260	2,351	2,445	2,542	2,644
Tipping Fee - Waste Paper				20,957	21,795	22,667	23,574	24,517	25,497	26,517	27,578	28,681	29,826
- OTD				0	0	0	0	0	0	0	0	0	0
- Waste Wood				0	0	0	0	0	0	0	0	0	0
Total Revenue				\$44,487	\$46,267	\$48,118	\$50,042	\$52,044	\$54,128	\$56,291	\$58,543	\$60,884	\$63,320
LESS O&M EXPENSES													
Labor - Supervisory				\$5,232	\$5,441	\$5,659	\$5,886	\$6,120	\$6,365	\$6,620	\$6,884	\$7,158	\$7,446
Fixed Maintenance Materials				1,592	1,648	1,711	1,779	1,850	1,924	2,001	2,081	2,165	2,251
Insurance				2,058	2,138	2,224	2,313	2,406	2,502	2,602	2,706	2,814	2,927
Property Taxes				0	0	0	0	0	0	0	0	0	0
Variable Maintenance				0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment				0	0	0	0	0	0	0	0	0	0
- Fermentation				0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)				1,001	1,048	1,093	1,143	1,194	1,248	1,304	1,363	1,424	1,488
Chemicals				2,890	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power Economic Incentive Reduction: 0%				0	0	0	0	0	0	0	0	0	0
Water				54	56	58	61	63	66	69	71	74	77
Waste Water				80	83	86	90	93	97	101	105	109	113
Steam				0	0	0	0	0	0	0	0	0	0
Natural Gas Economic Incentive Reduction: 0%				0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper				0	0	0	0	0	0	0	0	0	0
- OTD				0	0	0	0	0	0	0	0	0	0
- Waste Wood				0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)				3,670	3,817	3,970	4,128	4,294	4,465	4,644	4,830	5,023	5,224
Total O&M Expenses				\$18,564	\$17,232	\$17,028	\$16,849	\$19,401	\$20,183	\$20,998	\$21,842	\$22,725	\$23,639
GROSS MARGIN				\$27,923	\$29,035	\$30,191	\$31,393	\$32,644	\$33,943	\$35,295	\$36,700	\$38,159	\$39,681
INTEREST				(13,488)	(12,642)	(11,711)	(10,687)	(9,580)	(8,321)	(6,958)	(5,498)	(3,910)	(1,988)
TAX DEPRECIATION				(16,928)	(31,110)	(20,283)	(13,848)	(13,387)	(8,374)	(3,400)	(3,177)	(3,141)	(41,140)
TAXABLE INCOME				(\$4,492)	(\$14,717)	(\$1,782)	\$7,059	\$9,716	\$17,249	\$24,937	\$28,604	\$31,211	(\$3,455)
TAXES: Income				1,938	8,012	728	(2,994)	(3,989)	(7,046)	(10,157)	(11,464)	(12,780)	1,411
Tax Credits				0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX				(\$2,657)	(\$6,705)	(\$1,054)	\$4,178	\$5,724	\$10,203	\$14,780	\$16,600	\$18,431	(\$2,044)
TAX DEPRECIATION				18,328	31,110	20,283	13,848	13,387	9,374	3,400	3,177	3,141	41,140
PLANT COST				(\$169,688)									
LOAN				\$134,878									
PRINCIPAL PAYMENTS				(8,483)	(9,308)	(10,240)	(11,264)	(12,391)	(13,630)	(14,993)	(16,482)	(18,141)	(19,955)
NET CASH FLOW				(\$33,720)	\$7,907	\$13,096	\$8,988	\$8,559	\$8,724	\$4,048	\$3,167	\$3,285	\$3,481
CUMULATIVE CASH FLOW				(\$33,720)	(\$25,812)	(\$12,816)	(\$3,848)	\$2,711	\$8,435	\$14,381	\$17,538	\$20,823	\$24,284
CUMULATIVE IRR				NA	NA	NA	3.31%	9.50%	12.89%	14.17%	15.40%	16.40%	20.00%
DEBT COVERAGE RATIO				1.272	1.323	1.376	1.430	1.487	1.548	1.608	1.672	1.738	1.808
CUM NPV				20.0%	(\$33,720)	(\$18,118)	(\$12,925)	(\$9,788)	(\$7,064)	(\$5,407)	(\$4,528)	(\$3,782)	(\$3,091)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER

TABLE 4-11: REQUIRED TIPPING FEE
OPTION NO.: 2
500 TPD (Dry) of 100.0% WASTE PAPER, WITH COT CASHIGATION; ETHANOL @ \$1.20/GAL; \$50/TON LIGNIN DISPOSAL COST.

10 YEARS ECONOMIC LIFE

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT											
REVENUE											
Ethanol		\$21,673	\$22,540	\$23,441	\$24,378	\$25,354	\$26,368	\$27,423	\$28,520	\$29,661	\$30,847
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper		25,226	26,237	27,287	28,378	29,513	30,694	31,922	33,199	34,527	35,908
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
Total Revenue		\$48,901	\$48,777	\$50,728	\$52,757	\$54,868	\$57,062	\$59,345	\$61,719	\$64,187	\$66,756
LESS O&M EXPENSES											
Labor - Supervisory		\$4,015	\$4,178	\$4,343	\$4,518	\$4,697	\$4,885	\$5,080	\$5,283	\$5,498	\$5,716
Fixed Maintenance Materials		1,168	1,215	1,263	1,314	1,366	1,421	1,478	1,537	1,598	1,662
Insurance		1,557	1,620	1,684	1,752	1,822	1,895	1,971	2,049	2,131	2,217
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		6,768	7,101	7,421	7,755	8,104	8,468	8,850	9,248	9,664	10,099
Chemicals		2,890	3,005	3,128	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power		4,423	4,600	4,784	4,975	5,174	5,381	5,597	5,820	6,053	6,295
Water		110	114	119	124	129	134	139	145	150	156
Waste Water		80	83	86	90	93	97	101	105	109	113
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		1,414	1,491	1,573	1,660	1,751	1,847	1,949	2,056	2,169	2,288
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		3,889	4,024	4,168	4,322	4,487	4,708	4,968	5,262	5,595	5,907
Total O&M Expenses		\$28,321	\$27,429	\$28,584	\$29,785	\$31,043	\$32,352	\$33,716	\$35,139	\$36,621	\$38,166
GROSS MARGIN		\$20,580	\$21,348	\$22,144	\$22,972	\$23,824	\$24,711	\$25,629	\$26,581	\$27,567	\$28,590
INTEREST		(10,218)	(9,576)	(8,870)	(8,094)	(7,241)	(6,303)	(5,270)	(4,135)	(2,880)	(1,511)
TAX DEPRECIATION		(17,368)	(28,116)	(17,512)	(11,115)	(11,022)	(8,213)	(1,411)	(1,338)	(1,328)	(20,280)
TAXABLE INCOME		(\$7,002)	(\$16,343)	(\$4,238)	\$3,780	\$5,561	\$12,194	\$18,947	\$21,108	\$23,355	\$6,617
TAXES: Income		2,860	6,876	1,731	(1,636)	(2,272)	(4,861)	(7,740)	(9,622)	(9,541)	(2,785)
Tax Credits		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$4,142)	(\$9,467)	(\$2,507)	\$2,224	\$3,289	\$7,213	\$11,207	\$12,486	\$13,814	\$4,032
TAX DEPRECIATION		17,368	28,116	17,512	11,115	11,022	8,213	1,411	1,338	1,328	20,280
PLANT COST		(\$127,703)									
LOAN		\$102,182									
PRINCIPAL PAYMENTS		(8,410)	(7,061)	(7,766)	(8,632)	(9,385)	(10,324)	(11,360)	(12,492)	(13,741)	(15,115)
NET CASH FLOW		(\$25,641)	\$8,614	\$11,395	\$7,249	\$4,907	\$4,929	\$3,103	\$1,293	\$1,332	\$8,177
CUMULATIVE CASH FLOW		(\$25,641)	(\$18,727)	(\$7,332)	(\$80)	\$4,727	\$9,653	\$12,755	\$14,018	\$15,350	\$26,527
CUMULATIVE IRR		NA	NA	NA	7.88%	13.11%	15.52%	16.26%	16.83%	17.48%	20.00%
DEBT COVERAGE RATIO		1.238	1.284	1.332	1.381	1.433	1.486	1.541	1.589	1.658	1.719
CUM NPV		20.0%	(\$25,641)	(\$19,882)	(\$11,847)	(\$7,752)	(\$5,434)	(\$3,455)	(\$2,416)	(\$1,753)	(\$1,482)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 4-12: REQUIRED TIPPING FEE

10 YEARS ECONOMIC LIFE

Stone & Webster Development Corporation

OPTION NO.: 7

1000 TPD (Dry) of 100.0% WASTE PAPER, WITH GASIFICATION; ETHANOL @ \$1.20/GAL

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End of Year Years from P.D. Operating Year	1997 4 0	1998 5 1	1999 6 2	2000 7 3	2001 8 4	2002 9 5	2003 10 6	2004 11 7	2005 12 8	2006 13 9	2007 14 10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY		360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511
CASH FLOW STATEMENT											
REVENUE											
Ethanol		\$43,348	\$45,078	\$46,893	\$48,758	\$50,708	\$52,737	\$54,848	\$57,040	\$59,321	\$61,694
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		3,716	3,884	4,019	4,179	4,348	4,520	4,701	4,889	5,085	5,288
Tipping Fee - Waste Paper	\$50.50	22,150	23,006	23,967	24,915	25,912	26,946	28,026	29,147	30,313	31,526
- OTD	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$69,210	\$71,978	\$74,856	\$77,852	\$80,966	\$84,205	\$87,573	\$91,078	\$94,719	\$98,508
LESS O&M EXPENSES											
Labor - Supervisory		\$5,232	\$5,441	\$5,659	\$5,885	\$6,120	\$6,365	\$6,620	\$6,884	\$7,158	\$7,448
Fixed Maintenance Materials		2,518	2,619	2,724	2,833	2,946	3,064	3,187	3,314	3,447	3,585
Insurance		3,261	3,391	3,527	3,668	3,814	3,967	4,126	4,291	4,462	4,641
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Retreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		2,002	2,083	2,167	2,255	2,348	2,445	2,546	2,651	2,761	2,876
Chemicals		6,779	6,911	7,051	7,201	7,361	7,532	7,713	7,905	8,108	8,328
Power	Economic Incentive Reduction: 0%	0	0	0	0	0	0	0	0	0	0
Water		108	113	117	122	127	132	137	142	148	154
Waste Water		169	168	172	179	188	194	201	210	218	227
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas	Economic Incentive Reduction: 0%	0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		5,710	5,838	5,978	6,123	6,280	6,447	6,626	6,814	7,014	7,227
Total O&M Expenses		\$24,770	\$25,771	\$26,812	\$27,895	\$29,023	\$30,195	\$31,418	\$32,685	\$34,007	\$35,381
GROSS MARGIN		\$44,441	\$46,208	\$48,046	\$49,957	\$51,944	\$54,010	\$56,157	\$58,393	\$60,713	\$63,127
INTEREST		(21,483)	(20,116)	(18,838)	(17,655)	(16,513)	(15,411)	(14,352)	(13,337)	(12,366)	(11,439)
TAX DEPRECIATION		(30,119)	(49,506)	(32,244)	(21,717)	(21,271)	(13,325)	(5,410)	(5,056)	(4,998)	(5,496)
TAXABLE INCOME		(\$7,142)	(\$23,413)	(\$2,833)	\$11,234	\$15,460	\$27,444	\$39,975	\$44,648	\$48,653	(\$5,614)
TAXES: Income		2,917	8,564	1,167	(4,598)	(6,316)	(11,211)	(16,207)	(18,238)	(20,283)	2,253
Tax Credits	\$0 Investment \$0 Wages	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$4,224)	(\$13,848)	(\$1,678)	\$6,648	\$9,146	\$16,233	\$23,468	\$26,410	\$28,370	(\$3,361)
TAX DEPRECIATION		30,119	49,506	32,244	21,717	21,271	13,325	5,410	5,056	4,998	5,496
PLANT COST	(\$298,268)										
LOAN	\$214,630										
PRINCIPAL PAYMENTS		(13,467)	(14,814)	(16,295)	(17,825)	(18,717)	(21,688)	(23,858)	(26,244)	(28,888)	(31,755)
NET CASH FLOW	(\$53,658)	\$12,428	\$20,842	\$14,273	\$10,438	\$10,698	\$7,680	\$8,020	\$5,222	\$8,500	\$30,449
CUMULATIVE CASH FLOW	(\$53,658)	(\$41,230)	(\$20,387)	(\$8,114)	\$4,323	\$15,022	\$22,890	\$27,910	\$33,132	\$39,632	\$69,081
CUMULATIVE IRR		NA	NA	NA	3.92%	9.50%	12.66%	14.17%	15.40%	16.40%	20.00%
DEBT COVERAGE RATIO		1.272	1.323	1.375	1.430	1.487	1.548	1.608	1.672	1.738	1.807
CUM NPV	20.0%	(\$53,658)	(\$43,301)	(\$28,827)	(\$20,567)	(\$16,534)	(\$11,234)	(\$6,590)	(\$7,198)	(\$5,984)	(\$4,918)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER

TABLE 4-13: REQUIRED TIPPING FEE
OPTION NO.: 8
1000 TPD (Dry) of 100.0% WASTE PAPER, WITHOUT GASIFICATION; ETHANOL @ \$1.20/GAL; \$50/TON LIGNIN DISPOSAL COST

10 YEARS ECONOMIC LIFE

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY		360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511
CASH FLOW STATEMENT											
REVENUE											
Ethanol		\$43,346	\$45,079	\$46,883	\$48,768	\$50,709	\$52,737	\$54,848	\$57,040	\$59,321	\$61,684
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$81.51	35,750	37,180	38,667	40,214	41,823	43,495	45,235	47,045	48,927	50,884
- OTD	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$79,096	\$82,260	\$85,550	\$88,972	\$92,531	\$96,232	\$100,091	\$104,085	\$108,248	\$112,578
LESS O&M EXPENSES											
Labo - Supervisory		\$4,015	\$4,178	\$4,343	\$4,518	\$4,697	\$4,885	\$5,080	\$5,293	\$5,496	\$5,716
Fixed Maintenance Materials		1,861	1,838	2,013	2,094	2,178	2,265	2,355	2,450	2,548	2,649
Insurance		2,470	2,568	2,671	2,778	2,889	3,005	3,125	3,250	3,380	3,516
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Retreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		13,591	14,203	14,842	15,510	16,208	16,937	17,699	18,490	19,328	20,198
Chemicals		5,779	6,011	6,251	6,501	6,761	7,032	7,313	7,605	7,910	8,229
Power	Economic Incentive Reduction: 0%	8,846	9,200	9,568	9,951	10,348	10,763	11,193	11,641	12,108	12,591
Water		220	229	238	247	257	267	278	289	301	313
Waste Water		169	168	172	179	189	194	201	210	218	227
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas	Economic Incentive Reduction: 0%	2,827	2,963	3,147	3,320	3,502	3,695	3,898	4,112	4,339	4,577
Feedstock - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		6,525	6,786	7,058	7,340	7,634	7,939	8,257	8,587	8,930	9,288
Total O&M Expenses		\$46,294	\$48,256	\$50,302	\$52,436	\$54,661	\$56,981	\$59,400	\$61,923	\$64,554	\$67,288
GROSS MARGIN		\$32,802	\$34,003	\$35,248	\$36,536	\$37,870	\$39,251	\$40,691	\$42,162	\$43,694	\$45,290
INTEREST		(16,248)	(15,227)	(14,105)	(12,872)	(11,515)	(10,029)	(8,381)	(6,575)	(4,588)	(2,404)
TAX DEPRECIATION		(27,615)	(44,710)	(27,845)	(17,675)	(17,528)	(8,661)	(2,244)	(2,128)	(2,108)	(32,218)
TAXABLE INCOME		(\$11,060)	(\$25,934)	(\$6,706)	\$5,989	\$9,827	\$19,348	\$30,066	\$33,458	\$36,998	\$10,659
TAXES: Income		4,516	10,594	2,739	(2,447)	(3,608)	(7,904)	(12,278)	(13,698)	(15,113)	(4,364)
Tax Credits	\$0 Investment \$0 Wages	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$6,542)	(\$15,340)	(\$3,966)	\$3,543	\$5,221	\$11,444	\$17,778	\$19,791	\$21,883	\$6,305
TAX DEPRECIATION		27,615	44,710	27,845	17,675	17,528	8,661	2,244	2,128	2,108	32,218
PLANT COST		(\$203,077)									
LOAN		\$182,461									
PRINCIPAL PAYMENTS		(10,104)	(11,213)	(12,334)	(13,568)	(14,925)	(16,417)	(18,058)	(19,855)	(21,851)	(24,036)
NET CASH FLOW		(\$40,616)	\$10,680	\$18,157	\$11,547	\$7,850	\$7,824	\$4,906	\$1,964	\$2,054	\$14,438
CUMULATIVE CASH FLOW		(\$40,616)	(\$29,736)	(\$11,578)	(\$31)	\$7,818	\$15,443	\$20,351	\$22,314	\$24,368	\$40,805
CUMULATIVE IRR		NA	NA	NA	7.70%	13.10%	15.59%	16.33%	16.98%	17.49%	20.00%
DEBT COVERAGE RATIO		1.241	1.286	1.333	1.382	1.432	1.485	1.539	1.595	1.653	1.713
CUM NPV	20.0%	(\$40,616)	(\$31,549)	(\$18,640)	(\$12,257)	(\$6,568)	(\$3,424)	(\$3,780)	(\$3,232)	(\$2,755)	\$0

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 4-14: REQUIRED ETHANOL PRICE
OPTION NO.: 13
500 TPD (Dry) of 100.0% WOOD WASTE, WITH GASIFICATION; WOOD @ \$28/TON

10 YEARS ECONOMIC LIFE

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol	\$2.68 /gallon	\$47,975	\$49,897	\$51,893	\$53,969	\$56,128	\$58,373	\$60,705	\$63,136	\$65,661	\$68,286
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		1,062	1,104	1,148	1,194	1,242	1,292	1,343	1,397	1,453	1,511
Shipping Fee- Waste Paper	\$2.00	0	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$49,040	\$51,001	\$53,041	\$55,163	\$57,370	\$59,664	\$62,051	\$64,533	\$67,114	\$69,799
LESS O&M EXPENSES											
Labor - Supervisory		\$3,232	\$3,441	\$3,659	\$3,885	\$4,120	\$4,365	\$4,620	\$4,884	\$5,156	\$5,436
Fixed Maintenance Materials		1,582	1,645	1,711	1,779	1,850	1,924	2,001	2,081	2,165	2,251
Insurance		2,056	2,138	2,224	2,313	2,406	2,502	2,602	2,706	2,814	2,927
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		795	831	868	907	948	991	1,035	1,082	1,131	1,182
Chemicals		2,690	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power		0	0	0	0	0	0	0	0	0	0
Water		54	58	59	61	63	66	69	71	74	77
Waste Water		50	63	86	90	93	97	101	105	109	113
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$20.00	4,366	4,562	4,744	4,934	5,131	5,336	5,550	5,772	6,003	6,243
Gross Receipts Tax (Income Tax Deductible)		4,046	4,208	4,376	4,551	4,733	4,922	5,119	5,324	5,537	5,759
Total O&M Expenses		\$21,120	\$21,959	\$22,852	\$23,770	\$24,726	\$25,719	\$26,753	\$27,825	\$28,947	\$30,110
GROSS MARGIN		\$27,920	\$29,043	\$30,190	\$31,393	\$32,644	\$33,945	\$35,298	\$36,708	\$38,167	\$39,689
INTEREST		(13,468)	(12,642)	(11,711)	(10,687)	(9,560)	(8,321)	(6,958)	(5,450)	(3,810)	(1,996)
TAX DEPRECIATION		(16,928)	(31,110)	(20,263)	(13,648)	(13,367)	(8,374)	(3,400)	(3,177)	(3,141)	(4,140)
TAXABLE INCOME		\$4,496	\$14,719	\$17,844	\$7,059	\$9,717	\$17,251	\$24,840	\$28,069	\$31,217	\$34,447
TAXES: Income		1,836	6,013	729	(2,884)	(3,888)	(7,047)	(10,188)	(11,465)	(12,752)	1,408
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$2,660	\$8,706	\$17,115	\$4,175	\$5,748	\$10,204	\$14,652	\$16,604	\$18,465	\$32,039
TAX DEPRECIATION		16,928	31,110	20,263	13,648	13,367	8,374	3,400	3,177	3,141	4,140
PLANT COST		\$168,598									
LOAN		\$134,878									
PRINCIPAL PAYMENTS		(8,463)	(9,309)	(10,240)	(11,264)	(12,391)	(13,630)	(14,983)	(16,462)	(18,141)	(19,955)
NET CASH FLOW		\$33,720	\$7,005	\$13,095	\$4,869	\$5,559	\$4,724	\$4,945	\$3,159	\$3,268	\$19,148
CUMULATIVE CASH FLOW		\$33,720	\$26,914	\$12,820	\$3,852	\$2,707	\$9,431	\$14,378	\$17,537	\$20,805	\$43,156
CUMULATIVE IRR		NA	NA	NA	3.30%	9.49%	12.65%	14.17%	15.39%	16.40%	20.00%
DEBT COVERAGE RATIO		1.272	1.323	1.375	1.430	1.487	1.548	1.608	1.672	1.739	1.808
CUM NPV	20.0%	\$33,720	\$27,215	\$18,122	\$12,832	\$9,769	\$7,007	\$4,410	\$2,528	\$1,764	\$0

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 4-16: REQUIRED ETHANOL PRICE
OPTION NO.: 19
1000 TPD (Dry) of 100.0% WOOD WASTE, WITH GASIFICATION; WOOD @ \$20/TON

Stone & Webster Development Corporation

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End of Year	1987	1988	1989	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511	360,511
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		29,688,100	29,688,100	29,688,100	29,688,100	29,688,100	29,688,100	29,688,100	29,688,100	29,688,100	29,688,100
CASH FLOW STATEMENT (\$'000's)											
REVENUE											
Ethanol	\$2.11 / gallon	\$78,192	\$79,240	\$82,409	\$85,705	\$89,134	\$92,899	\$96,407	\$100,283	\$104,274	\$108,445
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		2,123	2,206	2,296	2,385	2,484	2,583	2,688	2,794	2,908	3,022
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$78,315	\$81,447	\$84,705	\$88,094	\$91,617	\$95,282	\$99,093	\$103,057	\$107,178	\$111,467
LESS O&M EXPENSES											
Labor - Supervisory		\$5,232	\$5,441	\$5,659	\$5,885	\$6,120	\$6,365	\$6,620	\$6,884	\$7,150	\$7,446
Fixed Maintenance Materials		2,518	2,619	2,724	2,833	2,946	3,064	3,187	3,314	3,447	3,585
Insurance		3,201	3,301	3,527	3,666	3,814	3,967	4,126	4,291	4,462	4,641
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Refinement		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		1,590	1,662	1,736	1,815	1,896	1,982	2,071	2,164	2,261	2,363
Chemicals		5,779	6,011	6,251	6,501	6,761	7,032	7,313	7,605	7,910	8,226
Power		0	0	0	0	0	0	0	0	0	0
Water		108	113	117	122	127	132	137	142	148	154
Waste Water		169	166	172	179	186	194	201	210	218	227
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$20.00	5,772	6,123	6,486	6,855	7,232	7,617	8,010	8,414	8,828	9,252
Gross Receipts Tax (Income Tax Deductible)		6,481	6,719	6,966	7,226	7,500	7,781	8,075	8,382	8,692	9,006
Total O&M Expenses		\$33,881	\$35,244	\$36,662	\$38,138	\$39,672	\$41,268	\$42,928	\$44,657	\$46,454	\$48,323
GROSS MARGIN		\$44,434	\$46,203	\$48,043	\$49,956	\$51,945	\$54,014	\$56,165	\$58,400	\$60,726	\$63,143
INTEREST		(21,483)	(20,116)	(18,838)	(17,605)	(16,213)	(14,241)	(11,072)	(6,887)	(2,682)	(3,175)
TAX DEPRECIATION		(30,119)	(49,503)	(32,244)	(21,717)	(21,271)	(13,325)	(5,410)	(5,058)	(4,895)	(63,486)
TAXABLE INCOME		\$7,148	\$23,419	\$22,838	\$11,233	\$15,462	\$27,448	\$39,882	\$44,858	\$49,688	\$53,488
TAXES: Income		2,820	9,568	1,150	(4,589)	(8,318)	(11,212)	(16,210)	(18,243)	(20,288)	2,248
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$4,328	\$13,852	\$21,688	\$6,844	\$9,144	\$16,236	\$23,672	\$26,615	\$29,377	\$53,232
TAX DEPRECIATION		30,119	49,503	32,244	21,717	21,271	13,325	5,410	5,058	4,998	63,486
PLANT COST											
LOAN											
PRINCIPAL PAYMENTS		(13,407)	(14,814)	(16,285)	(17,928)	(19,717)	(21,660)	(23,858)	(26,244)	(28,888)	(31,765)
NET CASH FLOW		\$53,858	\$12,424	\$20,840	\$14,271	\$10,437	\$10,699	\$7,871	\$5,024	\$5,228	\$30,459
CUMULATIVE CASH FLOW		\$53,858	\$41,294	\$20,394	\$(4,129)	\$4,314	\$15,013	\$22,884	\$27,908	\$33,136	\$60,102
CUMULATIVE IRR		NA	NA	NA	NA	3.31%	9.50%	12.68%	14.17%	15.40%	20.00%
DEBT COVERAGE RATIO		1.272	1.323	1.375	1.430	1.487	1.546	1.608	1.672	1.738	1.808
CUM NPV	20.0%	\$53,858	\$43,304	\$28,832	\$(20,574)	\$15,540	\$11,241	\$(8,905)	\$(7,202)	\$(5,987)	\$(4,919)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER

TABLE 4-17: REQUIRED ETHANOL PRICE
OPTION NO.: 20

10 YEARS ECONOMIC LIFE

Blom & Webster Development Corporation

1000 TPD (Dry) of 100.0% WOOD WASTE, WITHOUT GASIFICATION; WOOD @ \$20/TON; \$50/TON LIGNIN DISPOSAL COST.

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511	380,511
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100	29,689,100
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol	\$2.55 /gallon	\$92,221	\$95,910	\$99,748	\$103,736	\$107,885	\$112,201	\$116,689	\$121,358	\$126,211	\$131,259
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee- Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$92,221	\$95,910	\$99,748	\$103,736	\$107,885	\$112,201	\$116,689	\$121,358	\$126,211	\$131,259
LESS O&M EXPENSES											
Labor - Supervisory		\$4,015	\$4,178	\$4,343	\$4,518	\$4,697	\$4,885	\$5,080	\$5,283	\$5,495	\$5,715
Fixed Maintenance Materials		1,861	1,936	2,013	2,094	2,178	2,265	2,355	2,450	2,548	2,649
Insurance		2,470	2,509	2,671	2,778	2,889	3,008	3,125	3,250	3,380	3,516
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		10,940	11,441	11,858	12,494	13,050	13,844	14,259	14,699	15,570	16,270
Chemicals		5,778	6,011	6,251	6,501	6,761	7,032	7,313	7,605	7,910	8,228
Power		7,981	8,280	8,611	8,958	9,314	9,688	10,074	10,477	10,899	11,332
Water		258	268	279	290	302	314	326	339	353	367
Waste Water		158	168	172	179	186	194	201	210	218	227
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		9,305	9,817	10,357	10,929	11,527	12,161	12,830	13,536	14,280	15,069
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood	(\$20.00)	8,772	9,123	9,488	9,868	10,262	10,673	11,100	11,544	12,006	12,489
Gross Receipts Tax (Income Tax Deductible)		7,008	7,913	8,229	8,556	8,901	9,257	9,627	10,012	10,412	10,829
Total O&M Expenses		\$59,138	\$61,898	\$64,970	\$68,180	\$70,073	\$73,114	\$75,289	\$78,606	\$83,067	\$86,681
GROSS MARGIN		\$33,083	\$34,012	\$34,778	\$35,556	\$37,812	\$39,087	\$40,399	\$41,752	\$43,144	\$44,578
INTEREST		(16,249)	(15,227)	(14,105)	(12,872)	(11,519)	(10,020)	(8,381)	(6,575)	(4,589)	(2,404)
TAX DEPRECIATION		(27,613)	(44,710)	(27,648)	(17,678)	(17,528)	(8,881)	(2,244)	(2,128)	(2,100)	(32,218)
TAXABLE INCOME		(\$10,779)	(\$25,725)	(\$8,977)	\$8,029	\$8,770	\$19,183	\$29,774	\$33,049	\$36,447	\$8,957
TAXES: Income		4,403	10,509	2,667	(2,483)	(3,582)	(7,636)	(12,183)	(13,500)	(14,888)	(4,667)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$6,376)	(\$15,216)	(\$6,310)	\$5,546	\$5,187	\$11,547	\$17,611	\$19,549	\$21,559	\$5,890
TAX DEPRECIATION		27,613	44,710	27,648	17,678	17,528	8,881	2,244	2,128	2,109	32,218
PLANT COST	(\$200,077)										
LOAN	\$192,461										
PRINCIPAL PAYMENTS		(10,194)	(11,213)	(12,334)	(13,506)	(14,928)	(16,417)	(18,069)	(19,805)	(21,631)	(24,036)
NET CASH FLOW		(\$40,615)	\$11,046	\$18,281	\$11,823	\$7,873	\$7,790	\$4,811	\$1,797	\$1,810	\$14,071
CUMULATIVE CASH FLOW		(\$40,615)	(\$29,569)	(\$11,289)	\$304	\$8,007	\$15,797	\$20,608	\$22,405	\$24,216	\$40,103
CUMULATIVE IRR		NA	NA	0.41%	8.18%	13.32%	15.85%	18.52%	17.08%	17.83%	20.00%
DEBT COVERAGE RATIO		1.251	1.294	1.335	1.383	1.430	1.478	1.528	1.579	1.632	1.688
CUM NPV	20.0%	(\$40,615)	(\$31,410)	(\$18,718)	(\$11,989)	(\$4,289)	(\$3,547)	(\$3,045)	(\$2,624)	(\$2,273)	\$0

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER

TABLE 4-15: REQUIRED ETHANOL PRICE
OPTION NO.: 14
500 TPD (Dry) of 100.0% WOOD WASTE, WITHOUT GASIFICATION; WOOD @ \$20/TON; 150/TON LIGNIN DISPOSAL COST.
10 YEARS ECONOMIC LIFE
Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol	\$2.95/gallon	\$53,464	\$55,002	\$57,826	\$60,139	\$62,545	\$65,047	\$67,649	\$70,354	\$73,169	\$76,095
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- OTD	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$53,464	\$55,002	\$57,826	\$60,139	\$62,545	\$65,047	\$67,649	\$70,354	\$73,169	\$76,095
LESS O&M EXPENSES											
Labor - Supervisory		\$4,015	\$4,178	\$4,343	\$4,516	\$4,697	\$4,885	\$5,080	\$5,283	\$5,495	\$5,715
Fixed Maintenance Materials		1,168	1,216	1,263	1,314	1,368	1,421	1,476	1,537	1,598	1,662
Insurance		1,557	1,620	1,684	1,752	1,822	1,895	1,971	2,049	2,131	2,217
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		5,474	5,721	5,978	6,247	6,528	6,822	7,129	7,450	7,785	8,135
Chemicals		2,890	3,006	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power		3,691	4,140	4,306	4,478	4,657	4,843	5,037	5,238	5,448	5,666
Water		129	134	138	145	151	157	163	170	177	184
Waste Water		80	83	86	90	93	97	101	105	109	113
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		4,652	4,908	5,178	5,463	5,764	6,081	6,415	6,768	7,140	7,533
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- OTD		0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$20.00	4,398	4,562	4,744	4,934	5,131	5,336	5,550	5,772	6,003	6,243
Gross Receipts Tax (Income Tax Deductible)		4,411	4,587	4,771	4,961	5,160	5,368	5,581	5,804	6,036	6,278
Total O&M Expenses		\$32,743	\$34,150	\$35,618	\$37,150	\$38,749	\$40,410	\$42,161	\$43,979	\$45,877	\$47,858
GROSS MARGIN		\$20,721	\$21,452	\$22,208	\$22,989	\$23,796	\$24,638	\$25,488	\$26,378	\$27,292	\$28,238
INTEREST		(10,210)	(9,575)	(8,870)	(8,094)	(7,241)	(6,303)	(5,270)	(4,135)	(2,888)	(1,511)
TAX DEPRECIATION		(17,368)	(20,116)	(17,512)	(11,115)	(11,022)	(8,213)	(1,411)	(1,338)	(1,328)	(20,280)
TAXABLE INCOME		(\$4,857)	(\$6,233)	(\$4,174)	\$3,785	\$5,532	\$12,112	\$19,808	\$20,903	\$23,085	\$5,486
TAXES: Income		2,803	6,633	1,705	(1,544)	(2,280)	(4,948)	(7,682)	(8,638)	(9,428)	(2,641)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$4,058)	(\$6,605)	(\$2,469)	\$2,239	\$3,252	\$7,164	\$11,124	\$12,265	\$13,657	\$3,845
TAX DEPRECIATION		17,368	20,116	17,512	11,115	11,022	8,213	1,411	1,338	1,328	20,280
PLANT COST	(\$127,703)										
LOAN	\$102,182										
PRINCIPAL PAYMENTS		(8,410)	(7,051)	(7,788)	(8,632)	(9,385)	(10,324)	(11,358)	(12,482)	(13,741)	(15,115)
NET CASH FLOW		(\$25,541)	\$6,897	\$11,439	\$7,267	\$4,818	\$4,909	\$3,054	\$1,179	\$1,210	\$1,237
CUMULATIVE CASH FLOW		(\$25,541)	(\$16,644)	(\$7,104)	\$103	\$4,921	\$9,830	\$12,884	\$14,063	\$15,274	\$16,511
CUMULATIVE IRR		NA	NA	0.20%	7.89%	13.37%	15.73%	18.43%	17.02%	17.51%	20.00%
DEBT COVERAGE RATIO		1.248	1.290	1.338	1.383	1.431	1.481	1.533	1.588	1.641	1.698
CUM NPV	20.0%	(\$25,541)	(\$19,793)	(\$11,835)	(\$7,618)	(\$5,286)	(\$3,322)	(\$2,289)	(\$1,970)	(\$1,688)	(\$1,448)

**REQUIRED TIPPING FEE vs. CAPITAL COST AS A PERCENTAGE OF ESTIMATED COST
100% WASTE WOOD; ETHANOL @ 1.20/GAL**

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 4-1

REQUIRED TIPPING FEE vs. CAPITAL COST AS A PERCENTAGE OF ESTIMATED COST
100% WASTE WOOD; ETHANOL @ 1.50/GAL

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 4-2

REQUIRED TIPPING FEE vs. O&M COST

ETHANOL SALES PRICE @ \$1.20/GAL

CAPITAL COST AT 100% OF ESTIMATED VALUE

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 4-3

REQUIRED TIPPING FEE vs. O&M COST ETHANOL SALES PRICE @ \$1.50/GAL

CAPITAL COST AT 100% OF ESTIMATED VALUE

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 4-4

REQUIRED TIPPING FEE vs. LABOR COST

100% WASTE WOOD; ETHANOL @ \$1.20/GAL

LABOR COST FOR PLANT WITH GASIFICATION IS ESTIMATED @ \$4.3 MILLION PER YEAR

LABOR COST FOR PLANT WITHOUT GASIFICATION IS ESTIMATED @ \$3.3 MILLION PER YEAR

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 4-5

REQUIRED TIPPING FEE vs. LABOR COST

100% WASTE WOOD; ETHANOL @ \$1.50/GAL

LABOR COST FOR PLANT WITH GASIFICATION IS ESTIMATED TO BE \$13 MILLION PER YEAR
LABOR COST FOR PLANT WITHOUT GASIFICATION IS ESTIMATED TO BE \$33 MILLION PER YEAR

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 4-6

REQUIRED TIPPING FEE vs. POWER PRICE

100% WASTE WOOD; ETHANOL @ \$1.20/GAL

BASE CASE PRICE FOR PURCHASE IS \$0.10/KWH; FOR SALES IS \$0.05/KWH

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 4-7

REQUIRED TIPPING FEE VS. POWER PRICE

100% WASTE WOOD; ETHANOL @ \$1.50/GAL

REQUIRED TIPPING FEE (\$/WET TON)

BASIS CASE PRICE FOR PURCHASES IS \$0.10/KWH; FOR SALES IS \$0.05/KWH

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 4-8

REQUIRED TIPPING FEE vs. LIGNIN DISPOSAL COST **100% WASTE WOOD; ETHANOL @ \$1.20/GAL**

—■— OPT.13: 500 TPD, GASIFICATION
 - - - OPT.19: 1000 TPD, GASIFICATION

—●— OPT.14: 500 TPD, WITHOUT GASIFICATION
 - - - ○ - - OPT.20: 1000 TPD, WITHOUT GASIFICATION

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 4-9

REQUIRED TIPPING FEE vs. LIGNIN DISPOSAL COST **100% WASTE WOOD; ETHANOL @ \$1.50/GAL**

—■— OPT.15: 500 TPD, GASIFICATION
 —○— OPT.21: 1000 TPD, GASIFICATION

—●— OPT.16: 500 TPD, WITHOUT GASIFICATION
 —○— OPT.22: 1000 TPD, WITHOUT GASIFICATION

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 4-10

REQUIRED TIPPING FEE vs. CHEMICAL COST

100% WASTE WOOD; ETHANOL @ \$1.20/GAL

BASE VALUE FOR ALL OPTIONS IS \$0.16/GAL OF ETHANOL PRODUCED

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 4-11

REQUIRED TIPPING FEE vs. CHEMICAL COST

100% WASTE WOOD; ETHANOL @ \$1.50/GAL

BASE VALUE FOR ALL OPTIONS IS
\$0.16/GAL OF ETHANOL PRODUCED

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 4-12

REQUIRED ETHANOL PRICE vs. CAPITAL COST AS A PERCENTAGE OF ESTIMATED COST
100% WASTE WOOD; WOOD COST @ \$20/TON

CAPITAL COST FOR OPT. 13 = \$139,898,000; FOR OPT. 14 & 17 = \$108,203,000
CAPITAL COST FOR OPT. 19 = \$222,568,000; FOR OPT. 20 & 23 = \$168,977,000

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 4-13

REQUIRED ETHANOL PRICE vs. CAPITAL COST AS A PERCENTAGE OF ESTIMATED COST
100% WASTE WOOD; WOOD COST @ \$40/TON

—■— OPT. 15: 500 DRY TPD WITH GASIFICATION

—●— OPT. 16: 500 DRY TPD WITHOUT GASIFICATION, \$50/TON LIGNIN

—○— OPT. 22: 1000 DRY TPD WITHOUT GASIFICATION, \$20/TON LIGNIN

—■— OPT. 21: 1000 DRY TPD WITH GASIFICATION

—▲— OPT. 18: 500 DRY TPD WITHOUT GASIFICATION, \$0/TON LIGNIN

—△— OPT. 23: 1000 DRY TPD WITHOUT GASIFICATION, \$0/TON LIGNIN

CAPITAL COST FOR OPT. 15 = \$139,898,000; FOR OPT. 16 & 18 = \$106,203,000
 CAPITAL COST FOR OPT. 21 = \$222,398,000; FOR OPT. 22 & 24 = \$168,977,000

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 4-14

REQUIRED ETHANOL PRICE vs. O&M COST

100% WASTE WOOD; WOOD COST @ \$20/TON

FIGURE 4-15

O&M COST vs. REQUIRED ETHANOL PRICE

100% WASTE WOOD; WOOD COST @ \$40/TON

FIGURE 4-16

ATTACHMENT 4-2

RECYCLED WOOD PROCESSORS

<u>NAME/LOCATION</u>	<u>POTENTIAL SUPPLY</u>	<u>1989 PRICES</u>	<u>FOB</u>
BQE Services Brooklyn, NY ATTN: Joe Ciulla	300-400 tons/week woodchips	\$10/ton	Source
Recycled Wood Products P.O. Box 414 Sewell, NJ 08080 (609) 989-1501	375-625 tons/week woodchips	\$24-28/ton	Source
Star Recycling 221 Verrick Ave. New York, NY (718) 387-2794 (Fran) ATTN: Bob Pratt	500-800 tons/week woodchips	\$16/ton	NYC*

NOTE: * = FOB NYC assumes delivery to NYC political boundaries. Specific delivery sites within NYC may increase costs.

ATTACHMENT 6-1

**Municipal Solid Waste by Amount and Location:
Paper Products, Yard Waste,
and Construction and Demolition Wood**

GENERATION OF PAPER WASTE
In Upstate New York

AGENCY/CITY	REGION	UNIT OF WASTE	AMOUNT OF PAPER WASTE
Albany Co./Albany	4	Tons/Year	127,765
Columbia Co.	4	Tons/Year	14,794
Delaware Co.	4	Tons/Year	11,500
Greene Co.	4	Tons/Year	11,275
Montgomery Co.	4	Tons/Year	13,483
Otsego	4	Tons/Year	16,522
Schoharie	4	Tons/Year	5,988
Rensselaer Co.	4	Tons/Year	5,988
Schenectady Co.	4	Tons/Year	48,566
Total for Region 4		Tons/Year	255,871
Total for Region 4		Tons/Day	701
Clinton Co.	5	Tons/Year	21,637
Essex Co.	5	Tons/Year	8,952
Franklin SWM	5	Tons/Year	10,764
Fulton Co.	5	Tons/Year	13,257
Hamilton Co.	5	Tons/Year	825
Saratoga Co./Saratoga Springs	5	Tons/Year	44,812
Warren Co.	5	Tons/Year	24,144
Washington Co.	5	Tons/Year	10,886
Total for Region 5		Tons/Year	135,077
Total for Region 5		Tons/Day	370
Jefferson Co.	6	Tons/Year	27,475
Lewis Co.	6	Tons/Year	5,116
Oneida	6	Tons/Year	74,515
Herkimer	6	Tons/Year	15,113
St. Lawrence SWDA	6	Tons/Year	28,074
Total for Region 6		Tons/Year	151,393
Total for Region 6		Tons/Day	415
Broome Co.	7	Tons/Year	70,134
Cayuga Co.	7	Tons/Year	18,608
Chenango Co.	7	Tons/Year	11,092
Columbia Co.	7	Tons/Year	14,853
Madison Co.	7	Tons/Year	16,398
Oneida Co. RRA/Syracuse	7	Tons/Year	163,589
Oswego Co.	7	Tons/Year	24,232
Tioga Co.	7	Tons/Year	8,918
Tompkins Co.	7	Tons/Year	30,960
Total for Region 7		Tons/Year	358,782
Total for Region 7		Tons/Day	983
Chemung Co.	8	Tons/Year	32,541
Genesee	8	Tons/Year	16,237
Livingston	8	Tons/Year	12,507
Orleans	8	Tons/Year	8,070
Monroe Co./Rochester	8	Tons/Year	247,107
Ontario Co.	8	Tons/Year	30,233
Schuyler Co.	8	Tons/Year	3,472
Seneca	8	Tons/Year	6,080
Wayne	8	Tons/Year	16,889
Yates	8	Tons/Year	4,127
Steuben Co.	8	Tons/Year	45,641
Total for Region 8		Tons/Year	423,304
Total for Region 8		Tons/Day	1,160
Allegany Co.	9	Tons/Year	12,085
Cattaraugus Co.	9	Tons/Year	23,717
Chautauque	9	Tons/Year	39,642
Erie Co./Buffalo	9	Tons/Year	337,607
Niagara Co.	9	Tons/Year	67,936
Wyoming	9	Tons/Year	8,580
Total for Region 9		Tons/Year	489,557
Total for Region 9		Tons/Day	1,341

Source: NYS DED Office of Recycling Market

RECYCLING OF PAPER WASTE
In Upstate New York

AGENCY/CITY	REGION	UNIT OF WASTE	AMOUNT OF PAPER RECYCLED
Albany Co./Albany	4	Tons/Year	20,426
Columbia Co.	4	Tons/Year	1,929
Delaware Co.	4	Tons/Year	7,795
Greene Co.	4	Tons/Year	1,386
MOQA SWM Author.	4	Tons/Year	4,092
Rensselaer Co.	4	Tons/Year	2,340
Schenectady Co.	4	Tons/Year	7,183
Total for Region 4		Tons/Year	45,151
Total for Region 4		Tons/Day	124
Clinton Co.	5	Tons/Year	2,035
Essex Co.	5	Tons/Year	546
Franklin SWM	5	Tons/Year	633
Fulton Co.	5	Tons/Year	1,464
Hamilton Co.	5	Tons/Year	454
Saratoga Co./Saratoga Spring	5	Tons/Year	45,973
Warren Co.	5	Tons/Year	1,857
Washington Co.	5	Tons/Year	2,562
Total for Region 5		Tons/Year	55,534
Total for Region 5		Tons/Day	152
Jefferson Co.	6	Tons/Year	4,891
Lewis Co.	6	Tons/Year	639
Oneida-Herkimer	6	Tons/Year	19,827
St. Lawrence SWDA	6	Tons/Year	9,718
Total for Region 6		Tons/Year	35,172
Total for Region 6		Tons/Day	86
Broome Co.	7	Tons/Year	0
Cayuga Co.	7	Tons/Year	3,557
Chenango Co.	7	Tons/Year	2,506
Cortland Co.	7	Tons/Year	2,236
Madison Co.	7	Tons/Year	4,689
Onondaga Co. RPA/Syracuse	7	Tons/Year	82,070
Oswego Co.	7	Tons/Year	6,342
Tioga Co.	7	Tons/Year	2,280
Tompkins Co.	7	Tons/Year	5,595
Total for Region 7		Tons/Year	119,275
Total for Region 7		Tons/Day	327
Chemung Co.	8	Tons/Year	6,939
GLOW Region SWM	8	Tons/Year	3,566
Monroe Co./Rochester	8	Tons/Year	43,268
Ontario Co.	8	Tons/Year	4,335
Schuyler Co.	8	Tons/Year	205
W. Finger Lakes	8	Tons/Year	5,247
Steuben Co.	8	Tons/Year	2,918
Total for Region 8		Tons/Year	68,478
Total for Region 8		Tons/Day	182
Allegany Co.	9	Tons/Year	1,222
Cattaraugus Co.	9	Tons/Year	4,045
Chautauque Co.	9	Tons/Year	8,313
Erie Co./Buffalo	9	Tons/Year	31,303
Niagara Co.	9	Tons/Year	11,605
Total for Region 9		Tons/Year	56,488
Total for Region 9		Tons/Day	155

Source: NYS DEC Bureau of Waste Reduction and Recycling,
Recycling Bulletin, 1989.

GENERATION OF WOOD IN CONSTRUCTION & DEMOLITION WASTE
In Upstate New York

AGENCY/CITY	REGION	UNITS OF WASTE	AMOUNT OF WOOD WASTE
Albany Co./Albany	4	Tons/Year	19,457
Columbia Co.	4	Tons/Year	312
Delaware Co.	4	Tons/Year	987
Greene Co.	4	Tons/Year	421
MOCA SWM Author.	4	Tons/Year	3,198
E. Rensselaer CSWMA	4	Tons/Year	900
Schenectady Co.	4	Tons/Year	9,887
Total for Region 4		Tons/Year	35,141
Total for Region 4		Tons/Day	98
Clinton Co.	5	Tons/Year	3,957
Essex Co.	5	Tons/Year	12,935
Franklin SWM	5	Tons/Year	1,747
Fulton Co.	5	Tons/Year	1,040
Hamilton Co.	5	Tons/Year	120
Saratoga Co./Saratoga Spring	5	Tons/Year	3,738
Warren & Washington Co.	5	Tons/Year	1,580
Total for Region 5		Tons/Year	25,097
Total for Region 5		Tons/Day	69
Jefferson Co.	6	Tons/Year	2,870
Lewis Co.	6	Tons/Year	252
Oneida-Herkimer/Utica	6	Tons/Year	24,751
St. Lawrence SWDA	6	Tons/Year	1,219
Total for Region 6		Tons/Year	29,092
Total for Region 6		Tons/Day	80
Broome Co.	7	Tons/Year	9,971
Cayuga Co.	7	Tons/Year	4,446
Chenango Co.	7	Tons/Year	1,151
Cortland Co.	7	Tons/Year	3,346
Madison Co.	7	Tons/Year	814
Onondaga Co. RFA/Syracuse	7	Tons/Year	22,278
Oswego Co.	7	Tons/Year	7,384
Tioga Co.	7	Tons/Year	778
Tompkins Co.	7	Tons/Year	2,201
Total for Region 7		Tons/Year	52,369
Total for Region 7		Tons/Day	143
Chemung Co.	8	Tons/Year	3,429
GLOW Region SWM	8	Tons/Year	4,945
Monroe Co./Rochester	8	Tons/Year	61,742
Schuyler Co.	8	Tons/Year	312
W. Finger Lakes	8	Tons/Year	3,708
Stauben Co.	8	Tons/Year	3,279
Total for Region 8		Tons/Year	77,414
Total for Region 8		Tons/Day	212
Allegany Co.	9	Tons/Year	1,222
Cattaraugus Co.	9	Tons/Year	2,478
Chautauque Co.	9	Tons/Year	3,405
Erie Co./Buffalo	9	Tons/Year	35,065
Niagara Co.	9	Tons/Year	7,722
Total for Region 9		Tons/Year	49,892
Total for Region 9		Tons/Day	137

Source: NYSD DEC, Solid Waste Management Plan, 1991 - 1992.

GENERATION OF YARD WASTE
In Upstate New York

AGENCY/CITY	REGION	UNIT OF WASTE	AMOUNT OF YARD WASTE
Albany Co./Albany	4	Tons/Year	27,972
Columbia Co.	4	Tons/Year	2,168
Delaware Co.	4	Tons/Year	3,228
Greene Co.	4	Tons/Year	2,288
MOSA SWM Author.	4	Tons/Year	9,814
E. Rensselaer CSWMA	4	Tons/Year	2,409
Schenectady Co.	4	Tons/Year	11,928
Total for Region 4		Tons/Year	59,584
Total for Region 4		Tons/Day	163
Clinton Co.	5	Tons/Year	4,861
Essex Co.	5	Tons/Year	2,816
Franklin SWM	5	Tons/Year	2,807
Fullon Co.	5	Tons/Year	3,857
Hamilton Co.	5	Tons/Year	402
Saratoga Co./Saratoga Springs	5	Tons/Year	20,470
Warren, Washington Co.	5	Tons/Year	11,863
Total for Region 5		Tons/Year	47,178
Total for Region 5		Tons/Day	129
Jefferson Co.	6	Tons/Year	9,840
Lewis Co.	6	Tons/Year	1,031
Oneida-Herkimer	6	Tons/Year	17,111
St. Lawrence SWDA	6	Tons/Year	7,023
Total for Region 6		Tons/Year	35,005
Total for Region 6		Tons/Day	98
Broome Co.	7	Tons/Year	21,219
Cayuga Co.	7	Tons/Year	7,341
Chenango Co.	7	Tons/Year	2,489
Cortland Co.	7	Tons/Year	2,242
Madison Co.	7	Tons/Year	3,548
Onondaga Co. FRA/Syracuse	7	Tons/Year	69,676
Oswego Co.	7	Tons/Year	10,510
Riga Co.	7	Tons/Year	2,185
Tompkins Co.	7	Tons/Year	6,210
Total for Region 7		Tons/Year	125,423
Total for Region 7		Tons/Day	344
Chemung Co.	8	Tons/Year	6,026
GLOW Region SWM	8	Tons/Year	13,553
Monroe Co./Rochester	8	Tons/Year	52,688
Schuyler Co.	8	Tons/Year	866
W. Finger Lakes	8	Tons/Year	11,565
Steuben Co.	8	Tons/Year	4,602
Total for Region 8		Tons/Year	69,501
Total for Region 8		Tons/Day	245
Allegany Co.	9	Tons/Year	2,430
Cattaraugus Co.	9	Tons/Year	4,628
Chautauque Co.	9	Tons/Year	9,666
Erie Co./Buffalo	9	Tons/Year	91,992
Niagara Co.	9	Tons/Year	16,930
Total for Region 9		Tons/Year	127,647
Total for Region 9		Tons/Day	350

Source: NYS DEC, Solid Waste Management Plan,
1991 - 1992.

RECYCLING OF WOOD IN CONSTRUCTION & DEMOLITION WASTE
In Upstate New York

AGENCY/CITY	REGION	UNIT OF WASTE	AMOUNT OF WOOD RECYCLED
Albany Co./Albany	4	Tons/Year	0
Columbia Co.	4	Tons/Year	0
Delaware Co.	4	Tons/Year	0
Greene Co.	4	Tons/Year	0
MOSA SWM Author.	4	Tons/Year	0
Rensselaer Co.	4	Tons/Year	0
Schenectady Co.	4	Tons/Year	1,345
Total for Region 4		Tons/Year	1,345
Total for Region 4		Tons/Day	4
Clinton Co.	5	Tons/Year	0
Essex Co.	5	Tons/Year	0
Franklin SWM	5	Tons/Year	0
Fulton Co.	5	Tons/Year	0
Hamilton Co.	5	Tons/Year	214
Saratoga Co./Saratoga Spring	5	Tons/Year	121
Warren Co.	5	Tons/Year	0
Washington Co.	5	Tons/Year	102
Total for Region 5		Tons/Year	335
Total for Region 5		Tons/Day	1
Jefferson Co.	6	Tons/Year	0
Lewis Co.	6	Tons/Year	0
Onondaga-Herkimer/Utica	6	Tons/Year	0
St. Lawrence SWDA	6	Tons/Year	0
Total for Region 6		Tons/Year	0
Total for Region 6		Tons/Day	0
Broome Co.	7	Tons/Year	4,844
Cayuga Co.	7	Tons/Year	8,432
Chenango Co.	7	Tons/Year	0
Cortland Co.	7	Tons/Year	107
Madison Co.	7	Tons/Year	0
Onondaga Co. RRA/Syracuse	7	Tons/Year	3,002
Oswego Co.	7	Tons/Year	0
Tioga Co.	7	Tons/Year	0
Tompkins Co.	7	Tons/Year	0
Total for Region 7		Tons/Year	16,384
Total for Region 7		Tons/Day	46
Chemung Co.	8	Tons/Year	310
GLOW Region SWM	8	Tons/Year	0
Monroe Co./Rochester	8	Tons/Year	2,412
Ontario Co.	8	Tons/Year	0
Schuyler Co.	8	Tons/Year	0
W. Finger Lakes	8	Tons/Year	0
Stauben Co.	8	Tons/Year	0
Total for Region 8		Tons/Year	2,722
Total for Region 8		Tons/Day	7
Allegany Co.	9	Tons/Year	0
Cattaraugus Co.	9	Tons/Year	0
Chautauque Co.	9	Tons/Year	862
Erie Co./Buffalo	9	Tons/Year	258
Niagara Co.	9	Tons/Year	5,735
Total for Region 9		Tons/Year	6,855
Total for Region 9		Tons/Day	19

Source: NYSDOC Bureau of Waste Reduction and Recycling,
Recycling Bulletin, 1993.

RECYCLING OF YARD WASTE
In Upstate New York

AGENCY/CITY	REGION	UNIT OF WASTE	AMOUNT OF YARD WASTE RECYCLED
Albany Co./Albany	4	Tons/Year	8,425
Columbia Co.	4	Tons/Year	0
Delaware Co.	4	Tons/Year	0
Greene Co.	4	Tons/Year	0
MOSA SWMA Author.	4	Tons/Year	0
Rensselaer Co.	4	Tons/Year	700
Schenectady Co./Schenectad	4	Tons/Year	17,453
Total for Region 4		Tons/Year	25,578
Total for Region 4		Tons/Day	73
Clinton Co.	5	Tons/Year	0
Essex Co.	5	Tons/Year	0
Franklin SWM	5	Tons/Year	57
Fulton Co.	5	Tons/Year	900
Hamilton Co.	5	Tons/Year	180
Saratoga Co./Saratoga Spring	5	Tons/Year	7,500
Warren Co.	5	Tons/Year	0
Washington Co.	5	Tons/Year	675
Total for Region 5		Tons/Year	9,312
Total for Region 5		Tons/Day	26
Jefferson Co.	6	Tons/Year	3,726
Lewis Co.	6	Tons/Year	899
Oriskany-Herkimer	6	Tons/Year	0
St. Lawrence SWDA	6	Tons/Year	0
Total for Region 6		Tons/Year	4,625
Total for Region 6		Tons/Day	13
Broome Co./Binghamton	7	Tons/Year	25,534
Cayuga Co.	7	Tons/Year	4,037
Chenango Co.	7	Tons/Year	300
Cortland Co.	7	Tons/Year	66
Madison Co.	7	Tons/Year	258
Onondaga Co. RRA/Syracuse	7	Tons/Year	3,793
Oswego Co.	7	Tons/Year	3,966
Tioga Co.	7	Tons/Year	0
Tompkins Co.	7	Tons/Year	50
Total for Region 7		Tons/Year	38,008
Total for Region 7		Tons/Day	104
Chemung Co.	8	Tons/Year	1,800
GLDW Region SWM	8	Tons/Year	423
Monroe Co./Rochester	8	Tons/Year	7,722
Ontario Co.	8	Tons/Year	0
Schuyler Co.	8	Tons/Year	1,331
W. Finger Lakes	8	Tons/Year	0
Stauben Co.	8	Tons/Year	0
Total for Region 8		Tons/Year	11,076
Total for Region 8		Tons/Day	30
Allegany Co.	9	Tons/Year	0
Cattaraugus Co.	9	Tons/Year	1,856
Chautauque Co.	9	Tons/Year	4,404
Erie Co./Buffalo	9	Tons/Year	36,685
Niagara Co.	9	Tons/Year	1,000
Total for Region 9		Tons/Year	43,945
Total for Region 9		Tons/Day	120

Source: NYS DEC Bureau of Waste Reduction and Recycling, Recycling Bulletin, 1993.

ATTACHMENT 6-2

Industrial Waste by Amount, Location, and Tipping Fees: Lumber By-Products and Paper Sludge

**GENERATION OF PAPER SLUDGE
in Upstate New York**

AGENCY/CITY	REGION	UNIT OF WASTE	AMOUNT OF PAPER SLUDGE
Albany Co./Albany	4	Tons/Year	0
Columbia Co.	4	Tons/Year	0
Delaware Co.	4	Tons/Year	0
Greene Co.	4	Tons/Year	0
MOSA SWM Author.	4	Tons/Year	0
E. Rensselaer CSWMA	4	Tons/Year	365
Schenectady Co.	4	Tons/Year	0
Total for Region 4		Tons/Year	365
Total for Region 4		Tons/Day	1
Clinton Co.	5	Tons/Year	8,125
Essex Co.	5	Tons/Year	8,125
Franklin SWM	5	Tons/Year	0
Fulton Co.	5	Tons/Year	0
Hamilton Co.	5	Tons/Year	0
Saratoga Co./Saratoga Springs	5	Tons/Year	31,025
Warren, Washington Co.	5	Tons/Year	40,150
Total for Region 5		Tons/Year	89,425
Total for Region 5		Tons/Day	245
Jefferson Co.	6	Tons/Year	23,360
Leeds Co.	6	Tons/Year	2,920
Oneida-Herkimer	6	Tons/Year	0
St. Lawrence SWDA	6	Tons/Year	1,095
Total for Region 6		Tons/Year	27,375
Total for Region 6		Tons/Day	75
Broome Co.	7	Tons/Year	0
Cayuga Co.	7	Tons/Year	0
Chemung Co.	7	Tons/Year	0
Conland Co.	7	Tons/Year	0
Madison Co.	7	Tons/Year	0
Onondaga Co. FRA/Syracuse	7	Tons/Year	0
Oswego Co.	7	Tons/Year	3,285
Tioga Co.	7	Tons/Year	0
Tompkins Co.	7	Tons/Year	0
Total for Region 7		Tons/Year	3,285
Total for Region 7		Tons/Day	9
Chemung Co.	8	Tons/Year	0
GLOW Region SWM	8	Tons/Year	365
Monroe Co./Rochester	8	Tons/Year	0
Schuyler Co.	8	Tons/Year	0
W. Finger Lakes	8	Tons/Year	0
Stauben Co.	8	Tons/Year	0
Total for Region 8		Tons/Year	365
Total for Region 8		Tons/Day	1
Albany Co.	9	Tons/Year	0
Cattaraugus Co.	9	Tons/Year	0
Chautauque Co.	9	Tons/Year	0
Erie Co./Buffalo	9	Tons/Year	0
Niagara Co.	9	Tons/Year	4,380
Total for Region 9		Tons/Year	4,380
Total for Region 9		Tons/Day	12

Source: Stone & Webster

SAMPLING OF SOURCES OF WOOD WASTE PRODUCTS

Including Wood Chips, Sawdust, Shavings, and Bark

In Upstate New York

Name/Location	Potential Supply	Price
Adirondack Forest Industries	14 tons/day wood chips	\$20/ton
Galway	3 tons/day sawdust	\$16/ton
Harris Pallet Co.	8 tons/day wood chips	\$25/ton
Albany		
J & J Log Lumber Co.	43 tons/day wood chips	\$33/ton
Dover Plains	86 tons/day sawdust	\$66/ton
Johnston & Rhodes Bluestone	3 tons/day wood chips	\$23/ton
East Branch		
Mallery Lumber	37 tons/day wood chips	\$15/ton
Hancock	14 tons/day sawdust	\$8/ton
	14 tons/day bark	\$15/ton
McGraw Lumber	3 - 9 tons/day wood chips	\$20/ton
Woodbourne	8 - 11 tons/day bark	\$28/ton
Phillips Lumber	9 - 11 tons/day wood chips	\$15/ton
Hartwick	6 tons/day bark	\$20/ton
Pomeroy Lumber	14 tons/day wood chips	
Ninevah	10 tons/day sawdust	
Sism Lumber	3 tons/day wood chips	\$23 - 28/ton
Otego	3 - 6 tons/day bark	
Webb & Sons	11 - 21 tons/day wood chips	
New Berlin	7 - 14 tons/day sawdust	

ATTACHMENT 6-3

Compilation of Municipal and Industrial Solid Waste

COMPILATION OF WASTE IN ETHANOL FACILITY SITING ZONES
In Upstate New York

AGENCY/CITY	UNIT OF WASTE	AMOUNT OF WASTE					TOTAL WASTE
		PAPER	CONSTRUCTION AND DEMOLITION WOOD	YARD	PAPER SLUDGE	LUMBER	
Albany Zone							
Albany Co./Albany	Tons/Year	34,875	9,855	19,547	0		64,077
Columbia Co.	Tons/Year	4,438	156	2,168	0		6,782
Greene Co.	Tons/Year	3,495	210	2,286	0		5,971
E. Rennselaer CSWMA	Tons/Year	239	450	1,709	365		2,783
Schenectady Co.	Tons/Year	18,595	3,650	(5,525)	0		11,720
Saratoga Co./Saratoga Springs	Tons/Year	(28,767)	1,757	12,970	31,025		18,985
Warren, Washington Co.	Tons/Year	10,509	870	11,288	40,150		62,617
Total for Albany Zone	Tons/Year	40,184	18,748	44,423	71,540	171,400	344,295
Total for Albany Zone	Tons/Day	110	48	122	196	470	943
Syracuse Zone							
Cayuga Co.	Tons/Year	4,465	(6,179)	3,304	0		1,590
Madison Co.	Tons/Year	2,295	407	3,290	0		5,992
Onondaga Co. FRA/Syracuse	Tons/Year	(21,170)	8,030	65,885	0		52,745
Oswego Co.	Tons/Year	4,119	3,892	6,544	3,285		17,640
Total for Syracuse Zone	Tons/Year	(10,291)	5,950	79,023	3,285	184,000	241,967
Total for Syracuse Zone	Tons/Day	(28)	16	217	9	449	683
Rochester Zone							
Monroe Co./Rochester	Tons/Year	61,685	28,470	45,187	0		135,322
W. Finger Lakes	Tons/Year	14,905	1,854	11,565	0		28,324
Total for Rochester Zone	Tons/Year	76,590	30,324	56,732	0	205,000	368,646
Total for Rochester Zone	Tons/Day	210	83	155	0	562	1,010
Buffalo Zone							
Erle Co./Buffalo	Tons/Year	114,610	17,155	55,307	0		187,072
Niagara Co.	Tons/Year	17,663	(1,853)	17,930	4,380		38,120
GLOW Region SWM	Tons/Year	3,684	2,472	13,130	365		19,631
Total for Buffalo Zone	Tons/Year	135,937	17,774	86,367	4,745	365,000	609,823
Total for Buffalo Zone	Tons/Day	372	49	237	13	1,000	1,671

Source: NYS DEC; NYS DEC; Stone & Webster; Champion; BioCycle.

ADDITIONAL ETHANOL FACILITY SITING ZONES
In Upstate New York

AGENCY/CITY	UNIT OF WASTE	AMOUNT OF WASTE					
		PAPER	CONSTRUCTION AND DEMOLITION WOOD	YARD	PAPER SLUDGE	LUMBER	TOTAL WASTE
Plattsburgh Zone							
Clinton Co.	Tons/Year	7,356	1,976	4,861	9,125		23,320
Essex Co.	Tons/Year	3,312	6,467	2,816	9,125		21,720
Total for Plattsburgh Zone	Tons/Year	10,668	8,445	7,677	18,250		45,040
Total for Plattsburgh Zone	Tons/Day	29	23	21	50		123
Watertown Zone							
Jefferson Co.	Tons/Year	7,143	1,435	6,114	23,360		38,052
Lewis Co.	Tons/Year	1,585	126	132	2,920		4,763
St. Lawrence Co.	Tons/Year	2,907	609	7,023	1,095		11,634
Total for Watertown Zone	Tons/Year	11,635	2,170	13,269	27,375		54,449
Total for Watertown Zone	Tons/Day	32	6	36	75		149
Binghamton Zone							
Delaware Co.	Tons/Year	(2,760)	493	3,226	0		859
Broome Co.	Tons/Year	70,060	12,410	(4,380)	0		78,110
Chenango Co.	Tons/Year	2,329	575	2,189	0		5,093
Total for Binghamton Zone	Tons/Year	69,649	13,478	1,035	0		84,162
Total for Binghamton Zone	Tons/Day	191	37	3	0		231

Source: NYS DEC; NYS DED; Stone & Webster; Champlin; BioCycle.

ATTACHMENT 6-4

Existing Waste-to-Energy Facilities by Feedstock Amount, Location, and Tipping Fees

EXISTING AND ADVANCED PLANNING WASTE-TO-ENERGY FACILITIES
In Upstate New York

Project Name & Location	Design Capacity Tons/Day	Actual Capacity Tons/Day	Owner/ Operator	Feedstock Area	Tipping Fee \$/Ton	Currently Operational	Scheduled Operation
ANSWERS Project, Albany	800	812	Public/ EAC Operation	Albany County (except for Town of Colonie), City of Schenectady, City of Rensselaer	55	Yes	
Albany Steam Generating Facility, Albany	600	348	Public/ Public	Albany County (except for Town of Colonie), City of Schenectady, City of Rensselaer	NA	Yes	
Greene Island, Greene Island	1500	1370	Am. Ref-Fuel/ Am. Ref-Fuel	Albany County (except for Town of Colonie), City of Schenectady, City of Rensselaer	75	No	6/96
Adirondack Resource Recovery Facility, Hudson Falls	400	410	Adirondack R.R./ Adirondack R.R.	Washington and Warren Counties, some of Saratoga County	75	Yes	
Kodak Resource Recovery Facility, Rochester	150	119	Eastman Kodak/ Eastman Kodak	NA	NA	Yes	
American Ref-Fuel of Niagara, Niagara Falls	2000	1600	Am. Ref-Fuel/ Am. Ref-Fuel	Erle and Niagara Counties, Canada, Pennsylvania	60	Yes	
Onondaga County Resource Recovery Facility, Syracuse	990	808	Ogden Martin/ Ogden Martin	Onondaga County	103	No	9/95
Oneida County Energy Recovery Facility, Rome	200	160	Public/ Public	Oneida and Herkimer Counties	75	Yes	
Oswego County Energy Recovery Facility, Volney	200	183	Public/ Public	Oswego County	50	Yes	

ATTACHMENT 6-5

Additional Figures

GENERALIZED FEEDSTOCK ZONES BY MAJOR URBAN CENTERS

1 LONG ISLAND (excluded)	6 WATERTOWN
2 NEW YORK CITY (excluded)	7 BINGHAMTON
3 PoughKEEPSIE (excluded)	8 SYRACUSE
4 ALBANY	9 ROCHESTER
5 PLATTSBURGH	10 BUFFALO

OUTLINE OF ETHANOL FACILITY SITING ZONES
within New York State

Stone & Webster Environmental Services

FACILITY SITING ZONE

20 MILES TO BOTH A WASTE
BYPRODUCT CONSUMER
(e.g. an incinerator or NYSEG plant)
AND A CELLULOSE SOURCE
(e.g. a papermill)

MAJOR URBAN CENTER

GENERALIZED
FEEDSTOCK ZONE COUNTY AREAS EXCLUDED
BECAUSE OF LOW FEEDSTOCK APPROXIMATE DISTANCES
IN MILES

BIOMASS to
ETHANOL
PLANT SITING STUDY

FIGURE A-1

GENERALIZED FEEDSTOCK ZONES BY MAJOR URBAN CENTERS

1 LONG ISLAND (excluded)	6 WATERTOWN
2 NEW YORK CITY (excluded)	7 BINGHAMTON
3 POUGHKEEPSIE (excluded)	8 SYRACUSE
4 ALBANY	9 ROCHESTER
5 PLATTSBURGH	10 BUFFALO

NOTE:
GENERALIZED FEEDSTOCK ZONES FOLLOW COUNTY OUTLINES
TO SIMPLIFY CALCULATIONS OF FEEDSTOCK SUPPLY
FOR THE FACILITY SITING ZONES.

**DETAILED ETHANOL FACILITY SITING ZONES
within New York State**

Stone & Webster Environmental Services

FACILITY SITING ZONE
20 MILES TO BOTH A WASTE
BYPRODUCT CONSUMER
(e.g. an incinerator or NYSEG plant)
AND A CELLULOSE SOURCE
(e.g. a papermill)

MAJOR URBAN CENTER

5
**GENERALIZED
FEEDSTOCK ZONE**

**COUNTY AREAS EXCLUDED
BECAUSE OF LOW FEEDSTOCK**

**NYSEG
PLANT**

**WASTE BURNER PLANT
LOCATION**

PAPERMILL LOCATION

**POTENTIAL
SITES**

**BIOMASS to
ETHANOL
PLANT SITING STUDY**

FIGURE A-2

GENERALIZED FEEDSTOCK ZONES BY MAJOR URBAN CENTERS.

1 LONG ISLAND (excluded)	6 WATERTOWN
2 NEW YORK CITY (excluded)	7 BINGHAMTON
3 PoughKEEPSIE (excluded)	8 SYRACUSE
4 ALBANY	9 ROCHESTER
5 PLATTSBURGH	9 BUFFALO

NYSDEC WASTE MANAGEMENT REGION BY OFFICE LOCATION

1 LONG ISLAND	6 UTICA
2 NEW YORK CITY	7 SYRACUSE
3 WESTCHESTER	8 ROCHESTER
4 ALBANY	9 BUFFALO
5 PLATTSBURGH	

Stone & Webster Environmental Services

20 MILES ACCESS RADIUS TO A
MATERIALS RECYCLING FACILITY

MATERIALS RECYCLING FACILITY
as listed in BioCycle, July 1991

13

TONS PER DAY CAPACITY
BY FEEDSTOCK ZONE

BIOMASS to
ETHANOL
PLANT SITING STUDY

FIGURE A-5

MATERIALS RECYCLING FACILITIES IN NEW YORK &
1991 TONS PER DAY DESIGN CAPACITY

0 25 50 miles

NOTE

MONROE, ERIE & ONANDAGA
COUNTIES SEEM TO HAVE THE
GREATEST WASTE GENERATION
POTENTIAL PER SQUARE MILE

1994 POPULATION DENSITY FOR NEW YORK STATE COUNTIES

Stone & Webster Environmental Services

200-500 people
per square kilometer

518 - 1295 people
per square mile

100-200 people
per square kilometer

259-518 people,
per square mile

50-100 people
per square kilometer

129-259 people,
per square mile

25-50 people
per square kilometer

65-129 people,
per square mile

10-25 people
per square kilometer

28-65 people,
per square mile

1-10 people
per square kilometer

1-26 people,
per square mile

BIOMASS to ETHANOL PLANT SITING STUDY

FIGURE A-6

Stone & Webster Environmental Services

▲ NYSEG
PLANT

○ 20 MILES
ACCESS RADIUS

**BIOMASS to
ETHANOL
PLANT SITING STUDY**

FIGURE A-7

Stone & Webster Environmental Services

● WASTE BURNER PLANT
LOCATION

○ 20 MILE
ACCESS RADIUS

**BIOMASS to
ETHANOL
PLANT SITING STUDY**

FIGURE · A-8

ATTACHMENT 6-6

LIST OF CONTACTS

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ATTACHMENT 6-7

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ATTACHMENT 7 - 1

BASES OF ESTIMATES

BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY WITH ON-SITE OXIDATION

PART 2 - NY STATE PROJECT EVALUATION - BUFFALO

1. Process Island Cost adjusted to Buffalo Cost.

Escalation - 1984 \$47,000,000 @ 2.9% = \$1,363,000
 Total Cost after Escalation = \$47,000,000 + \$1,363,000 = \$48,363,000
 Assume Labor @ one-third of Total Cost = \$48,363,000/3 = \$16,121,000
 Labor Factor between Buffalo & Houston = 27.08/18.45 = 1.47
 Total Labor Cost Adjustment = \$16,121,000 @ 1.47 = \$23,698,000
 Therefore Total adjustment = \$23,698,000 - \$16,121,000 = \$7,577,000
 Total Adjusted N.Y.S. Cost = \$48,363,000 + \$7,577,000 = \$55,940,000

2. BALANCE OF PLANT

a. Admin./Control/Lab.Bldg. - assume size: 100'x100' = 10000 sf. @ \$133.00/sf =	\$1,330,000
Concrete Foundation - 10,000 sf @ \$10.53/sf =	\$105,300
Total	<u>\$1,435,300</u>
b. Maint./Shop Bldg. - assume size: 100'x100' = 10000 sf. @ \$106.32/sf =	\$1,063,300
Tools and Equipment =	\$135,000
Concrete Foundation - 10,000 sf @ \$10.53/sf =	\$105,300
Total	<u>\$1,302,400</u>
c. Plant Air Supply:	
Two (2) Compressors =	\$115,200
Air Dryers =	\$17,700
Piping assume @ 5,000' @ \$44.30/ft =	\$221,500
Total	<u>\$354,400</u>
d. Aerobic Watertreatment:	
Assume @ 150,000 gal/day @ \$8.86/gal. =	\$1,329,000
e. Chilled/Cooling Water Supply:	
Includes : Cooling Tower, Fdn., Piping @250' =	\$620,200
f. Boiler Feedwater (Demin.) allow:	\$355,000
g. Solid Oxidation/Power & Distribution:	\$25,580,000
h. Boiler Package:	\$886,000
i. Steam Turbine:	\$221,500

BASES OF ESTIMATES

BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY WITH ON-SITE OXIDATION

PART 2 - NY STATE PROJECT EVALUATION - BUFFALO

j. SITE IMPROVEMENT

1. Clearing & Grubbing :		\$44,300
2. Sewer and Drainage :		
Assume: 5300' w/g pipe @ \$133.00/lf		\$705,000
Manholes/C.B. - 10 ea. @ \$10,570		\$105,700
	Total	<u>\$810,700</u>
3. Access Roadways & Parking :		
(4300' x 20' + 20,000) = 106,000 sf @ \$6.70 =		\$708,800
4. Piling assume whole site:		
Piles @ 225sf/pile = 436,800/225 = 2,000 ea.		
Piles = 2,000 ea @ 50' = 100,000 @ \$17.70 =		\$1,772,200
5. Dewatering allowance for excavation:		\$443,000
6. Make-up & Potable Water:		
Piping @ 5,300' @ \$89.00/lf		\$471,600
Metering & Hook-ups		\$60,000
	Total	<u>\$531,600</u>
7. Sewer Hook-ups for Bathroom, etc. allow:		\$88,600
8. Fire Water : 5300 lf @ \$221.50/lf =		\$1,175,000
	Hydrant & Misc. items =	\$65,000
	Total	<u>\$1,240,000</u>
9. Sprinkler System whole site plus Standpipe		
200,000 sf @ \$5.00/sf =		\$886,000
10. Fencing :		\$62,000
10. Gas Pipeline (allow):		\$132,000
11. Site Lighting :	436800 sf @ \$1.04 =	\$452,000
k. MARK-UPS:		
Start-up Cost = 1.5%		
Engineering = 10%		
Contingency = 20%		

ATTACHMENT 7 - 2

BASES OF ESTIMATES

BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY WITH ON-SITE OXIDATION

PART 2 - NY STATE PROJECT EVALUATION - ROCHESTER

1. Process Island Cost adjusted to Rochester Cost.

Escalation - 1994 \$47,000,000 @ 2.9% = \$1,363,000
 Total Cost after Escalation = \$47,000,000 + \$1,363,000 = \$48,363,000
 Assume Labor @ one-third of Total Cost = \$48,363,000/3 = \$16,121,000
 Labor Factor between Rochester & Houston = 28.02/18.45 = 1.41
 Total Labor Cost Adjustment = \$16,121,000 @ 1.41 = \$22,730,600
 Therefore Total adjustment = \$22,730,600 - \$16,121,000 = \$6,609,600
 Total Adjusted N.Y.S. Cost = \$48,363,000 + \$6,609,600 = \$54,972,600

2. BALANCE OF PLANT

a. Admin./Control/Lab. Bldg. - assume size: 100'x100' = 10000 sf. @ \$131.50/sf =	\$1,315,000
Concrete Foundation - 10,000 sf @ \$10.60/sf =	\$106,000
Total	<u>\$1,421,000</u>
b. Maint./Shop Bldg. - assume size: 100'x100' = 10000 sf. @ \$105.00/sf =	\$1,050,000
Tools and Equipment =	\$135,000
Concrete Foundation - 10,000 sf @ \$10.50/sf =	\$105,000
Total	<u>\$1,289,000</u>
c. Plant Air Supply:	
Two (2) Compressors =	\$115,000
Air Dryers =	\$8,800
Piping assume @ 5,000' @ \$45.50/ft =	\$227,100
Total	<u>\$350,900</u>
d. Aerobic Watertreatment:	
Assume @ 150,000 gal./day @ \$10.00/gal. =	\$1,515,900
e. Chilled/Cooling Water Supply:	
Includes : Cooling Tower, Fdn., Piping @250' =	\$614,000
f. Boiler Feedwater (Demin.) allow:	\$350,900
g. Solid Oxidation/Power & Distribution:	\$26,319,000
h. Boiler Package:	\$877,000
i. Steam Turbine:	\$219,300

BASES OF ESTIMATES

BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY WITH ON-SITE OXIDATION

PART 2 - NY STATE PROJECT EVALUATION - ROCHESTER

J. SITE IMPROVEMENT

1. Clearing & Grubbing :	\$43,800
2. Sewer and Drainage :	
Assume: 5300' w/g pipe @ \$131.50/ft	\$687,000
Manholes/C.B. - 10 ea. @ \$10,500	\$105,000
Total	<u>\$802,800</u>
3. Access Roadways & Parking :	
(4300' x 20' + 20,000) = 106,000 sf @ \$6.60 =	\$701,900
4. Piling assume whole site:	
Piles @ 225sf/pile = 436,800/225= 2,000 ea.	
Piles = 2,000 ea @ 50' = 100,000 @ \$17.55 =	\$1,755,000
5. Dewatering allowance for excavation:	\$438,700
6. Make-up & Potable Water:	
Piping @ 5,300' @ \$87.70/ft	\$465,000
Metering & Hook-ups	\$61,000
Total	<u>\$526,000</u>
7. Sewer Hook-ups for Bathroom, etc. allow:	\$87,700
8. Fire Water : 5300 lf @ \$220.00/lf =	\$1,163,000
Hydrant & Misc. items =	\$65,000
Total	<u>\$1,228,000</u>
9. Sprinkler System whole site plus Standpipe	
200,000 sf @ \$4.40/sf =	\$877,000
10. Fencing :	\$61,000
10. Gas Pipeline (allow):	\$130,000
11. Site Lighting :	
436800 sf @ \$1.02 =	\$447,000

K. MARK-UPS:

Start-up Cost = 1.5%
Engineering = 10%
Contingency = 20%

ATTACHMENT 7 - 3

BASES OF ESTIMATES

BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY WITH ON-SITE OXIDATION

PART 2 - NY STATE PROJECT EVALUATION - SYRACUSE

1. Process Island Cost adjusted to Syracuse Cost.

Escalation - 1994 \$47,000,000 @ 2.9% = \$1,363,000
 Total Cost after Escalation - \$47,000,000 + \$1,363,000 = \$48,363,000
 Assume Labor @ one-third of Total Cost - \$48,363,000/3 = \$16,121,000
 Labor Factor between Syracuse & Houston = 23.97/18.45 = 1.30
 Total Labor Cost Adjustment = \$16,121,000 @ 1.30 = \$20,957,300
 Therefore Total adjustment = \$20,957,300 - \$16,121,000 = \$4,836,300
 Total Adjusted N.Y.S. Cost = \$48,363,000 + \$4,836,300 = \$53,199,300

2. BALANCE OF PLANT

a. Admin./Control/Lab. Bldg. - assume size: 100'x100' = 10,000 sf. @ \$130.00/sf =	\$1,300,000
Concrete Foundation - 10,000 sf @ \$9.50/sf =	\$95,000
Total	\$1,394,500
b. Maint./Shop Bldg. - assume size: 100'x100' = 10,000 sf. @ \$105.00/sf =	\$1,050,000
Tools and Equipment =	\$110,000
Concrete Foundation - 10,000 sf @ \$10.50/sf =	\$105,000
Total	\$1,265,000
c. Plant Air Supply:	
Two (2) Compressors =	\$115,000
Air Dryers =	\$15,000
Piping assume @ 5,000' @ \$43.00/W =	\$214,000
Total	\$344,000
d. Aerobic Watertreatment:	
Assume @ 150,000 gal./day @ \$8.60/gal. =	\$1,291,000
e. Chilled/Cooling Water Supply:	
Includes : Cooling Tower, Fdn., Piping @250' =	\$602,500
f. Boiler Feedwater (Demin.) allow:	\$344,000
g. Solid Oxidation/Power & Distribution:	\$25,820,000
h. Boiler Package:	\$860,000
i. Steam Turbine:	\$215,000

BASES OF ESTIMATES

BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY WITH ON-SITE OXIDATION

PART 2 - NY STATE PROJECT EVALUATION - SYRACUSE

j. SITE IMPROVEMENT

1. Clearing & Grubbing :	\$43,000
2. Sewer and Drainage :	
Assume: 5300' w/g pipe @ \$130.00/lf	\$685,600
Manholes/C.B. - 10 ea. @ \$12,000	\$102,000
Total	\$787,600
3. Access Roadways & Parking :	
(4300' x 20' = 20,000) = 106,000 sf @ \$6.50 =	\$688,000
4. Filling assume whole site:	
Piles @ 225sf/pile = 436,800/225 = 2,000 ea.	
Piles = 2,000 ea @ 50' = 100,000 @ \$17.25 =	\$1,722,000
5. Dewatering allowance for excavation:	\$430,000
6. Make-up & Potable Water:	
Piping @ 5,300' @ \$86.00/lf	\$456,000
Metering & Hook-ups	\$60,500
Total	\$516,500
7. Sewer Hook-ups for Bathroom, etc. allow:	\$86,000
8. Fire Water : 5300 lf @ \$215.00/lf =	\$1,145,000
Hydrant & Misc. items =	\$60,000
Total	\$1,205,000
9. Sprinkler System whole site plus Standpipe	
200,000 sf @ \$4.30/sf =	\$860,000
10. Fencing :	\$60,000
10. Gas Pipeline (allow):	\$130,000
11. Site Lighting :	
436800 sf @ \$1.00 =	\$440,000

k. MARK-UPS:

Start-up Cost = 1.5%
Engineering = 10%
Contingency = 20%

ATTACHMENT 7 - 4

BASES OF ESTIMATES

BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY WITH ON-SITE OXIDATION

PART 2 - NY STATE PROJECT EVALUATION - ALBANY

1. Process Island Cost adjusted to Albany Cost.

Escalation - 1994 \$47,000,000 @ 2.9% = \$1,363,000
 Total Cost after Escalation - \$47,000,000 + \$1,363,000 = \$48,363,000
 Assume Labor @ one-third of Total Cost - \$48,363,000/3 = \$16,121,000
 Labor Factor between Albany & Houston = 24.57/18.45 = 1.33
 Total Labor Cost Adjustment = \$16,121,000 @ 1.33 = \$21,441,000
 Therefore Total adjustment = \$21,441,000 - \$16,121,000 = \$5,320,000
 Total Adjusted N.Y.S. Cost = \$48,363,000 + \$5,320,000 = \$53,683,000

2. BALANCE OF PLANT

a. Admin./Control/Lab. Bldg. - assume size: 100'x100' = 10000 sf. @ \$130.00/sf =	\$1,300,000
Concrete Foundation - 10,000 sf @ \$10.18/sf =	\$101,800
Total	\$1,401,800
b. Maint./Shop Bldg. - assume size: 100'x100' = 10000 sf. @ \$104.00/sf =	\$1,040,000
Tools and Equipment =	\$130,000
Concrete Foundation - 10,000 sf @ \$10.25/sf =	\$102,500
Total	\$1,272,500
c. Plant Air Supply:	
Two (2) Compressors =	\$112,500
Air Dryers =	\$8,600
Piping assume @ 5,000' @ \$45.00/ft =	\$225,100
Total	\$346,200
d. Aerobic Watertreatment:	
Assume @ 150,000 gal./day @ \$8.65/gal. =	\$1,298,000
e. Chilled/Cooling Water Supply:	
Includes : Cooling Tower, Fdn., Piping @250' =	\$605,900
f. Boiler Feedwater (Demin.) allow:	\$346,200
g. Solid Oxidation/Power & Distribution:	\$25,971,000
h. Boiler Package:	\$865,300
i. Steam Turbine:	\$216,400

BASES OF ESTIMATES

BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY WITH ON-SITE OXIDATION

PART 2 - NY STATE PROJECT EVALUATION - ALBANY

J. SITE IMPROVEMENT

1. Clearing & Grubbing :	\$43,300
2. Sewer and Drainage :	
Assume: 5300' w/g pipe @ \$130.00/lf	\$688,400
Manholes/C.B. - 10 ea. @ \$10,400	\$104,000
Total	<u>\$792,400</u>
3. Access Roadways & Parking :	
(4300' x 20' + 20,000) = 106,000 sf @ \$6.54 =	\$692,800
4. Piling assume whole site:	
Piles @ 225sf/pile = 436,800/225 = 2,000 ea.	
Piles = 2,000 ea @ 50' = 100,000 @ \$17.30 =	\$1,732,000
5. Dewatering allowance for excavation:	\$433,000
6. Make-up & Potable Water:	
Piping @ 5,300' @ \$90.00/lf	\$477,000
Metering & Hook-ups	\$42,600
Total	<u>\$519,600</u>
7. Sewer Hook-ups for Bathroom, etc. allow:	\$86,600
8. Fire Water : 5300 lf @ \$216.50/lf =	\$1,147,400
Hydrant & Misc. items =	\$65,000
Total	<u>\$1,212,400</u>
9. Sprinkler System whole site plus Standpipe	
200,000 sf @ \$5.00/sf =	\$866,000
10. Fencing :	\$60,000
10. Gas Pipeline (allow):	\$130,000
11. Site Lighting :	
436800 sf @ \$1.01 =	\$441,600

K. MARK-UPS:

Start-up Cost = 1.5%
Engineering = 10%
Contingency = 20%

ATTACHMENT 7 - 5

BASES OF ESTIMATES

BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY WITHOUT OXIDATION

PART 2 - NY STATE PROJECT EVALUATION - BUFFALO

1. Process Island Cost adjusted to Buffalo Cost.

Escalation - 1994 \$47,000,000 @ 2.9% = \$1,363,000
 Total Cost after Escalation - \$47,000,000 + \$1,363,000 = \$48,363,000
 Assume Labor @ one-third of Total Cost - \$48,363,000/3 = \$16,121,000
 Labor Factor between Buffalo & Houston = 27.08/18.45 = 1.47
 Total Labor Cost Adjustment = \$16,121,000 @ 1.47 = \$23,698,000
 Therefore Total adjustment = \$23,698,000 - \$16,121,000 = \$7,577,000
 Total Adjusted N.Y.S. Cost = \$48,363,000 + \$7,577,000 = \$55,940,000

2. BALANCE OF PLANT

a. Admin./Control/Lab. Bldg. - assume size: 100'x100' = 10000 sf. @ \$133.00/sf =	\$1,330,000
Concrete Foundation - 10,000 sf @ \$10.53/sf =	\$105,300
Total	\$1,435,300
b. Maint./Shop Bldg. - assume size: 100'x100' = 10000 sf. @ \$106.32/sf =	\$1,063,300
Tools and Equipment =	\$135,000
Concrete Foundation - 10,000 sf @ \$10.53/sf =	\$105,300
Total	\$1,302,400
c. Plant Air Supply:	
Two (2) Compressors =	\$115,200
Air Dryers =	\$17,700
Piping assume @ 5,000' @ \$44.30/ft =	\$221,500
Total	\$354,400
d. Aerobic Watertreatment:	
Assume @ 150,000 gal./day @ \$8.86/gal. =	\$1,329,000
e. Chilled/Cooling Water Supply:	
Includes : Cooling Tower, Fdn., Piping @250' =	\$620,200
f. Boiler Feedwater (Demin.) allow:	\$354,000
g. Power & Distribution:	\$4,430,000
h. Boiler Package:	\$866,000
i. Steam Turbine:	\$221,500

BASES OF ESTIMATES

BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY WITHOUT OXIDATION

PART 2 - NY STATE PROJECT EVALUATION - BUFFALO

j. SITE IMPROVEMENT

1. Clearing & Grubbing :	\$44,300
2. Sewer and Drainage :	
Assume: 5300' w/g pipe @ \$133.00/lf	\$705,000
Manholes/C.B. - 10 ea. @ \$10,570	\$105,700
Total	<u>\$810,700</u>
3. Access Roadways & Parking :	
(4300' x 20' + 20,000) = 106,000 sf @ \$6.70 =	\$708,800
4. Piling assume whole site:	
Piles @ 225sf/pile = 436,800/225 = 2,000 ea.	
Piles = 2,000 ea @ 50' = 100,000 @ \$17.70 =	\$1,772,200
5. Dewatering allowance for excavation:	\$443,000
6. Make-up & Potable Water:	
Piping @ 5,300' @ \$89.00/lf	\$471,600
Metering & Hook-ups	\$60,000
Total	<u>\$531,600</u>
7. Sewer Hook-ups for Bathroom, etc. allow:	\$88,600
8. Fire Water : 5300 lf @ \$221.50/lf =	\$1,175,000
Hydrant & Misc. items =	\$65,000
Total	<u>\$1,240,000</u>
9. Sprinkler System whole site plus Standpipe	
200,000 sf @ \$5.00/sf =	\$886,000
10. Fencing :	\$62,000
10. Gas Pipeline (allow):	\$132,000
11. Site Lighting :	
436800 sf @ \$1.04 =	\$452,800

k. MARK-UPS:

Start-up Cost = 1.5%
Engineering = 10%
Contingency = 20%

ATTACHMENT 7 - 6

BASES OF ESTIMATES

BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY WITHOUT OXIDATION

PART 2 - NY STATE PROJECT EVALUATION - ROCHESTER

1. Process Island Cost adjusted to Rochester Cost.

Escalation - 1994 \$47,000,000 @ 2.9% = \$1,363,000
 Total Cost after Escalation - \$47,000,000 + \$1,363,000 = \$48,363,000
 Assume Labor @ one-third of Total Cost - \$48,363,000/3 = \$16,121,000
 Labor Factor between Rochester & Houston = 26.02/18.45 = 1.41
 Total Labor Cost Adjustment = \$16,121,000 @ 1.41 = \$22,730,600
 Therefore Total adjustment = \$22,730,600 - \$16,121,000 = \$6,609,600
 Total Adjusted N.Y.S. Cost = \$48,363,000 + \$6,609,600 = \$54,972,600

2. BALANCE OF PLANT

a. Admin./Control/Lab.Bldg. - assume size: 100'x100' = 10000 sf. @ \$131.50/sf =	\$1,315,000
Concrete Foundation - 10,000 sf @ \$10.60/sf =	\$106,000
Total	<u>\$1,421,000</u>
b. Maint./Shop Bldg. - assume size: 100'x100' = 10000 sf. @ \$105.00/sf =	\$1,050,000
Tools and Equipment =	\$135,000
Concrete Foundation - 10,000 sf @ \$10.50/sf =	\$105,000
Total	<u>\$1,289,000</u>
c. Plant Air Supply:	
Two (2) Compressors =	\$115,000
Air Dryers =	\$8,800
Piping assume @ 5,000' @ \$45.50/lf =	\$227,100
Total	<u>\$350,900</u>
d. Aerobic Watertreatment:	
Assume @ 150,000 gal./day @ \$10.00/gal. =	\$1,315,900
e. Chilled/Cooling Water Supply:	
Includes : Cooling Tower, Fdn., Piping @250' =	\$614,000
f. Boiler Feedwater (Demin.) allow:	\$350,900
g. Power & Distribution:	\$4,386,500
h. Boiler Package:	\$877,000
i. Steam Turbine:	\$219,300

BASES OF ESTIMATES

BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY WITHOUT OXIDATION

PART 2 - NY STATE PROJECT EVALUATION - ROCHESTER

J. SITE IMPROVEMENT

1. Clearing & Grubbing :	\$43,800
2. Sewer and Drainage :	
Assume: 5300' wfg pipe @ \$131.50/ft	\$697,000
Manholes/C.B. - 10 ea. @ \$10,500	\$105,000
	<hr/>
Total	\$802,800
3. Access Roadways & Parking :	
(4300' x 20' = 20,000) = 105,000 sf @ \$6.60 =	\$701,900
4. Piling assume whole site:	
Piles @ 225sf/pile = 436,800/225 = 2,000 ea.	
Piles = 2,000 ea @ 50' = 100,000 @ \$17.55 =	\$1,755,000
5. Dewatering allowance for excavation:	\$438,700
6. Make-up & Potable Water:	
Piping @ 5,300' @ \$87.70/ft	\$465,000
Metering & Hook-ups	\$61,000
	<hr/>
Total	\$526,000
7. Sewer Hook-ups for Bathroom, etc. allow:	\$87,700
8. Fire Water : 5300 ft @ \$220.00/ft =	\$1,163,000
Hydrant & Misc. Items =	\$65,000
Total	<hr/>
	\$1,228,000
9. Sprinkler System whole site plus Standpipe	
200,000 sf @ \$4.40/sf =	\$877,000
10. Fencing :	\$61,000
10. Gas Pipeline (allow):	\$130,000
11. Site Lighting :	
436800 sf @ \$1.02 =	\$447,000

- k. MARK-UPS:
- Start-up Cost = 1.5%
 - Engineering = 10%
 - Contingency = 20%

ATTACHMENT 7 - 7

BASES OF ESTIMATES

BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY WITHOUT OXIDATION

PART 2 - NY STATE PROJECT EVALUATION - SYRACUSE

1. Process Island Cost adjusted to Syracuse Cost.

Escalation - 1994 \$47,000,000 @ 2.9% = \$1,363,000
 Total Cost after Escalation - \$47,000,000 + \$1,363,000 = \$48,363,000
 Assume Labor @ one-third of Total Cost - \$48,363,000/3 = \$16,121,000
 Labor Factor between Syracuse & Houston = 23.97/18.45 = 1.30
 Total Labor Cost Adjustment = \$16,121,000 @ 1.30 = \$20,957,300
 Therefore Total adjustment = \$20,957,300 - \$16,121,000 = \$4,836,300
 Total Adjusted N.Y.S. Cost = \$48,363,000 + \$4,836,300 = \$53,199,300

2. BALANCE OF PLANT

a. Admin./Control/Lab. Bldg. - assume size: 100'x100' = 10000 sf. @ \$130.00/sf =	\$1,300,000
Concrete Foundation - 10,000 sf @ \$9.50/sf =	\$95,000
Total	\$1,394,500
b. Maint./Shop Bldg. - assume size: 100'x100' = 10000 sf. @ \$105.00/sf =	\$1,050,000
Tools and Equipment =	\$110,000
Concrete Foundation - 10,000 sf @ \$10.50/sf =	\$105,000
Total	\$1,265,000
c. Plant Air Supply:	
Two (2) Compressors =	\$115,000
Air Dryers =	\$15,000
Piping assume @ 5,000' @ \$43.00/ft =	\$214,000
Total	\$344,000
d. Aerobic Watertreatment:	
Assume @ 150,000 gal/day @ \$8.60/gal. =	\$1,291,000
e. Chilled/Cooling Water Supply:	
Includes : Cooling Tower, Fdn., Piping @250' =	\$602,500
f. Boiler Feedwater (Demin.) allow:	\$344,000
g. Power & Distribution:	\$4,300,000
h. Boiler Package:	\$860,000
i. Steam Turbine:	\$215,000

BASES OF ESTIMATES

BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY WITHOUT OXIDATION

PART 2 - NY STATE PROJECT EVALUATION - SYRACUSE

j. SITE IMPROVEMENT

1. Clearing & Grubbing :	\$43,000
2. Sewer and Drainage :	
Assume: 5300' w/g pipe @ \$130.00/lf	\$685,600
Manholes/C.B. - 10 ea. @ \$12,000	\$102,000
Total	<u>\$787,600</u>
3. Access Roadways & Parking :	
(4300' x 20' + 20,000) = 106,000 sf @ \$6.50 =	\$689,000
4. Piling assume whole site:	
Piles @ 225sf/pile = 436,800/225 = 2,000 ea.	
Piles = 2,000 ea @ 50' = 100,000 @ \$17.25 =	\$1,722,000
5. Dewatering allowance for excavation:	\$430,000
6. Make-up & Potable Water:	
Piping @ 5,300' @ \$86.00/lf	\$456,000
Metering & Hook-ups	\$60,500
Total	<u>\$516,500</u>
7. Sewer Hook-ups for Bathroom, etc. allow.	\$86,000
8. Fire Water : 5300 lf @ \$215.00/lf =	\$1,145,000
Hydrant & Misc. items =	\$60,000
Total	<u>\$1,205,000</u>
9. Sprinkler System whole site plus Standpipe	
200,000 sf @ \$4.30/sf =	\$860,000
10. Fencing :	\$60,000
10. Gas Pipeline (allow):	\$130,000
11. Site Lighting :	
436800 sf @ \$1.00 =	\$440,000

k. MARK-UPS:

Start-up Cost = 1.5%
Engineering = 10%
Contingency = 20%

ATTACHMENT 7 - 8

BASES OF ESTIMATES

BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY WITHOUT OXIDATION

PART 2 - NY STATE PROJECT EVALUATION - ALBANY

1. Process Island Cost adjusted to Albany Cost.

Escalation - 1994 \$47,000,000 @ 2.9% = \$1,363,000
 Total Cost after Escalation - \$47,000,000 + \$1,363,000 = \$48,363,000
 Assume Labor @ one-third of Total Cost - \$48,363,000/3 = \$16,121,000
 Labor Factor between Albany & Houston = 24.57/18.45 = 1.33
 Total Labor Cost Adjustment = \$16,121,000 @ 1.33 = \$21,441,000
 Therefore Total adjustment = \$21,441,000 - \$16,121,000 = \$5,320,000
 Total Adjusted N.Y.S. Cost = \$48,363,000 + \$5,320,000 = \$53,683,000

2. BALANCE OF PLANT

a. Adm./Control/Lab. Bldg. - assume size: 100'x100' = 10000 sf. @ \$130.00/sf =	\$1,300,000
Concrete Foundation - 10,000 sf @ \$10.18/sf =	\$101,800
Total	<u>\$1,401,800</u>
b. Maint./Shop Bldg. - assume size: 100'x100' = 10000 sf. @ \$104.00/sf =	\$1,040,000
Tools and Equipment =	\$130,000
Concrete Foundation - 10,000 sf @ \$10.25/sf =	\$102,500
Total	<u>\$1,272,500</u>
c. Plant Air Supply:	
Two (2) Compressors =	\$112,500
Air Dryers =	\$8,600
Piping assume @ 5,000' @ \$45.00/l =	\$225,100
Total	<u>\$346,200</u>
d. Aerobic Watertreatment:	
Assume @ 150,000 gal./day @ \$8.65/gal. =	\$1,298,000
e. Chilled/Cooling Water Supply:	
Includes : Cooling Tower, Fdn., Piping @250' =	\$605,900
f. Boiler Feedwater (Demin.) allow:	\$346,200
g. Power & Distribution:	\$4,326,500
h. Boiler Package:	\$865,300
i. Steam Turbine:	\$216,300

BASES OF ESTIMATES

BUDGET ESTIMATE FOR BIOMASS TO ETHANOL FACILITY WITHOUT OXIDATION

PART 2 - NY STATE PROJECT EVALUATION - ALBANY

j. SITE IMPROVEMENT

1. Clearing & Grubbing :	\$43,300
2. Sewer and Drainage :	
Assume: 5300' u/g pipe @ \$130.00/lf	\$689,400
Manholes/C.B. - 10 ea. @ \$10,400	\$104,000
Total	<u>\$792,400</u>
3. Access Roadways & Parking :	
(4300' x 20' + 20,000) = 106,000 sf @ \$6.54 =	\$692,800
4. Piling assume whole site:	
Piles @ 225sf/pile = 436,800/225 = 2,000 ea.	
Piles = 2,000 ea @ 50' = 100,000 @ \$17.30 =	\$1,732,000
5. Dewatering allowance for excavation:	\$433,000
6. Make-up & Potable Water:	
Piping @ 5,300' @ \$90.00/lf	\$477,000
Metering & Hook-ups	\$42,600
Total	<u>\$519,600</u>
7. Sewer Hook-ups for Bathroom, etc. allow:	\$86,600
8. Fire Water : 5300 lf @ \$216.50/lf =	\$1,147,400
Hydrant & Misc. items =	\$65,000
Total	<u>\$1,212,400</u>
9. Sprinkler System whole site plus Standpipe	
200,000 sf @ \$5.00/sf =	\$866,000
10. Fencing :	\$60,000
10. Gas Pipeline (allow):	\$130,000
11. Site Lighting :	
436800 sf @ \$1.01 =	\$441,600

k. MARK-UPS:

Start-up Cost = 1.5%
Engineering = 10%
Contingency = 20%

ATTACHMENT 8-1

TABLES 8-5 TO 8-19

FIGURES 8-1 TO 8-28

PRO FORMA ANALYSIS

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - ALBANY, NY

TABLE 5-5: REQUIRED ETHANOL PRICE

OPTION NO. 1

10 YEARS ECONOMIC LIFE

Stone & Webster Development Corporation

595 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITH GASFICATION;
WOOD @ \$20/TON

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT											
REVENUE											
Ethanol		\$39,898	\$41,273	\$42,828	\$44,841	\$46,428	\$48,294	\$50,215	\$52,223	\$54,312	\$56,485
CO ₂		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		1,400	1,519	1,579	1,642	1,708	1,776	1,847	1,921	1,998	2,077
Tipping Fee - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed stock		0	0	0	0	0	0	0	0	0	0
Total Revenue		\$41,145	\$42,791	\$44,503	\$46,283	\$48,134	\$50,059	\$52,062	\$54,144	\$56,310	\$58,562
LESS O&M EXPENSES											
Labor - Supervisory		\$3,692	\$3,800	\$3,961	\$4,119	\$4,284	\$4,458	\$4,634	\$4,819	\$5,012	\$5,212
Fixed Maintenance Materials		1,290	1,341	1,395	1,451	1,509	1,569	1,632	1,697	1,765	1,836
Insurance		1,687	1,733	1,803	1,875	1,950	2,028	2,109	2,193	2,281	2,372
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		898	939	981	1,025	1,071	1,119	1,170	1,222	1,277	1,335
Chemicals		2,890	3,005	3,126	3,251	3,381	3,515	3,656	3,803	3,955	4,113
Power		0	0	0	0	0	0	0	0	0	0
Water		71	74	77	80	83	86	90	93	97	101
Waste Water		104	108	113	117	122	127	132	137	142	148
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock		4,368	4,582	4,744	4,934	5,131	5,335	5,550	5,772	6,003	6,243
Gross Receipts Tax (Income Tax Deductible)		3,394	3,530	3,671	3,810	3,971	4,130	4,295	4,467	4,646	4,831
Total O&M Expense		\$10,362	\$10,101	\$10,870	\$10,889	\$11,501	\$12,267	\$12,287	\$12,403	\$12,519	\$12,181
GROSS MARGIN		\$22,783	\$23,090	\$24,633	\$25,613	\$26,633	\$27,893	\$28,795	\$29,841	\$31,132	\$32,371
INTEREST		(10,875)	(10,288)	(9,629)	(8,886)	(7,779)	(6,771)	(5,682)	(4,442)	(3,100)	(1,624)
TAX DEPRECIATION		(15,000)	(24,851)	(10,277)	(11,041)	(10,789)	(9,844)	(2,806)	(2,714)	(2,603)	(3,928)
TAXABLE INCOME		(\$3,282)	(\$11,447)	(\$1,173)	\$5,578	\$8,085	\$14,078	\$20,228	\$22,785	\$25,360	(\$4,180)
TAXES: Income		1,341	4,070	479	(2,401)	(3,291)	(5,751)	(8,203)	(8,308)	(10,355)	1,706
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$1,941)	(\$6,777)	(\$694)	\$3,477	\$4,785	\$8,327	\$11,985	\$13,477	\$14,994	(\$2,473)
TAX DEPRECIATION		\$5,090	\$4,851	\$5,277	\$5,041	\$4,789	\$4,544	\$4,308	\$4,071	\$3,833	\$3,596
PLANT COST											
LOAN											
PRINCIPAL PAYMENTS											
NET CASH FLOW		(\$27,437)	\$6,263	\$10,500	\$7,251	\$5,352	\$5,482	\$4,081	\$2,671	\$2,770	\$2,918
CUMULATIVE CASH FLOW		(\$27,437)	(\$21,173)	(\$10,668)	(\$3,417)	\$1,935	\$7,417	\$11,498	\$14,169	\$16,939	\$19,857
CUMULATIVE IRR			NA	NA	NA	2.00%	9.18%	12.30%	13.97%	15.24%	20.00%
DEBT COVERAGE RATIO			1.276	1.326	1.379	1.434	1.491	1.550	1.612	1.678	1.743
CUM NPV		20.0%	(\$22,217)	(\$14,922)	(\$10,725)	(\$8,144)	(\$5,942)	(\$4,575)	(\$3,629)	(\$3,185)	(\$2,519)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY PROFORMA FINANCIAL STATEMENT THIRD PARTY CONTRACTOR / DEVELOPER SITE LOCATION - ALBANY, NY		TABLE 6-5: REQUIRED ETHANOL PRICE OPTION NO.: 2 505 TPD (wet) of 100.0% MODED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITHOUT GASIFICATION WOOD @ \$20/TON; \$58/TON LIGNIN DISPOSAL COST		10 YEARS ECONOMIC LIFE		Stone & Webster Development Corporation		Page 1 of 1			
End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol	\$2.39/gallon	\$43,158	\$44,885	\$46,681	\$48,548	\$50,490	\$52,510	\$54,610	\$56,794	\$59,068	\$61,429
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
- Mixed stock	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$43,158	\$44,885	\$46,681	\$48,548	\$50,490	\$52,510	\$54,610	\$56,794	\$59,068	\$61,429
LESS O&M EXPENSES											
Labor - Supervisory		\$2,810	\$2,923	\$3,040	\$3,161	\$3,286	\$3,419	\$3,558	\$3,698	\$3,846	\$4,000
Fixed Maintenance Materials		937	974	1,013	1,054	1,098	1,140	1,185	1,233	1,282	1,333
Insurance		1,241	1,281	1,342	1,395	1,452	1,510	1,570	1,633	1,698	1,766
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		6,135	6,411	6,699	7,001	7,318	7,646	7,989	8,349	8,724	9,117
Chemicals		2,680	3,003	3,128	3,251	3,381	3,518	3,658	3,803	3,953	4,113
Power		2,548	2,650	2,756	2,866	2,980	3,100	3,224	3,353	3,487	3,626
Water		158	164	171	178	185	192	200	208	216	225
Waste Water		104	108	113	117	122	127	132	137	142	148
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		1,014	2,019	2,130	2,247	2,371	2,501	2,639	2,784	2,937	3,099
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$20.00	4,380	4,582	4,744	4,934	5,131	5,338	5,550	5,772	6,003	6,243
Gross Receipts Tax (Income Tax Deductible)		3,581	3,703	3,831	4,005	4,185	4,332	4,505	4,686	4,873	5,068
Total O&M Expenses		\$28,683	\$27,810	\$28,985	\$30,210	\$31,487	\$32,818	\$34,207	\$35,655	\$37,164	\$38,738
GROSS MARGIN		\$14,475	\$17,075	\$17,696	\$18,338	\$19,003	\$19,692	\$20,403	\$21,140	\$21,902	\$22,691
INTEREST		(5,146)	(7,603)	(7,072)	(6,454)	(5,774)	(5,025)	(4,202)	(3,287)	(2,301)	(1,205)
TAX DEPRECIATION		(13,724)	(22,238)	(13,887)	(8,948)	(8,786)	(8,977)	(1,192)	(1,139)	(1,119)	(1,827)
TAXABLE INCOME		(\$5,394)	(\$12,767)	(\$3,263)	\$3,038	\$4,463	\$5,689	\$45,009	\$18,714	\$18,482	\$4,558
TAXES: Income		2,203	5,228	1,333	(1,241)	(1,823)	(3,988)	(8,131)	(8,828)	(7,550)	(1,882)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$3,191)	(\$7,539)	(\$1,930)	\$1,797	\$2,640	\$5,731	\$36,878	\$9,886	\$10,932	\$2,676
TAX DEPRECIATION		13,724	22,238	13,887	8,948	8,786	4,977	1,192	1,129	1,119	18,827
PLANT COST	(\$10,1820)										
LOAN	\$9,1456										
PRINCIPAL PAYMENTS		(5,111)	(5,822)	(5,184)	(6,800)	(7,483)	(8,231)	(9,054)	(9,880)	(10,958)	(12,051)
NET CASH FLOW	(\$20,384)	\$5,423	\$9,047	\$5,772	\$3,841	\$3,923	\$2,477	\$1,016	\$1,054	\$1,095	\$7,572
CUMULATIVE CASH FLOW	(\$20,384)	(\$14,961)	(\$5,895)	(\$1,122)	\$3,718	\$7,642	\$10,118	\$11,134	\$12,189	\$13,285	\$20,856
CUMULATIVE IRR		NA	NA	NA	7.57%	13.01%	15.43%	18.20%	18.85%	17.38%	20.00%
DEBT COVERAGE RATIO		1.243	1.288	1.335	1.383	1.433	1.485	1.539	1.585	1.632	1.712
CUM NPV	20.0%	(\$20,384)	(\$15,845)	(\$9,563)	(\$6,222)	(\$4,370)	(\$2,793)	(\$1,564)	(\$1,681)	(\$1,435)	\$0

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/DEVELOPER
SITE LOCATION - BUFFALO, NY

TABLE 6-7: REQUIRED ETHANOL PRICE
OPTION NO.: 7

10 YEARS ECONOMIC LIFE

Stone & Webster Development Corporation

505 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$20/TON;
WITH GASIFICATION

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol	\$2.24 /gallon	\$40,371	\$41,986	\$43,698	\$45,412	\$47,229	\$49,178	\$51,083	\$53,126	\$55,251	\$57,461
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		1,480	1,578	1,579	1,642	1,708	1,776	1,847	1,921	1,998	2,077
Tipping Fee- Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$41,851	\$43,564	\$45,244	\$47,054	\$48,936	\$50,894	\$52,929	\$55,047	\$57,248	\$59,538
LESS O&M EXPENSES											
Labor - Supervisory		\$3,882	\$3,900	\$3,981	\$4,119	\$4,284	\$4,456	\$4,634	\$4,819	\$5,012	\$5,212
Fixed Maintenance Materials		1,338	1,392	1,448	1,505	1,568	1,628	1,693	1,761	1,832	1,905
Insurance		1,715	1,784	1,855	1,930	2,007	2,087	2,171	2,257	2,348	2,442
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		898	939	981	1,025	1,071	1,119	1,170	1,222	1,277	1,335
Chemicals		2,890	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power		0	0	0	0	0	0	0	0	0	0
Water		19	20	21	22	23	24	25	26	27	28
Waste Water		39	40	42	44	45	47	49	51	53	55
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		0	0	0	0	0	0	0	0	0	0
Feedstock		0	0	0	0	0	0	0	0	0	0
- Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$20.00	4,388	4,582	4,744	4,934	5,151	5,398	5,650	5,922	6,203	6,493
Gross Receipts Tax (Income Tax Deductible)		3,461	3,589	3,733	3,882	4,037	4,199	4,367	4,541	4,723	4,912
Total O&M Expenses		\$18,399	\$19,140	\$19,910	\$20,711	\$21,545	\$22,412	\$23,314	\$24,252	\$25,229	\$26,244
GROSS MARGIN		\$23,452	\$24,364	\$25,334	\$26,343	\$27,391	\$28,482	\$29,615	\$30,794	\$32,020	\$33,294
INTEREST		(11,310)	(10,600)	(9,820)	(9,061)	(8,219)	(7,277)	(6,234)	(5,077)	(3,814)	(2,473)
TAX DEPRECIATION		(15,883)	(25,816)	(10,688)	(11,437)	(11,189)	(7,073)	(2,973)	(2,778)	(2,745)	(3,742)
TAXABLE INCOME		(\$3,541)	(\$2,052)	(\$5,173)	\$5,945	\$8,103	\$14,432	\$20,607	\$23,439	\$28,000	(\$4,121)
TAXES: Income		1,456	4,923	661	(2,429)	(3,344)	(5,895)	(8,600)	(9,575)	(10,854)	1,683
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$2,306)	(\$7,128)	(\$5,812)	\$3,517	\$4,759	\$8,537	\$12,007	\$13,864	\$17,146	(\$2,438)
TAX DEPRECIATION		15,883	25,816	16,856	11,437	11,189	7,073	2,973	2,778	2,745	35,742
PLANT COST	(\$141,372)										
LOAN	\$113,098										
PRINCIPAL PAYMENTS		(7,096)	(7,806)	(8,587)	(9,445)	(10,390)	(11,429)	(12,572)	(13,829)	(15,212)	(16,733)
NET CASH FLOW		(\$26,274)	\$6,480	\$10,861	\$7,489	\$8,508	\$5,641	\$4,180	\$2,709	\$2,813	\$2,880
CUMULATIVE CASH FLOW		(\$26,274)	(\$21,794)	(\$10,933)	(\$3,444)	\$2,064	\$7,728	\$11,908	\$14,617	\$17,430	\$20,310
CUMULATIVE IRR		NA	NA	NA	3.03%	9.28%	12.46%	14.02%	15.28%	16.30%	20.00%
DEBT COVERAGE RATIO		1.273	1.324	1.378	1.431	1.486	1.547	1.609	1.673	1.740	1.808
CUM NPV	20.0%	(\$26,274)	(\$22,874)	(\$15,318)	(\$10,884)	(\$8,328)	(\$6,060)	(\$4,680)	(\$3,904)	(\$3,250)	\$0

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER
SITE LOCATION - BUFFALO, NY

TABLE 8-8: REQUIRED ETHANOL PRICE

10 YEARS ECONOMIC LIFE

Stone & Webster Development Corporation

OPTION NO.: 8

685 TPD (per) of 100.0% MIXED STOCK 50% WASTE WOOD & 50% WASTE PAPER @ \$20/TON

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT											
REVENUE											
Ethanol	\$2.41/gallon	\$43,811	\$45,365	\$47,170	\$49,058	\$51,019	\$53,059	\$55,182	\$57,389	\$59,686	\$62,072
CO ₂		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee-- Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$43,811	\$45,365	\$47,170	\$49,058	\$51,019	\$53,059	\$55,182	\$57,389	\$59,686	\$62,072
LESS O&M EXPENSES											
Labor - Supervisory		\$2,810	\$2,823	\$3,040	\$3,161	\$3,288	\$3,419	\$3,556	\$3,696	\$3,840	\$4,000
Fixed Maintenance Materials		973	1,012	1,053	1,098	1,139	1,184	1,232	1,281	1,332	1,385
Insurance		1,277	1,329	1,382	1,437	1,494	1,554	1,618	1,681	1,748	1,818
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
-- Fermentation		0	0	0	0	0	0	0	0	0	0
-- Solids Separation (Ash or Lignin)		6,135	6,411	6,699	7,001	7,318	7,645	7,989	8,349	8,724	9,117
Chemicals		2,890	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power		2,548	2,650	2,756	2,866	2,980	3,100	3,224	3,353	3,487	3,626
Water		44	45	47	48	51	53	55	57	60	62
Waste Water		39	40	42	44	45	47	49	51	53	55
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		1,914	2,019	2,130	2,247	2,371	2,501	2,639	2,784	2,937	3,099
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$20.00	4,388	4,582	4,744	4,884	5,131	5,336	5,550	5,772	6,003	6,243
Gross Receipts Tax (Income Tax Deductible)		3,998	3,742	3,891	4,047	4,209	4,377	4,552	4,735	4,924	5,121
Total O&M Expenses		\$26,614	\$27,738	\$28,909	\$30,131	\$31,405	\$32,734	\$34,116	\$35,563	\$37,069	\$38,639
GROSS MARGIN		\$16,997	\$17,627	\$18,260	\$18,925	\$19,613	\$20,325	\$21,066	\$21,826	\$22,615	\$23,432
INTEREST		(6,427)	(7,696)	(7,316)	(8,677)	(8,973)	(9,189)	(9,347)	(9,411)	(9,380)	(9,247)
TAX DEPRECIATION		(14,304)	(23,173)	(14,492)	(9,204)	(9,122)	(9,169)	(1,222)	(1,158)	(1,147)	(1,349)
TAXABLE INCOME		(\$5,734)	(\$13,454)	(\$3,516)	\$3,045	\$4,518	\$9,956	\$15,494	\$17,258	\$19,068	\$4,836
TAXES: Income		2,342	5,496	1,437	(1,244)	(1,046)	(4,068)	(5,329)	(7,050)	(7,796)	(1,878)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$3,391)	(\$7,958)	(\$2,081)	\$1,801	\$2,673	\$5,888	\$9,164	\$10,208	\$11,291	\$2,958
TAX DEPRECIATION		14,304	23,173	14,492	9,204	9,122	9,169	1,222	1,158	1,147	1,349
PLANT COST	(\$105,338)										
LOAN	\$84,268										
PRINCIPAL PAYMENTS		(\$287)	(\$,816)	(\$,398)	(7,038)	(7,741)	(\$,515)	(\$,387)	(10,304)	(11,334)	(12,487)
NET CASH FLOW		(\$21,087)	\$5,825	\$9,389	\$5,983	\$3,907	\$4,053	\$2,544	\$1,020	\$1,104	\$7,743
CUMULATIVE CASH FLOW		(\$21,087)	(\$15,442)	(\$6,043)	(\$50)	\$3,907	\$7,961	\$10,504	\$11,524	\$12,588	\$21,432
CUMULATIVE IRR		NA	NA	NA	7.69%	13.11%	15.51%	18.28%	18.88%	17.41%	20.05%
DEBT COVERAGE RATIO		1.239	1.285	1.331	1.380	1.430	1.482	1.530	1.591	1.649	1.700
CUM NPV	20.0%	(\$21,087)	(\$10,379)	(\$2,852)	(\$8,390)	(\$4,477)	(\$2,849)	(\$1,909)	(\$1,711)	(\$1,464)	\$0

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - ROCHESTER, NY

TABLE B-9: REQUIRED ETHANOL PRICE 10 YEARS ECONOMIC LIFE
OPTION NO.: 13
595 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$20/TON;
WITH GASIFICATION

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol \$2.22 / gallon	\$40,034	\$41,636	\$43,301	\$45,033	\$46,835	\$48,706	\$50,656	\$52,683	\$54,790	\$56,982	\$59,262
CO2	0	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0	0
Power	1,460	1,516	1,579	1,642	1,706	1,770	1,776	1,847	1,921	1,998	2,077
Tipping Fee - Waste Paper \$0.00	0	0	0	0	0	0	0	0	0	0	0
- Waste Wood \$0.00	0	0	0	0	0	0	0	0	0	0	0
- Mixed Stock \$0.00	0	0	0	0	0	0	0	0	0	0	0
Total Revenue	\$41,494	\$43,154	\$44,880	\$46,675	\$48,542	\$50,484	\$52,484	\$54,503	\$56,603	\$58,788	\$60,959
LESS O&M EXPENSES											
Labor - Supervisory	\$3,882	\$3,889	\$3,981	\$4,119	\$4,284	\$4,456	\$4,634	\$4,818	\$5,012	\$5,212	\$5,412
Fixed Maintenance Materials	1,314	1,367	1,421	1,478	1,537	1,599	1,663	1,729	1,798	1,870	1,940
Insurance	1,691	1,759	1,829	1,902	1,978	2,058	2,140	2,225	2,314	2,407	2,502
Property Taxes	0	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment	0	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	886	939	991	1,025	1,071	1,119	1,170	1,222	1,277	1,335	1,395
Chemicals	2,890	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113	4,277
Power	0	0	0	0	0	0	0	0	0	0	0
Water	37	38	40	42	43	45	47	49	51	53	55
Waste Water	55	57	59	61	64	67	69	72	75	78	81
Steam	0	0	0	0	0	0	0	0	0	0	0
Natural Gas	0	0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper \$20.00	0	0	0	0	0	0	0	0	0	0	0
- Waste Wood	0	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	0	0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)	3,423	3,560	3,703	3,851	4,005	4,165	4,332	4,505	4,685	4,872	5,065
Total O&M Expenses	\$18,256	\$19,093	\$19,864	\$20,663	\$21,495	\$22,360	\$23,260	\$24,196	\$25,170	\$26,183	\$27,235
GROSS MARGIN	\$23,238	\$24,061	\$25,016	\$26,012	\$27,047	\$28,124	\$29,243	\$30,407	\$31,613	\$32,875	\$33,724
INTEREST	(11,156)	(10,458)	(9,686)	(8,841)	(7,909)	(6,884)	(5,766)	(4,561)	(3,282)	(1,931)	(511)
TAX DEPRECIATION	(15,416)	(25,364)	(16,814)	(11,269)	(11,014)	(8,970)	(2,942)	(2,749)	(2,717)	(2,717)	(2,717)
TAXABLE INCOME	(\$3,334)	(\$1,751)	(\$1,286)	\$3,902	\$8,124	\$14,270	\$20,516	\$23,143	\$25,749	\$28,249	(\$4,145)
TAXES: Income	1,406	4,614	525	(2,415)	(3,310)	(5,829)	(8,392)	(9,454)	(10,518)	(11,593)	(12,678)
Production Tax Credit	0	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX	(\$2,034)	(\$9,970)	(\$760)	\$3,497	\$4,806	\$8,441	\$12,124	\$13,689	\$15,231	\$16,656	(\$14,693)
TAX DEPRECIATION	16,416	25,364	16,814	11,269	11,014	8,970	2,942	2,749	2,717	2,717	2,717
PLANT COST	\$139,170										
LOAN	\$111,563										
PRINCIPAL PAYMENTS	(7,001)	(7,701)	(8,472)	(9,319)	(10,251)	(11,276)	(12,403)	(13,644)	(15,008)	(16,509)	(18,156)
NET CASH FLOW	(\$27,899)	\$4,389	\$10,713	\$7,382	\$5,437	\$5,569	\$4,135	\$2,691	\$2,784	\$2,836	\$16,409
CUMULATIVE CASH FLOW	(\$27,899)	(\$21,510)	(\$10,797)	(\$3,415)	\$2,022	\$7,591	\$11,726	\$14,417	\$17,201	\$20,037	\$36,446
CUMULATIVE IRR	NA	NA	NA	2.98%	9.22%	12.43%	14.00%	15.28%	16.20%	16.80%	20.00%
DEBT COVERAGE RATIO	1.274	1.325	1.376	1.432	1.468	1.549	1.610	1.674	1.741	1.810	1.880
CUM NPV	(\$27,899)	(\$22,577)	(\$15,139)	(\$10,869)	(\$6,244)	(\$6,005)	(\$4,621)	(\$3,870)	(\$3,220)	(\$2,650)	\$0

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - ROCHESTER, NY

TABLE B-10: REQUIRED ETHANOL PRICE 10 YEARS ECONOMIC LIFE
OPTION NO.: 14

Stone & Webster Development Corporation

50% TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$20/TON;
WITHOUT GASIFICATION; \$50/TON LIGNIN DISPOSAL COST

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol	\$22.40 / gallon	\$43,402	\$45,136	\$46,944	\$48,821	\$50,774	\$52,805	\$54,917	\$57,114	\$59,399	\$61,775
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$43,402	\$45,136	\$46,944	\$48,821	\$50,774	\$52,805	\$54,917	\$57,114	\$59,399	\$61,775
LESS O&M EXPENSES											
Labor - Supervisory		\$2,810	\$2,823	\$3,040	\$3,181	\$3,280	\$3,419	\$3,556	\$3,694	\$3,848	\$4,000
Fixed Maintenance Materials		981	1,000	1,040	1,081	1,124	1,169	1,216	1,265	1,315	1,368
Insurance		1,265	1,316	1,369	1,423	1,480	1,539	1,601	1,665	1,732	1,801
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		8,135	8,411	8,689	7,001	7,316	7,645	7,989	8,349	8,724	9,117
Chemicals		2,680	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power		2,548	2,650	2,758	2,866	2,980	3,100	3,224	3,353	3,487	3,626
Water		63	66	90	93	87	101	105	109	114	119
Waste Water		55	57	59	61	64	67	69	72	75	78
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		1,914	2,019	2,130	2,247	2,371	2,501	2,638	2,784	2,937	3,099
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$20.00	4,386	4,582	4,744	4,934	5,131	5,336	5,550	5,772	6,003	6,243
Gross Receipts Tax (Income Tax Deductible)		3,581	3,724	3,873	4,028	4,189	4,356	4,531	4,712	4,900	5,098
Total O&M Expenses		\$26,825	\$27,752	\$28,925	\$30,147	\$31,422	\$32,751	\$34,130	\$35,551	\$37,018	\$38,650
GROSS MARGIN		\$16,577	\$17,384	\$18,019	\$18,674	\$19,353	\$20,055	\$20,787	\$21,563	\$22,381	\$23,125
INTEREST		(\$307)	(\$765)	(\$212)	(\$581)	(\$888)	(\$1,253)	(\$1,685)	(\$2,182)	(\$2,744)	(\$3,381)
TAX DEPRECIATION		(14,055)	(22,772)	(14,215)	(8,050)	(5,970)	(5,087)	(4,210)	(3,448)	(2,785)	(2,229)
TAXABLE INCOME		(\$5,587)	(\$13,172)	(\$3,400)	\$3,043	\$4,495	\$9,843	\$15,268	\$17,025	\$18,829	\$4,715
TAXES: Income		2,282	5,381	1,392	(1,243)	(1,836)	(4,021)	(\$244)	(\$965)	(\$762)	(1,928)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$3,305)	(\$7,791)	(\$2,008)	\$1,800	\$2,659	\$5,822	\$15,042	\$17,070	\$18,829	\$2,787
TAX DEPRECIATION		14,055	22,772	14,215	8,050	5,970	5,087	4,210	3,448	2,785	2,229
PLANT COST											
LOAN											
PRINCIPAL PAYMENTS		(\$2,112)	(\$5,733)	(\$1,307)	(\$537)	(\$7,031)	(\$3,394)	(\$2,293)	(\$1,157)	(\$1,172)	(\$2,290)
NET CASH FLOW		(\$20,766)	\$5,538	\$3,246	\$5,883	\$3,913	\$3,998	\$2,515	\$1,018	\$1,059	\$1,100
CUMULATIVE CASH FLOW		(\$20,766)	(\$15,228)	(\$11,982)	(\$6,099)	(\$2,186)	\$10,339	\$13,357	\$14,416	\$15,475	\$16,575
CUMULATIVE IRR		NA	NA	NA	7.84%	10.07%	13.48%	16.23%	18.40%	20.00%	20.00%
DEBT COVERAGE RATIO		1.241	1.296	1.333	1.391	1.432	1.483	1.537	1.593	1.650	1.710
CUM NPV	20.6%	(\$20,766)	(\$16,151)	(\$9,728)	(\$4,719)	(\$4,432)	(\$2,825)	(\$1,093)	(\$1,098)	(\$1,239)	(\$0)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - SYRACUSE, NY

TABLE 8-11: REQUIRED ETHANOL PRICE

OPTION NO.: 19

395 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$20/TON;
WITH GASIFICATION

10 YEARS ECONOMIC LIFE

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$'000's)											
REVENUE											
Ethanol	\$2.18 / gallon	\$38,355	\$40,829	\$42,566	\$44,269	\$46,039	\$47,681	\$49,706	\$51,788	\$53,858	\$56,014
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		1,460	1,516	1,579	1,642	1,708	1,776	1,847	1,921	1,998	2,077
Tipping Fee- Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$40,814	\$42,447	\$44,145	\$45,910	\$47,747	\$49,657	\$51,843	\$53,709	\$55,857	\$58,091
LESS O&M EXPENSES											
Labor - Supervisory		\$3,062	\$3,609	\$3,961	\$4,110	\$4,284	\$4,456	\$4,634	\$4,810	\$5,012	\$5,212
Fixed Maintenance Materials		1,277	1,329	1,382	1,437	1,494	1,554	1,616	1,681	1,746	1,818
Insurance		1,855	1,721	1,790	1,861	1,936	2,013	2,094	2,177	2,264	2,355
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		890	939	961	1,025	1,071	1,119	1,170	1,222	1,277	1,335
Chemicals		2,690	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power	Economic Incentives Reduction: 0%	0	0	0	0	0	0	0	0	0	0
Water		28	30	32	33	34	36	37	38	40	42
Waste Water		21	22	22	23	24	25	26	27	28	29
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas	Economic Incentives Reduction: 0%	0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$20.00	4,398	4,582	4,744	4,934	5,131	5,336	5,580	5,772	6,003	6,243
Gross Receipts Tax (Income Tax Deductible)		3,367	3,502	3,642	3,788	3,939	4,097	4,261	4,431	4,606	4,783
Total O&M Expenses		\$10,185	\$11,017	\$11,676	\$12,471	\$12,295	\$12,132	\$12,043	\$12,971	\$14,036	\$15,040
GROSS MARGIN		\$22,629	\$23,829	\$24,469	\$23,440	\$25,452	\$27,505	\$29,599	\$29,738	\$30,821	\$32,151
INTEREST		(10,896)	(10,212)	(9,480)	(8,633)	(7,723)	(6,722)	(5,621)	(4,410)	(3,076)	(1,612)
TAX DEPRECIATION		(14,957)	(24,634)	(18,136)	(10,950)	(10,709)	(8,790)	(2,888)	(2,888)	(2,887)	(34,718)
TAXABLE INCOME		(\$3,224)	(\$11,317)	(\$5,132)	\$5,857	\$8,020	\$13,992	\$20,090	\$22,630	\$25,177	(\$4,176)
TAXES: Income		1,317	4,623	463	(2,393)	(3,276)	(5,790)	(8,207)	(9,244)	(10,286)	1,707
Tax Credits	\$0 Investment \$0 Wages	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$1,907)	(\$6,694)	(\$567)	\$3,465	\$4,744	\$8,277	\$11,883	\$13,386	\$14,892	(\$2,470)
TAX DEPRECIATION		14,957	24,634	18,136	10,950	10,709	8,790	2,888	2,888	2,887	34,718
PLANT COST	(\$136,197)										
LOAN	\$108,958										
PRINCIPAL PAYMENTS		(\$,637)	(\$,520)	(\$,272)	(\$,099)	(10,008)	(11,010)	(12,111)	(13,323)	(14,656)	(16,420)
NET CASH FLOW		(\$27,239)	\$6,213	\$10,420	\$7,166	\$5,315	\$5,444	\$4,057	\$2,060	\$2,761	\$2,904
CUMULATIVE CASH FLOW		(\$27,239)	(\$21,026)	(\$10,606)	(\$3,440)	\$1,905	\$7,349	\$11,405	\$13,465	\$16,226	\$19,130
CUMULATIVE IRR		NA	NA	NA	2.88%	9.14%	12.37%	13.96%	15.24%	16.27%	20.00%
DEBT COVERAGE RATIO		1.278	1.327	1.380	1.433	1.492	1.551	1.613	1.677	1.744	1.813
CUM NPV	20.0%	(\$27,239)	(\$22,062)	(\$14,825)	(\$10,661)	(\$8,099)	(\$3,910)	(\$4,552)	(\$3,809)	(\$3,197)	(\$2,804)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
 PROFORMA FINANCIAL STATEMENT
 THIRD PARTY CONTRACTOR / DEVELOPER
 SITE LOCATION - SYRACUSE, NY

TABLE 9 - 12: REQUIRED ETHANOL PRICE

10 YEARS ECONOMIC LIFE

Stone & Webster Development Corporation

OPTION NO.: 20

505 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$20/TON;

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WITHOUT GASIFICATION; \$60/TON LIGNIN

End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Opening Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol	\$2.37 / gallon	\$42,857	\$44,571	\$46,354	\$48,208	\$50,138	\$52,142	\$54,227	\$56,390	\$58,652	\$60,998
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee-- Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$42,857	\$44,571	\$46,354	\$48,208	\$50,138	\$52,142	\$54,227	\$56,390	\$58,652	\$60,998
LESS O&M EXPENSES											
Labor - Supervisory		\$2,810	\$2,923	\$3,040	\$3,161	\$3,288	\$3,419	\$3,556	\$3,698	\$3,846	\$4,000
Fixed Maintenance Materials		937	974	1,013	1,054	1,096	1,140	1,185	1,233	1,282	1,333
Insurance		1,220	1,278	1,329	1,382	1,438	1,495	1,555	1,617	1,682	1,749
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		6,135	6,411	6,699	7,001	7,316	7,645	7,989	8,349	8,724	9,117
Chemicals		2,880	3,005	3,129	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power	Economic Incentive Reduction: 0%	2,548	2,650	2,756	2,866	2,980	3,100	3,224	3,353	3,487	3,626
Water		65	68	71	74	76	80	83	86	89	93
Waste Water		21	22	22	23	24	25	26	27	28	29
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas	Economic Incentive Reduction: 0%	1,914	2,019	2,130	2,247	2,371	2,501	2,639	2,784	2,937	3,099
Feedstock		0	0	0	0	0	0	0	0	0	0
- Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock		4,386	4,562	4,744	4,934	5,131	5,336	5,550	5,772	6,003	6,243
Gross Receipts Tax (Income Tax Deductible)		3,538	3,677	3,824	3,977	4,136	4,302	4,474	4,653	4,838	5,032
Total O&M Expenses		\$28,470	\$27,686	\$28,764	\$29,870	\$31,237	\$32,659	\$33,937	\$35,374	\$36,872	\$38,435
GROSS MARGIN		\$14,387	\$16,885	\$17,590	\$18,338	\$18,899	\$19,583	\$20,290	\$21,022	\$21,780	\$22,563
INTEREST		(8,097)	(7,589)	(7,030)	(6,415)	(5,739)	(4,985)	(4,177)	(3,277)	(2,287)	(1,195)
TAX DEPRECIATION		(13,620)	(22,071)	(13,784)	(8,782)	(8,703)	(4,942)	(1,187)	(1,125)	(1,114)	(1,856)
TAXABLE INCOME		(\$6,330)	(\$12,677)	(\$3,214)	\$3,041	\$4,457	\$9,645	\$14,926	\$16,621	\$18,379	\$4,509
TAXES: Income		2,177	5,178	1,313	(1,242)	(1,821)	(3,940)	(6,087)	(6,790)	(7,508)	(1,842)
Tax Credits	\$0 Investment \$0 Wages	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$4,153)	(\$7,499)	(\$1,901)	\$1,799	\$2,636	\$5,705	\$8,839	\$9,831	\$10,871	\$2,667
TAX DEPRECIATION		13,620	22,071	13,784	8,782	8,703	4,942	1,187	1,125	1,114	1,856
PLANT COST		(\$101,210)									
LOAN		\$80,948									
PRINCIPAL PAYMENTS		(\$,080)	(\$,588)	(\$,147)	(\$,762)	(\$,438)	(\$,182)	(\$,000)	(\$,900)	(\$,890)	(\$1,879)
NET CASH FLOW		(\$20,242)	\$3,387	\$8,964	\$5,736	\$3,819	\$3,901	\$2,488	\$1,046	\$1,085	\$7,544
CUMULATIVE CASH FLOW		(\$20,242)	(\$14,855)	(\$5,891)	(\$158)	\$3,983	\$7,584	\$10,050	\$11,096	\$12,122	\$20,761
CUMULATIVE IRR		NA	NA	NA	7.58%	12.99%	15.42%	16.19%	16.84%	17.33%	20.00%
DEBT COVERAGE RATIO		1.244	1.269	1.336	1.384	1.434	1.486	1.540	1.585	1.633	1.742
CUM NPV	20.0%	(\$20,242)	(\$15,753)	(\$9,514)	(\$5,195)	(\$4,353)	(\$2,783)	(\$1,860)	(\$1,076)	(\$1,431)	\$0

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - SYRACUSE, NY.

TABLE 8-14: REQUIRED TIPPING FEE
OPTION NO.: 28

10 YEAR ECONOMIC LIFE

Stone & Webster Development Corporation

500 TPD (Dry) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITHOUT GASIFICATION;
ETHANOL @ \$1.20/GAL; \$59/TON LIGNIN DISPOSAL COST

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol		\$21,673	\$22,540	\$23,441	\$24,378	\$25,354	\$26,365	\$27,423	\$28,520	\$29,661	\$30,847
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee- Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock		0	0	0	0	0	0	0	0	0	0
		\$0.00									
		\$0.00									
		\$74.80									
		16,403	17,059	17,742	18,452	19,190	19,957	20,755	21,586	22,449	23,347
Total Revenue		\$38,076	\$39,599	\$41,183	\$42,830	\$44,544	\$46,325	\$48,178	\$50,106	\$52,110	\$54,194
LESS O&M EXPENSES											
Labor - Supervisory		\$2,510	\$2,923	\$3,040	\$3,161	\$3,285	\$3,419	\$3,556	\$3,698	\$3,846	\$4,000
Fixed Maintenance Materials		937	974	1,013	1,054	1,098	1,140	1,185	1,233	1,282	1,333
Insurance		1,229	1,278	1,329	1,382	1,438	1,495	1,555	1,617	1,682	1,749
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		6,135	6,411	6,699	7,001	7,319	7,645	7,989	8,349	8,724	9,117
Chemicals		2,690	3,005	3,128	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power		2,548	2,650	2,758	2,866	2,980	3,100	3,224	3,353	3,487	3,626
Water		65	68	71	74	76	80	83	86	89	93
Waste Water		21	22	22	23	24	25	26	27	28	29
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		1,914	2,019	2,130	2,247	2,371	2,501	2,639	2,784	2,937	3,098
Feedstock		0	0	0	0	0	0	0	0	0	0
- Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock		0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		3,141	3,267	3,398	3,534	3,675	3,822	3,975	4,134	4,299	4,471
Total O&M Expenses		\$21,690	\$22,616	\$23,563	\$24,502	\$25,445	\$26,393	\$27,358	\$28,333	\$29,330	\$30,331
GROSS MARGIN		\$16,386	\$16,983	\$17,620	\$18,328	\$19,099	\$19,932	\$20,820	\$21,773	\$22,780	\$23,863
INTEREST		(8,097)	(7,569)	(7,030)	(6,416)	(5,739)	(4,995)	(4,177)	(3,277)	(2,287)	(1,198)
TAX DEPRECIATION		(13,620)	(22,071)	(13,784)	(8,782)	(8,703)	(8,942)	(1,187)	(1,125)	(1,114)	(10,856)
TAXABLE INCOME		\$5,330	\$12,677	\$3,214	\$3,041	\$4,457	\$8,845	\$16,026	\$18,021	\$19,379	\$4,508
TAXES: Income		2,177	5,178	1,313	(1,242)	(1,821)	(3,940)	(8,097)	(8,790)	(7,508)	(1,842)
Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$3,153	\$7,499	\$1,901	\$1,799	\$2,636	\$4,905	\$7,929	\$9,231	\$11,871	\$2,667
TAX DEPRECIATION		13,620	22,071	13,784	8,782	8,703	8,942	1,187	1,125	1,114	10,856
PLANT COST		\$10,120									
LOAN		\$90,000									
PRINCIPAL PAYMENTS		(5,080)	(5,388)	(6,147)	(6,762)	(7,438)	(8,182)	(9,000)	(9,900)	(10,890)	(11,970)
NET CASH FLOW		\$20,242	\$5,387	\$8,984	\$5,736	\$3,819	\$3,901	\$2,486	\$1,016	\$1,058	\$7,544
CUMULATIVE CASH FLOW		\$20,242	\$14,655	\$23,639	\$29,375	\$33,194	\$37,095	\$39,581	\$40,597	\$41,655	\$49,200
CUMULATIVE IRR		NA	NA	NA	NA	7.55%	12.00%	15.42%	18.84%	17.38%	20.00%
DEBT COVERAGE RATIO		1.244	1.288	1.336	1.384	1.434	1.486	1.540	1.605	1.653	1.712
CUM NPV	20.0%	\$20,242	\$15,753	\$29,514	\$46,195	\$64,353	\$82,785	\$101,980	\$121,431	\$141,185	\$0

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER
SITE LOCATION - SYRACUSE, N.Y.

TABLE 8-13:
OPTION NO.:

REQUIRED TIPPING FEE
25

16 YEARS ECONOMIC LIFE

Stone & Webster Development Corporation

300 TPD (Dry) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITH GASIFICATION;
ETHANOL @ \$1.20/GAL

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT											
REVENUE											
Ethanol		\$21,873	\$22,540	\$23,441	\$24,379	\$25,354	\$26,368	\$27,423	\$28,520	\$29,661	\$30,847
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		1,480	1,515	1,579	1,642	1,708	1,778	1,847	1,921	1,996	2,077
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$50.35	13,015	13,536	14,077	14,641	15,226	15,835	16,469	17,127	17,812	18,525
Total Revenue		\$36,148	\$37,584	\$39,097	\$40,681	\$42,288	\$43,978	\$45,738	\$47,568	\$49,471	\$51,480
LESS O&M EXPENSES											
Labor - Supervisory		\$3,662	\$3,909	\$3,981	\$4,118	\$4,264	\$4,458	\$4,634	\$4,819	\$5,012	\$5,212
Fixed Maintenance Materials		1,277	1,329	1,382	1,437	1,494	1,554	1,616	1,681	1,748	1,816
Insurance		1,658	1,721	1,790	1,861	1,936	2,013	2,094	2,177	2,264	2,355
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		1,001	1,046	1,093	1,143	1,194	1,248	1,304	1,363	1,424	1,488
Chemicals		2,690	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power	Economic Incentive Reduction: 0%	0	0	0	0	0	0	0	0	0	0
Water		29	30	32	33	34	36	37	38	40	42
Waste Water		21	22	22	23	24	25	26	27	28	29
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas	Economic Incentive Reduction: 0%	0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		2,982	3,301	3,226	3,355	3,489	3,628	3,773	3,924	4,081	4,245
Total O&M Expenses		\$13,517	\$14,053	\$14,631	\$15,221	\$15,836	\$16,475	\$17,141	\$17,833	\$18,553	\$19,302
GROSS MARGIN		\$22,630	\$23,531	\$24,467	\$25,460	\$26,452	\$27,504	\$28,598	\$29,735	\$30,918	\$32,178
INTEREST		(10,886)	(10,212)	(9,460)	(8,633)	(7,723)	(6,722)	(5,621)	(4,410)	(3,076)	(1,612)
TAX DEPRECIATION		(14,857)	(24,634)	(18,138)	(10,950)	(10,708)	(8,790)	(2,888)	(2,896)	(2,667)	(3,718)
TAXABLE INCOME		\$3,222	\$11,315	\$11,132	\$15,857	\$18,020	\$13,992	\$20,089	\$22,027	\$25,174	\$34,182
TAXES: Income		1,316	4,622	462	(2,093)	(3,276)	(5,718)	(5,206)	(5,243)	(10,283)	1,708
Tax Credits	\$0 Investment \$0 Wt gas	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$1,906	\$6,693	\$6,669	\$13,465	\$14,744	\$8,278	\$11,882	\$13,364	\$14,890	\$24,474
TAX DEPRECIATION		14,957	24,634	18,138	10,950	10,708	8,790	2,888	2,896	2,667	3,718
PLANT COST	\$136,197										
LOAN	\$108,856										
PRINCIPAL PAYMENTS		(8,837)	(7,520)	(6,272)	(5,099)	(10,008)	(11,010)	(12,111)	(13,323)	(14,655)	(16,120)
NET CASH FLOW		\$27,239	\$6,214	\$10,421	\$7,197	\$5,316	\$5,443	\$4,058	\$2,650	\$2,799	\$16,123
CUMULATIVE CASH FLOW		\$27,239	\$21,025	\$10,604	\$3,408	\$1,907	\$7,351	\$11,407	\$14,060	\$16,825	\$35,651
CUMULATIVE IRR		NA	NA	NA	NA	8.14%	12.37%	13.06%	15.24%	16.27%	20.00%
DEBT COVERAGE RATIO		1.276	1.327	1.380	1.435	1.492	1.551	1.613	1.677	1.744	1.813
CUM NPV	20.0%	\$27,239	\$22,051	\$14,824	\$10,659	\$8,096	\$5,908	\$4,550	\$3,508	\$2,804	\$0

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/DEVELOPER
SITE LOCATION - SYRACUSE, NY

TABLE 8 - 15: REQUIRED ETHANOL PRICE
OPTION NO.: 19

WITH ECONOMIC INCENTIVES

Stone & Webster Development Corporation

505 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$20/TON;
WITH GASIFICATION

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	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
End of Year	4	5	6	7	8	9	10	11	12	13	14
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,265	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol	\$1.61 /gallon	\$25,108	\$30,273	\$31,484	\$32,744	\$34,053	\$35,415	\$36,832	\$38,305	\$39,838	\$41,431
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		1,480	1,518	1,579	1,642	1,708	1,776	1,847	1,921	1,998	2,077
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$30,588	\$31,791	\$33,063	\$34,385	\$35,761	\$37,191	\$38,679	\$40,226	\$41,835	\$43,509
LESS O&M EXPENSES											
Labor - Supervisory		\$3,662	\$3,600	\$3,651	\$4,110	\$4,284	\$4,456	\$4,634	\$4,819	\$5,012	\$5,212
Fixed Maintenance Materials		1,277	1,329	1,382	1,437	1,494	1,554	1,618	1,681	1,748	1,818
Insurance		1,855	1,721	1,790	1,881	1,938	2,013	2,094	2,177	2,264	2,355
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		898	938	991	1,025	1,071	1,119	1,170	1,222	1,277	1,335
Chemicals		2,590	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power	Economic Incentives Reduction: -8%	0	0	0	0	0	0	0	0	0	0
Water		29	30	32	33	34	36	37	38	40	42
Waste Water		21	22	22	23	24	25	26	27	28	29
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas	Economic Incentives Reduction: -8%	0	0	0	0	0	0	0	0	0	0
Feedstock		0	0	0	0	0	0	0	0	0	0
- Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock		0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		4,386	4,562	4,744	4,934	5,131	5,336	5,550	5,772	6,003	6,243
Total O&M Expenses		2,522	2,823	2,728	2,837	2,950	3,068	3,191	3,319	3,451	3,589
GROSS MARGIN		\$17,340	\$18,038	\$19,784	\$19,520	\$20,306	\$21,123	\$21,974	\$22,859	\$23,779	\$24,737
INTEREST		\$13,228	\$13,753	\$14,298	\$14,868	\$15,455	\$16,068	\$16,705	\$17,367	\$18,056	\$18,772
TAX DEPRECIATION		(10,896)	(10,212)	(9,460)	(8,633)	(7,723)	(6,722)	(5,621)	(4,410)	(3,076)	(1,612)
TAXABLE INCOME		(14,957)	(24,634)	(16,136)	(10,950)	(10,709)	(6,790)	(2,666)	(2,636)	(2,667)	(2,667)
TAXES: Income		\$12,624	\$21,003	\$11,300	\$4,717	\$2,977	\$2,558	\$8,198	\$10,260	\$12,312	\$14,493
Tax Credits	\$13,820 Investment \$129 Wages	5,157	8,617	4,816	1,927	1,215	(1,044)	(3,348)	(4,181)	(5,029)	(5,920)
INCOME AFTER TAX		13,748	4,215	4,215	4,215	129	0	0	0	0	0
TAX DEPRECIATION		\$0,281	\$0,262	\$2,489	\$1,425	\$1,632	\$1,512	\$4,848	\$5,069	\$7,282	\$8,573
PLANT COST		14,857	24,834	35,130	10,950	10,709	8,790	2,858	2,698	2,667	2,667
LOAN		\$136,197									
PRINCIPAL PAYMENTS		\$108,058									
NET CASH FLOW		(8,837)	(7,520)	(8,272)	(9,089)	(10,009)	(11,010)	(12,111)	(13,323)	(14,655)	(16,120)
CUMULATIVE CASH FLOW		\$27,230	\$14,402	\$8,852	\$5,397	\$3,275	(\$932)	\$2,708	\$4,375	\$4,558	\$4,706
CUMULATIVE IRR		\$27,230	(\$12,838)	(\$3,986)	\$1,411	\$4,686	\$3,753	\$1,045	(\$3,331)	(\$7,897)	(\$12,592)
DEBT COVERAGE RATIO		NA	NA	3.08%	8.81%	7.42%	2.64%	NA	NA	NA	NA
CUM NPV	20.0%	0.746	0.778	0.806	0.838	0.872	0.906	0.942	0.979	1.016	1.050
		\$27,230	(\$13,236)	(\$9,091)	(\$5,968)	(\$4,389)	(\$3,763)	(\$3,670)	(\$3,591)	(\$3,993)	(\$9,851)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - SYRACUSE, NY

TABLE 15: REQUIRED ETHANOL PRICE
OPTION NO. 10
500 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$20/TON;
WITH GASIFICATION

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P. D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol \$1.61/gallon	\$43,058	\$44,812	\$46,604	\$48,446	\$50,407	\$52,424	\$54,520	\$56,701	\$58,968	\$61,328
CO2	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	2,351	2,247	2,337	2,430	2,528	2,629	2,734	2,843	2,957	3,075
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue	\$45,249	\$47,059	\$48,941	\$50,876	\$52,935	\$55,052	\$57,254	\$59,544	\$61,925	\$64,403
LESS O&M EXPENSES										
Labor - Supervisory	\$5,421	\$5,638	\$5,863	\$6,098	\$6,342	\$6,596	\$6,859	\$7,133	\$7,419	\$7,716
Fixed Maintenance Materials	1,891	1,967	2,046	2,127	2,212	2,301	2,393	2,486	2,585	2,681
Insurance	2,448	2,547	2,649	2,755	2,865	2,980	3,099	3,223	3,352	3,486
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	1,395	1,458	1,523	1,592	1,663	1,738	1,816	1,898	1,984	2,073
Chemicals	4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854	6,088
Power	0	0	0	0	0	0	0	0	0	0
Economic Incentives Reduction:										
Water	43	45	47	49	51	53	55	57	59	62
Waste Water	31	32	33	34	36	37	39	40	42	44
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	0	0	0	0	0	0	0	0	0	0
Economic Incentives Reduction:										
Feedstock - Waste Paper	0	0	0	0	0	0	0	0	0	0
- Waste Wood	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$20.00	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)	3,735	3,682	3,635	3,593	3,557	3,524	3,493	3,462	3,432	3,403
Total O&M Expenses	\$25,733	\$26,769	\$27,847	\$28,969	\$30,135	\$31,349	\$32,612	\$33,925	\$35,282	\$36,744
GROSS MARGIN	\$19,516	\$20,290	\$21,094	\$21,907	\$22,799	\$23,703	\$24,642	\$25,619	\$26,643	\$27,659
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(2,667)	(2,667)	(2,667)	(2,667)	(2,667)	(2,667)	(2,667)	(2,667)	(2,667)	(2,667)
TAXABLE INCOME	\$16,849	\$17,623	\$18,427	\$19,240	\$20,132	\$21,036	\$21,975	\$22,952	\$23,976	\$25,039
TAXES: Income	(6,063)	(7,199)	(7,526)	(7,858)	(8,224)	(8,583)	(8,977)	(9,376)	(9,791)	(10,222)
Tax Credits	\$13,912	\$10,422	\$10,900	\$11,384	\$11,806	\$12,243	\$12,699	\$13,176	\$13,677	\$14,198
INCOME AFTER TAX	\$9,986	\$10,424	\$10,900	\$11,384	\$11,806	\$12,243	\$12,699	\$13,176	\$13,677	\$14,198
TAX DEPRECIATION	2,667	2,667	2,667	2,667	2,667	2,667	2,667	2,667	2,667	2,667
PLANT COST	0	0	0	0	0	0	0	0	0	0
LOAN	0	0	0	0	0	0	0	0	0	0
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$12,653	\$13,091	\$13,566	\$14,051	\$14,575	\$15,110	\$15,655	\$16,244	\$16,844	\$17,467
CUMULATIVE CASH FLOW	(\$4,649)	\$5,250	\$21,817	\$35,878	\$50,453	\$65,562	\$81,226	\$97,471	\$114,314	\$131,782
CUMULATIVE IRR	NA	6.73%	11.07%	14.38%	16.15%	17.40%	18.31%	18.90%	19.33%	19.65%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$7,951)	\$5,483	(\$2,195)	(\$4,120)	(\$3,174)	(\$2,358)	(\$1,650)	(\$1,040)	(\$513)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - SYRACUSE, NY

TABLE - 15: REQUIRED ETHANOL PRICE
OPTION NO.: 20

WITH ECONOMIC INCENTIVES

Stone & Webster Development Corporation

505 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$20/TON;
WITHOUT GASIFICATION: \$50/TON LIGNIN

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol \$1.85/gallon		\$35,241	\$36,851	\$38,117	\$39,642	\$41,227	\$42,876	\$44,591	\$46,375	\$48,230	\$50,159
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper \$0.00		0	0	0	0	0	0	0	0	0	0
- Waste Wood \$0.00		0	0	0	0	0	0	0	0	0	0
- Mixed Stock \$0.00		0	0	0	0	0	0	0	0	0	0
Total Revenue		\$35,241	\$36,851	\$38,117	\$39,642	\$41,227	\$42,876	\$44,591	\$46,375	\$48,230	\$50,159
LESS O&M EXPENSES											
Labor - Supervisory		\$2,810	\$2,923	\$3,040	\$3,161	\$3,288	\$3,419	\$3,556	\$3,698	\$3,848	\$4,000
Fixed Maintenance Materials		937	974	1,013	1,054	1,098	1,140	1,185	1,233	1,282	1,333
Insurance		1,228	1,278	1,329	1,382	1,438	1,495	1,555	1,617	1,682	1,749
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0	0
Chemicals		6,135	6,411	6,699	7,001	7,319	7,645	7,989	8,349	8,724	9,117
Power		2,890	3,005	3,126	3,251	3,381	3,516	3,658	3,803	3,955	4,113
Economic Incentives Reduction: -8%		2,344	2,650	2,758	2,866	2,980	3,100	3,224	3,353	3,487	3,625
Water		65	68	71	74	78	80	83	86	89	93
Waste Water		21	22	22	23	24	25	26	27	28	29
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		0	0	0	0	0	0	0	0	0	0
Economic Incentives Reduction: -8%		1,751	1,858	1,969	2,086	2,181	2,301	2,428	2,561	2,697	2,839
Feedstock		0	0	0	0	0	0	0	0	0	0
- Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock (\$20.00)		0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		4,385	4,562	4,744	4,934	5,131	5,336	5,550	5,772	6,003	6,243
		2,907	3,024	3,145	3,270	3,401	3,537	3,679	3,826	3,979	4,138
Total O&M Expenses		\$25,465	\$26,773	\$27,904	\$29,063	\$30,333	\$31,694	\$32,931	\$34,324	\$36,013	\$37,541
GROSS MARGIN		\$9,776	\$9,878	\$10,213	\$10,579	\$10,894	\$11,182	\$11,660	\$12,051	\$12,217	\$12,618
INTEREST		(\$,097)	(\$,588)	(\$,030)	(\$,415)	(\$,738)	(\$,895)	(\$,177)	(\$,277)	(\$,287)	(\$,188)
TAX DEPRECIATION		(\$13,820)	(\$22,071)	(\$13,784)	(\$1,782)	(\$,703)	(\$,942)	(\$,187)	(\$,125)	(\$,114)	(\$,114)
TAXABLE INCOME		\$11,660	\$10,762	\$10,604	\$10,630	\$10,527	\$10,344	\$10,206	\$10,449	\$10,618	\$10,306
TAXES: Income		4,886	4,681	4,331	3,993	3,441	3,498	3,572	3,125	3,601	4,210
Tax Credits		10,220	3,135	3,135	3,135	99	0	0	0	0	0
INCOME AFTER TAX		\$3,145	(\$3,596)	(\$3,139)	\$391	(\$1,988)	\$765	\$3,724	\$4,524	\$5,215	\$6,096
TAX DEPRECIATION		13,820	22,071	13,784	8,782	8,703	4,942	1,887	1,125	1,114	1,114
PLANT COST											
LOAN											
PRINCIPAL PAYMENTS											
NET CASH FLOW		(\$20,242)	\$11,885	\$7,916	\$4,501	\$2,411	(\$723)	(\$2,444)	(\$4,080)	(\$4,251)	(\$4,769)
CUMULATIVE CASH FLOW		(\$20,242)	(\$8,557)	(\$441)	\$3,850	\$6,272	\$5,549	\$3,104	(\$884)	(\$5,236)	(\$14,555)
CUMULATIVE IRR		NA	NA	11.00%	15.77%	14.62%	10.45%	NA	NA	NA	NA
DEBT COVERAGE RATIO		0.740	0.750	0.775	0.801	0.828	0.856	0.885	0.915	0.927	0.936
CUM NPV		20.0%	(\$10,505)	(\$5,007)	(\$2,402)	(\$1,240)	(\$1,530)	(\$2,348)	(\$3,490)	(\$4,478)	(\$5,302)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/DEVELOPER
SITE LOCATION - SYRACUSE, NY

TABLE 4 - 16: REQUIRED ETHANOL PRICE

OPTION NO.: 20

WITH ECONOMIC INCENTIVES

Stone & Webster Development Corporation

325 TPD (feed) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$20/TON;
WITHOUT GASIFICATION; \$50/TON LIGNIN

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol	\$1.95 / gallon	\$52,109	\$54,252	\$56,422	\$58,679	\$61,026	\$63,467	\$66,008	\$68,648	\$71,392
CO ₂		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$52,109	\$54,252	\$56,422	\$58,679	\$61,026	\$63,467	\$66,008	\$68,648	\$71,392
LESS O&M EXPENSES										
Labor - Supervisory		\$4,100	\$4,327	\$4,500	\$4,680	\$4,867	\$5,061	\$5,264	\$5,475	\$5,693
Fixed Maintenance Materials		1,387	1,442	1,500	1,550	1,622	1,687	1,755	1,825	1,974
Insurance		1,819	1,902	1,967	2,046	2,128	2,213	2,302	2,394	2,509
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		9,827	9,850	10,404	10,672	11,361	11,873	12,407	12,965	13,549
Chemicals		4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854
Power	Economic Incentives Reduction:	3,771	3,922	4,078	4,242	4,412	4,588	4,772	4,963	5,161
Water		97	101	105	109	113	118	122	127	132
Waste Water		31	32	33	34	36	37	39	40	42
Steam		0	0	0	0	0	0	0	0	0
Natural Gas	Economic Incentives Reduction:	3,269	3,449	3,639	3,839	4,050	4,273	4,508	4,755	5,017
Feedstock	- Waste Paper	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0
- Mixed Stock	(\$20.00)	8,483	8,752	9,022	9,303	9,588	9,879	10,175	10,475	10,779
Gross Receipts Tax (Income Tax Deductible)		4,304	4,470	4,655	4,841	5,035	5,236	5,440	5,648	5,860
Total O&M Expenses		\$39,134	\$40,787	\$42,550	\$44,338	\$46,223	\$48,190	\$50,241	\$52,380	\$54,611
GROSS MARGIN		\$13,031	\$13,465	\$13,872	\$14,341	\$14,803	\$15,278	\$15,767	\$16,268	\$16,781
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)
TAXABLE INCOME		\$11,917	\$12,351	\$12,758	\$13,227	\$13,689	\$14,163	\$14,651	\$15,154	\$15,665
TAXES: Income		(4,868)	(5,041)	(5,220)	(5,403)	(5,592)	(5,788)	(5,985)	(6,190)	(6,400)
Tax Credits	\$10,121 Investment \$80 Wages	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$7,049	\$7,310	\$7,538	\$7,824	\$8,097	\$8,375	\$8,666	\$8,964	\$9,265
TAX DEPRECIATION		1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$8,163	\$8,414	\$8,652	\$8,938	\$9,211	\$9,489	\$9,780	\$10,077	\$10,381
CUMULATIVE CASH FLOW		(\$8,402)	\$2,012	\$10,665	\$19,603	\$28,834	\$38,326	\$48,107	\$58,185	\$68,565
CUMULATIVE IRR		NA	3.48%	10.81%	13.90%	15.90%	17.26%	18.23%	18.95%	20.00%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$5,034)	(\$4,090)	(\$3,260)	(\$2,583)	(\$1,986)	(\$1,472)	(\$1,031)	(\$653)	(\$328)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER
SITE LOCATION -- SYRACUSE, N.Y.

TABLE 8-17:
OPTION NO.:

REQUIRED TIPPING FEE

25

WITH ECONOMIC INCENTIVES

Stone & Webster Development Corporation

500 TPD (Dry) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITH GASIFICATION;
ETHANOL @ \$1.20/GAL

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.O.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT											
REVENUE											
Ethanol		\$21,873	\$22,540	\$23,441	\$24,379	\$25,354	\$26,366	\$27,423	\$28,520	\$29,661	\$30,847
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		1,460	1,516	1,579	1,642	1,706	1,776	1,847	1,921	1,998	2,077
Tipping Fee - Waste Paper		\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood		\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock		\$5.76	1,262	1,313	1,365	1,420	1,477	1,536	1,597	1,661	1,728
Total Revenue		\$24,333	\$25,370	\$26,385	\$27,441	\$28,538	\$29,680	\$30,887	\$32,102	\$33,388	\$34,721
LESS O&M EXPENSES											
Labor - Supervisory		\$3,682	\$3,608	\$3,681	\$4,110	\$4,284	\$4,458	\$4,634	\$4,810	\$5,012	\$5,212
Fixed Maintenance Materials		1,277	1,329	1,382	1,437	1,494	1,554	1,616	1,681	1,746	1,818
Insurance		1,655	1,721	1,790	1,861	1,936	2,013	2,094	2,177	2,264	2,355
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		1,001	1,046	1,093	1,143	1,194	1,248	1,304	1,363	1,424	1,488
Chemicals		2,890	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power		0	0	0	0	0	0	0	0	0	0
Water		29	30	32	33	34	36	37	39	40	42
Waste Water		21	22	22	23	24	25	26	27	28	29
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper		\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood		\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock		\$0.00	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		2,013	2,093	2,177	2,264	2,354	2,448	2,547	2,648	2,754	2,865
Total O&M Expenses		\$12,548	\$13,055	\$13,582	\$14,131	\$14,702	\$15,296	\$15,914	\$16,557	\$17,228	\$17,922
GROSS MARGIN		\$11,847	\$12,315	\$12,803	\$13,310	\$13,837	\$14,384	\$14,953	\$15,545	\$16,160	\$16,799
INTEREST		(7,827)	(7,075)	(6,464)	(5,952)	(5,476)	(4,952)	(4,378)	(3,850)	(3,263)	(2,617)
TAX DEPRECIATION		(14,957)	(24,634)	(18,138)	(10,950)	(10,709)	(8,780)	(6,888)	(4,986)	(3,057)	(1,117)
TAXABLE INCOME		\$8,063	\$8,240	\$8,201	\$6,388	\$7,652	\$8,626	\$9,587	\$10,409	\$12,840	\$14,065
TAXES: Income		4,386	7,922	4,011	1,426	837	(1,283)	(3,428)	(4,084)	(4,730)	(5,359)
Tax Credits		\$13,620	\$129								
Investment		13,748	4,216	4,216	4,215	129	0	0	0	0	0
Wages											
INCOME AFTER TAX		\$7,397	\$7,256	\$8,190	\$4,962	\$6,815	\$9,909	\$13,015	\$14,493	\$17,570	\$18,714
TAX DEPRECIATION		14,957	24,634	18,138	10,950	10,709	8,780	6,888	4,986	3,057	1,117
PLANT COST		\$138,187									
LOAN		\$108,958									
PRINCIPAL PAYMENTS		(7,888)	(8,438)	(9,028)	(9,661)	(10,337)	(11,061)	(11,835)	(12,663)	(13,550)	(14,498)
NET CASH FLOW		(\$27,239)	\$14,488	\$8,940	\$5,516	\$3,438	(\$711)	(\$2,412)	(\$3,988)	(\$4,063)	(\$4,073)
CUMULATIVE CASH FLOW		(\$27,239)	(\$12,771)	(\$3,831)	\$1,685	\$5,123	\$4,412	\$2,000	(\$1,988)	(\$6,051)	(\$10,124)
CUMULATIVE IRR		NA	NA	3.54%	9.55%	8.54%	4.71%	NA	NA	NA	NA
DEBT COVERAGE RATIO		0.784	0.794	0.825	0.858	0.892	0.927	0.964	1.002	1.042	1.083
CUM NPV	20.0%	(\$27,239)	(\$15,182)	(\$6,974)	(\$5,782)	(\$4,124)	(\$2,216)	(\$1,330)	(\$7,272)	(\$8,060)	(\$8,718)

BIOMASS - TO - ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - SYRACUSE, N.Y.

TABLE 8-17: REQUIRED TIPPING FEE WITH ECONOMIC INCENTIVES
OPTION NO.: 25
500 TPD (Dry) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITH GASIFICATION;
ETHANOL @ \$1.20/GAL

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT										
REVENUE										
Ethanol	\$32,081	\$33,384	\$34,689	\$36,087	\$37,530	\$39,031	\$40,583	\$42,218	\$43,905	\$45,641
CO2	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	2,181	2,247	2,337	2,430	2,528	2,629	2,734	2,843	2,957	3,075
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$5.78	1,043	2,021	2,102	2,186	2,273	2,364	2,459	2,557	2,658
Total Revenue	\$36,110	\$37,665	\$39,057	\$40,619	\$42,244	\$43,933	\$45,691	\$47,518	\$49,419	\$51,366
LESS O&M EXPENSES										
Labor - Supervisory	\$5,421	\$5,036	\$5,803	\$6,058	\$6,342	\$6,595	\$6,859	\$7,133	\$7,419	\$7,716
Fixed Maintenance Materials	1,891	1,867	2,045	2,127	2,212	2,301	2,393	2,489	2,588	2,691
Insurance	2,449	2,547	2,649	2,755	2,866	2,980	3,099	3,223	3,352	3,486
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	1,555	1,825	1,898	1,774	1,854	1,938	2,025	2,116	2,211	2,311
Chemicals	4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854	6,088
Power	0	0	0	0	0	0	0	0	0	0
Water	43	45	47	49	51	53	55	57	59	62
Waste Water	31	32	33	34	36	37	39	40	42	44
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)	2,979	3,098	3,222	3,351	3,485	3,625	3,769	3,920	4,077	4,240
Total O&M Expenses	\$18,648	\$19,400	\$20,184	\$21,000	\$21,849	\$22,732	\$23,651	\$24,607	\$25,602	\$26,637
GROSS MARGIN	\$17,464	\$18,184	\$18,872	\$19,619	\$20,395	\$21,201	\$22,040	\$22,911	\$23,817	\$24,729
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(2,667)	(2,667)	(2,667)	(2,667)	(2,667)	(2,667)	(2,667)	(2,667)	(2,667)	(2,667)
TAXABLE INCOME	\$14,797	\$15,488	\$16,206	\$16,952	\$17,728	\$18,535	\$19,373	\$20,244	\$21,150	\$20,708
TAXES: Income	(5,048)	(5,327)	(5,620)	(5,925)	(6,242)	(6,571)	(6,914)	(7,270)	(7,640)	(8,025)
Tax Credits	\$13,820	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX	\$9,752	\$9,161	\$10,586	\$11,027	\$11,486	\$11,963	\$12,459	\$12,974	\$13,510	\$12,683
TAX DEPRECIATION	2,667	2,667	2,667	2,667	2,667	2,667	2,667	2,667	2,667	2,667
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$11,419	\$11,828	\$12,252	\$12,694	\$13,153	\$13,630	\$14,126	\$14,641	\$15,177	\$17,334
CUMULATIVE CASH FLOW	(\$2,755)	\$9,073	\$21,325	\$34,019	\$47,172	\$60,802	\$74,928	\$89,569	\$104,746	\$122,680
CUMULATIVE IRR	NA	7.84%	12.24%	14.73%	16.37%	17.53%	18.38%	19.04%	19.55%	20.00%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$7,181)	(\$5,854)	(\$4,709)	(\$3,720)	(\$2,867)	(\$2,129)	(\$1,493)	(\$943)	(\$0)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER
SITE LOCATION - SYRACUSE, N.Y.

TABLE 2-10:
OPTION NO.:

REQUIRED TIPPING FEE

WITH ECONOMIC INCENTIVES

Stone & Webster Development Corporation

500 TPD (Dry) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITHOUT GASIFICATION;
ETHANOL @ \$1.20/GAL; \$50/TON LIGNIN DISPOSAL COST

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT											
REVENUE											
Ethanol		\$21,673	\$22,540	\$23,441	\$24,379	\$25,354	\$26,365	\$27,423	\$28,520	\$29,661	\$30,847
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee- Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$34.37	7,538	7,839	8,153	8,479	8,818	9,171	9,538	9,918	10,316	10,728
Total Revenue		\$29,210	\$30,379	\$31,594	\$32,858	\$34,172	\$35,539	\$36,951	\$38,439	\$39,976	\$41,576
LESS O&M EXPENSES											
Labor - Supervisory		\$2,810	\$2,923	\$3,040	\$3,161	\$3,286	\$3,419	\$3,558	\$3,698	\$3,846	\$4,000
Fixed Maintenance Materials		937	974	1,013	1,054	1,096	1,140	1,185	1,233	1,282	1,333
Insurance		1,229	1,278	1,329	1,382	1,438	1,495	1,555	1,617	1,682	1,749
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		8,135	8,411	8,698	9,001	9,318	9,645	9,988	10,348	10,724	11,117
Chemicals		2,890	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power	Economic Incentive Reduction: -6%	2,344	2,438	2,535	2,637	2,742	2,852	2,966	3,084	3,207	3,335
Water		65	68	71	74	76	80	83	86	89	93
Waste Water		21	22	22	23	24	25	26	27	28	29
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas	Economic Incentive Reduction: -8%	1,781	1,858	1,940	2,028	2,121	2,219	2,321	2,428	2,539	2,654
Feedstock - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		2,419	2,508	2,607	2,711	2,819	2,932	3,049	3,171	3,298	3,430
Total O&M Expenses		\$20,801	\$21,482	\$22,402	\$23,360	\$24,361	\$25,405	\$26,494	\$27,630	\$28,829	\$30,090
GROSS MARGIN		\$8,809	\$8,897	\$9,192	\$9,497	\$9,811	\$10,134	\$10,457	\$10,809	\$11,147	\$11,486
INTEREST		(5,000)	(5,250)	(5,510)	(5,780)	(6,060)	(6,350)	(6,650)	(6,960)	(7,280)	(7,610)
TAX DEPRECIATION		(13,820)	(22,071)	(13,784)	(5,792)	(5,703)	(4,942)	(1,187)	(1,125)	(1,114)	(1,114)
TAXABLE INCOME		(\$10,011)	(\$18,432)	(\$9,102)	(\$3,634)	(\$2,738)	\$1,883	\$6,546	\$2,557	\$8,074	\$8,117
TAXES: Income		4,362	7,528	3,844	1,484	1,119	(769)	(2,074)	(3,091)	(3,298)	(3,724)
Tax Credits	\$10,121 (Investment) \$89 (Wages)	10,220	3,135	3,135	3,135	99	0	0	0	0	0
INCOME AFTER TAX		\$3,903	(\$7,767)	(\$2,431)	\$686	(\$1,521)	\$1,114	\$3,872	\$4,476	\$4,776	\$5,393
TAX DEPRECIATION		13,820	22,071	13,784	5,792	5,703	4,942	1,187	1,125	1,114	1,114
PLANT COST	(\$101,210)										
LOAN	\$80,865										
PRINCIPAL PAYMENTS		(\$1,660)	(\$1,270)	(\$1,008)	(\$1,178)	(\$1,682)	(\$1,219)	(\$1,795)	(\$1,410)	(\$1,069)	(\$1,774)
NET CASH FLOW		(\$20,242)	\$11,603	\$8,003	\$4,614	\$2,589	(\$600)	(\$2,183)	(\$3,736)	(\$3,510)	(\$4,179)
CUMULATIVE CASH FLOW		(\$20,242)	(\$8,579)	(\$545)	\$4,095	\$6,684	\$5,187	\$4,024	\$229	(\$3,521)	(\$7,700)
CUMULATIVE IRR		NA	NA	11.60%	16.60%	15.83%	12.62%	2.43%	NA	NA	NA
DEBT COVERAGE RATIO		0.747	0.772	0.797	0.824	0.851	0.879	0.908	0.938	0.964	0.993
CUM NPV	20.0%	(\$20,242)	(\$10,523)	(\$4,944)	(\$2,257)	\$1,009	(\$1,209)	(\$1,934)	(\$2,976)	(\$3,862)	(\$4,572)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY PROFORMA FINANCIAL STATEMENT THIRD PARTY CONTRACTOR/DEVELOPER SITE LOCATION - SYRACUSE, N.Y.		TABLE 6-15: REQUIRED TIPPING FEE OPTION NO.: 25 500 TPD (Dry) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITHOUT GASIFICATION; ETHANOL @ \$1.20/GAL; \$50/TON LIGNIN DISPOSAL COST		WITH ECONOMIC INCENTIVES		Stone & Webster Development Corporation						Page 2 of 2
End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		
Years from P.D.	15	16	17	18	19	20	21	22	23	24		
Operating Year	11	12	13	14	15	16	17	18	19	20		
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%		
ANNUAL FEEDSTOCK QUANTITY	100,255	100,255	100,255	100,255	100,255	100,255	100,255	100,255	100,255	100,255		
CASH FLOW STATEMENT (\$1000's)												
REVENUE												
Ethanol	\$32,081	\$33,384	\$34,689	\$36,007	\$37,530	\$39,031	\$40,593	\$42,219	\$43,906	\$45,661		
CO2	0	0	0	0	0	0	0	0	0	0		
Lignin	0	0	0	0	0	0	0	0	0	0		
Power	0	0	0	0	0	0	0	0	0	0		
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0		
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0		
- Mixed Stock	\$34.37	11,158	11,604	12,068	12,551	13,053	13,575	14,118	14,683	15,270		
Total Revenue	\$43,239	\$44,988	\$46,767	\$48,638	\$50,583	\$52,606	\$54,711	\$56,899	\$59,175	\$61,542		
LESS O&M EXPENSES												
Labor - Supervisory	\$4,160	\$4,327	\$4,500	\$4,680	\$4,867	\$5,061	\$5,264	\$5,476	\$5,693	\$5,921		
Fixed Maintenance Materials	1,367	1,442	1,500	1,560	1,622	1,687	1,755	1,825	1,896	1,974		
Insurance	1,819	1,892	1,967	2,046	2,128	2,213	2,302	2,394	2,489	2,589		
Property Taxes	0	0	0	0	0	0	0	0	0	0		
Variable Maintenance	0	0	0	0	0	0	0	0	0	0		
Waste Disposal - Pretreatment	0	0	0	0	0	0	0	0	0	0		
- Fermentation	0	0	0	0	0	0	0	0	0	0		
- Solids Separation (Ash or Lignin)	9,527	9,956	10,404	10,872	11,361	11,873	12,407	12,965	13,549	14,159		
Chemicals	4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854	6,088		
Power	3,771	3,822	4,079	4,242	4,412	4,588	4,772	4,963	5,161	5,368		
Water	67	101	105	108	113	118	122	127	132	138		
Waste Water	31	32	33	34	35	37	38	40	42	44		
Steam	0	0	0	0	0	0	0	0	0	0		
Natural Gas	3,289	3,449	3,639	3,839	4,050	4,273	4,508	4,755	5,017	5,293		
Feedstock	0	0	0	0	0	0	0	0	0	0		
- Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0		
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0		
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0		
Gross Receipts Tax (Income Tax Deductible)	3,587	3,740	3,856	4,013	4,173	4,340	4,514	4,694	4,882	5,077		
Total O&M Expenses	\$31,805	\$33,278	\$34,711	\$36,206	\$37,766	\$39,394	\$41,094	\$42,867	\$44,718	\$46,650		
GROSS MARGIN	\$11,333	\$11,690	\$12,056	\$12,432	\$12,817	\$13,212	\$13,617	\$14,032	\$14,457	\$14,892		
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)		
TAX DEPRECIATION	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)		
TAXABLE INCOME	\$10,219	\$10,575	\$10,941	\$11,317	\$11,702	\$12,098	\$12,503	\$12,918	\$13,343	\$13,780		
TAXES: Income	(4,174)	(4,320)	(4,470)	(4,623)	(4,780)	(4,942)	(5,107)	(5,277)	(5,451)	(5,630)		
Tax Credits	0	0	0	0	0	0	0	0	0	0		
INCOME AFTER TAX	\$6,044	\$6,255	\$6,472	\$6,694	\$6,922	\$7,156	\$7,395	\$7,641	\$7,892	\$8,150		
TAX DEPRECIATION	1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114		
PLANT COST												
LOAN												
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0		
NET CASH FLOW	\$7,158	\$7,370	\$7,586	\$7,808	\$8,036	\$8,270	\$8,510	\$8,755	\$9,007	\$9,265		
CUMULATIVE CASH FLOW	(\$4,508)	\$2,502	\$10,148	\$17,957	\$25,993	\$34,263	\$42,773	\$51,528	\$60,535	\$69,877		
CUMULATIVE IRR	NA	5.08%	11.38%	14.35%	16.89%	17.43%	18.33%	19.01%	19.52%	20.00%		
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
CUM NPV	20.0%	(\$4,398)	(\$3,571)	(\$2,852)	(\$2,254)	(\$1,732)	(\$1,295)	(\$901)	(\$573)	(\$291)		

**TABLE 8-19
ECONOMIC
INCENTIVES TABLE**

SALES TAX CREDITS		LABOR	FINANCING	CAPITAL COST	TAXES			COMMENTS
New York State Sales Tax Credit & Local Sales Tax & Energy Credit								
POWER	NAT. GAS							
-8.0% Reduction for: 8 years	-8.0% Reduction for: 8 years	0	7% Interest rate	0	\$128,750	Wage Tax Credit (Gas'n)	5 Yrs.	Based on \$2,600 and \$1,200/employee, assume ~20% of employees are targeted 10% of investment
					\$98,750	Wage Tax Credit (w/o Gas'n)	5 Yrs.	
					10% 30%	Investment Tax Credit of Investment Tax Credit	1 Yrs. 3 Yrs.	

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Note: The given modeling fee is calculated so that the project yields the Target Return on Equity. If actual performance is less than expected, the modeling fee becomes a track charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/DEVELOPER
SITE LOCATION - ALBANY, NY

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 2

585 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER, WITHOUT GASIFICATION;
WOOD @ \$20/TON; \$50/TON LIGNIN DISPOSAL COST

Stone & Webster Development Corporation

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	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
End of Year	4	5	6	7	8	9	10	11	12	13	14
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	190,255	180,255	190,255	190,255	190,255	190,255	190,255	190,255	190,255	190,255	190,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$ 1000's)											
REVENUE											
Ethanol	\$2.22 / gallon	\$40,079	\$41,882	\$43,349	\$45,083	\$46,887	\$48,782	\$50,713	\$52,741	\$54,851	\$57,045
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
- Mixed stock	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$40,079	\$41,882	\$43,349	\$45,083	\$46,887	\$48,782	\$50,713	\$52,741	\$54,851	\$57,045
LESS O&M EXPENSES											
Labor - Supervisory		\$2,810	\$2,923	\$3,040	\$3,161	\$3,286	\$3,419	\$3,556	\$3,698	\$3,846	\$4,000
Fixed Maintenance Materials		937	974	1,013	1,054	1,096	1,140	1,185	1,233	1,282	1,333
Insurance		1,241	1,291	1,342	1,398	1,452	1,510	1,570	1,633	1,698	1,766
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		8,135	8,411	8,699	9,001	9,316	9,645	9,989	10,349	10,724	11,117
Chemicals		2,890	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power		2,548	2,650	2,756	2,866	2,980	3,100	3,224	3,353	3,487	3,626
Water		158	164	171	178	185	192	200	208	216	225
Waste Water		104	108	113	117	122	127	132	137	142	146
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		1,814	2,019	2,130	2,247	2,371	2,501	2,639	2,784	2,937	3,099
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$20.00	4,368	4,562	4,744	4,934	5,131	5,336	5,550	5,772	6,003	6,243
Gross Receipts Tax (Income Tax Deductible)		3,307	3,439	3,576	3,719	3,868	4,023	4,184	4,351	4,525	4,706
Total O&M Expenses		\$26,429	\$27,548	\$28,719	\$29,924	\$31,169	\$32,508	\$33,885	\$35,320	\$36,816	\$38,377
GROSS MARGIN		\$13,650	\$14,334	\$14,630	\$15,159	\$15,697	\$16,253	\$16,827	\$17,421	\$18,034	\$18,668
INTEREST		(5,146)	(7,833)	(7,072)	(8,454)	(5,774)	(5,025)	(4,202)	(3,297)	(2,301)	(1,205)
TAX DEPRECIATION		(13,724)	(22,238)	(13,867)	(8,446)	(8,766)	(4,977)	(1,182)	(1,129)	(1,119)	(1,119)
TAXABLE INCOME		(\$5,220)	(\$15,738)	(\$6,320)	(\$140)	\$1,157	\$6,251	\$11,433	\$12,095	\$14,615	\$16,344
TAXES: Income		3,338	6,428	2,582	57	(473)	(2,534)	(4,870)	(5,308)	(5,970)	(6,676)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$1,882)	(\$9,310)	(\$3,738)	(\$83)	\$665	\$3,698	\$6,763	\$7,007	\$8,645	\$9,667
TAX DEPRECIATION		13,724	22,238	13,867	8,446	8,766	4,977	1,182	1,129	1,119	1,119
PLANT COST	(\$101,520)										
LOAN	\$8,145										
PRINCIPAL PAYMENTS		(\$1,111)	(\$5,022)	(\$1,184)	(\$5,003)	(\$7,463)	(\$8,231)	(\$9,054)	(\$9,860)	(\$10,656)	(\$12,051)
NET CASH FLOW		(\$20,364)	\$3,751	\$7,909	\$3,965	\$1,960	\$1,968	\$443	(\$1,100)	(\$1,144)	(\$1,182)
CUMULATIVE CASH FLOW		(\$20,364)	(\$16,613)	(\$8,705)	(\$4,740)	(\$2,780)	(\$1,412)	(\$869)	(\$2,069)	(\$3,213)	(\$4,405)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.030	1.068	1.104	1.144	1.184	1.226	1.269	1.314	1.360	1.408
CUM NPV	20.0%	(\$20,364)	(\$17,238)	(\$8,869)	(\$5,823)	(\$5,133)	(\$7,984)	(\$8,291)	(\$8,557)	(\$8,788)	(\$8,893)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - ALBANY, NY

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 2

\$65 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITHOUT GASIFICATION ;
WOOD @ \$20/TON; \$50/TON LIGNIN DISPOSAL COST

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$'000's)										
REVENUE										
Ethanol	\$2.22/gallon	\$59,327	\$61,700	\$64,166	\$66,734	\$69,404	\$72,180	\$75,057	\$78,070	\$81,193
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tippling Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed stock	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$59,327	\$61,700	\$64,166	\$66,734	\$69,404	\$72,180	\$75,057	\$78,070	\$81,193
LESS O&M EXPENSES										
Labor - Supervisory		\$4,160	\$4,327	\$4,500	\$4,680	\$4,867	\$5,061	\$5,264	\$5,475	\$5,693
Fixed Maintenance Materials		1,367	1,442	1,500	1,560	1,622	1,687	1,755	1,825	1,894
Insurance		1,897	1,910	1,987	2,066	2,149	2,235	2,324	2,417	2,514
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		9,327	9,956	10,404	10,872	11,361	11,873	12,407	12,965	13,548
Chemicals		4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,634	5,869
Power		3,771	3,922	4,079	4,242	4,412	4,588	4,772	4,963	5,161
Water		234	243	253	263	274	285	296	308	320
Waste Water		164	160	167	173	180	187	195	203	211
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		3,268	3,448	3,638	3,839	4,050	4,273	4,508	4,755	5,017
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0
- Mixed Stock		8,493	8,732	9,022	9,363	9,756	10,203	10,705	11,265	11,886
Gross Receipts Tax (Income Tax Deductible)		4,594	5,090	5,294	5,506	5,726	5,953	6,193	6,441	6,698
Total O&M Expenses		\$40,004	\$41,701	\$43,470	\$45,316	\$47,240	\$49,247	\$51,341	\$53,524	\$55,801
GROSS MARGIN		\$19,323	\$20,000	\$20,696	\$21,418	\$22,164	\$22,933	\$23,716	\$24,546	\$25,392
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(1,119)	(1,119)	(1,119)	(1,119)	(1,119)	(1,119)	(1,119)	(1,119)	(1,119)
TAXABLE INCOME		\$18,204	\$18,881	\$19,577	\$20,300	\$21,045	\$21,814	\$22,607	\$23,427	\$24,273
TAXES: Income		(7,438)	(7,712)	(7,996)	(8,292)	(8,597)	(8,911)	(9,238)	(9,570)	(9,915)
Production Tax Credit		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$10,766	\$11,169	\$11,581	\$12,008	\$12,448	\$12,903	\$13,372	\$13,857	\$14,358
TAX DEPRECIATION		1,119	1,119	1,119	1,119	1,119	1,119	1,119	1,119	1,119
PLANT COST		0	0	0	0	0	0	0	0	0
LOAN		0	0	0	0	0	0	0	0	0
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$11,885	\$12,288	\$12,700	\$13,127	\$13,567	\$14,022	\$14,491	\$14,976	\$15,478
CUMULATIVE CASH FLOW		\$6,216	\$18,503	\$31,203	\$44,329	\$57,896	\$71,917	\$86,406	\$101,384	\$116,860
CUMULATIVE IRR		5.69%	10.65%	13.74%	15.60%	16.81%	17.57%	18.00%	19.17%	19.61%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
OWN NPV	20.0%	(\$7,393)	(\$6,015)	(\$4,828)	(\$3,605)	(\$2,325)	(\$1,068)	(\$1,513)	(\$951)	(\$466)

CASE:		ECONOMIC:	
Option Number	3	Inflation Rate (PP)	4.0%
Plant Size (feedstock rate)	500	Excise Rate (Nonfed)	4.0%
Ethanol Production	45,000	Capital Cost	
Plant Size	1	O&M Costs:	
Additional byproducts ?	0	Labor	4.0%
OCG :	0	Maintenance Materials	4.0%
Lignin:	0	Insurance	4.0%
Power:	1	Waste Disposal - Pretreatment	4.8%
		- Fermentation	4.8%
		- Solids Separation	4.8%
		Chemicals	4.0%
		Utilities	
		Power	4.0%
		Water	4.0%
		Natural Gas	3.5%
		Steam	4.0%
		Waste Water	4.0%
		Feedstock:	4.0%
		Output:	
		Ethanol	4.0%
		CO2	4.0%
		Lignin	4.0%
		Tax Data:	
		Federal income tax rate	35.0%
		State income tax rate	6.0%
		Effective rate	40.0%
		Local tax rate (Gross Receipts Tax)	2.25%
		Property Tax Rate	0.0%
		Estimated Annual Expense	\$100
		Ethanol Production Tax Credit	\$0.60
		Last year credit applied	2000
		Power from Certain Plantnew Tax Credit	
		Economic Development Incentives	0
		Tax Depreciable	100%
		Buildings	31.5
		Development Costs	100% depl. bal.
		Plant:	Include in Blended Cost
		Biomass Conversion	5
		Balance of Plant	200% depl. bal.
		Book Depreciation	20
		20 years	
		FINANCIAL:	
		Cost Structure	
		Debt Fraction	60%
		Financing Term	10
		Interest Rate	10.0%
		Amortization of Loss	Level out
		Short Term Construction Interest	8.0%
		Target Return on Equity	20%
		Annual Quantities	
		0 wet tons / year	
		180,255 wet tons / year	
		180,255 wet tons / year	
		Output:	
		Ethanol	14,844,530 gallons Ethanol / year
		CO2	0 CF CO2 / year
		Lignin	0 tons Lignin / year
		Power	30,608,400 kWh / year
		Feedstock:	
		Waste Paper	0.0%
		Wood Waste	0.0%
		Mixed Stock	100.0%
		Unit Price:	
		\$2.22 / gal	
		\$0.00 / CF	
		\$0.00 / ton	
		\$0.00 / kWh	
		Required:	
		14,844,530 gallons Ethanol / year	
		0 CF CO2 / year	
		0 tons Lignin / year	
		30,608,400 kWh / year	
		Annual Operating Costs	
		100% Sensitivity Index	
		Labor	\$0.209 / gal Ethanol
		Fixed Maintenance Materials	\$1.089 / gal
		Insurance	\$1.370 / gal
		Total Fixed O&M Cost	\$2.668 / gal
		Variable:	
		Variable Maintenance	\$0.000 / gal Ethanol
		Waste Disposal - Pretreatment	\$0.000 / gal
		- Fermentation	\$0.000 / gal
		- Solids Separation	\$0.048 / gal
		Chemicals	\$0.100 / gal
		Utilities	
		Power	\$0.000 / gal
		Water	\$0.004 / gal
		Natural Gas	\$0.000 / gal
		Steam	\$0.000 / gal
		Waste Water	\$0.008 / gal
		Total Variable O&M Cost	\$0.218 / gal
		Total Fixed & Variable O&M	\$2.886 / gal
		Capital Cost of Facility	
		Land	\$7,500 / k
		Buildings	\$9,250 / k
		Development Costs	\$0 / k
		Plant:	
		Biomass Conversion	\$55,883 / k
		Balance of Plant	\$43,250 / k
		Total Present Day Capital Cost	\$119,633 / k
		Excise to Centroid of Expenditure	\$19,300 / k
		Interest During Construction	\$10,200 / k
		Total Capital Cost at C.O. Date	\$139,133 / k
		Annual Operating Costs	
		100% Sensitivity Index	
		Labor	\$0.209 / gal Ethanol
		Fixed Maintenance Materials	\$1.089 / gal
		Insurance	\$1.370 / gal
		Total Fixed O&M Cost	\$2.668 / gal
		Variable:	
		Variable Maintenance	\$0.000 / gal Ethanol</

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is treated as revenue. If negative, tipping fee becomes a deduction charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - ALBANY, NY

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 3

885 TPD (wet) at 100.0% MIXED STOCK (80% WASTE WOOD & 20% WASTE PAPER) WITH GASIFICATION;
WOOD @ \$40/TON

Stone & Webster Development Corporation

Page 1 of 2

End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.O.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol	\$2.22 /gal	\$40,103	\$41,707	\$43,375	\$45,110	\$46,914	\$48,791	\$50,743	\$52,772	\$54,883	\$57,076
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		1,460	1,518	1,579	1,642	1,708	1,776	1,847	1,921	1,998	2,077
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
- Mixed stock	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$41,562	\$43,225	\$44,954	\$46,752	\$48,622	\$50,567	\$52,589	\$54,693	\$56,881	\$59,154
LESS O&M EXPENSES											
Labor - Supervisory		\$3,682	\$3,609	\$3,661	\$4,119	\$4,284	\$4,458	\$4,634	\$4,819	\$5,012	\$5,212
Fixed Maintenance Materials		1,290	1,341	1,395	1,451	1,509	1,569	1,632	1,697	1,765	1,836
Insurance		1,657	1,733	1,803	1,875	1,950	2,028	2,109	2,193	2,281	2,372
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		898	939	981	1,025	1,071	1,119	1,170	1,222	1,277	1,335
Chemicals		2,890	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power		0	0	0	0	0	0	0	0	0	0
Water		71	74	77	80	83	86	90	93	97	101
Waste Water		104	108	113	117	122	127	132	137	142	148
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock		0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		3,429	3,565	3,709	3,857	4,011	4,172	4,339	4,512	4,693	4,880
Total O&M Expenses		\$22,782	\$23,688	\$24,651	\$25,642	\$26,673	\$27,745	\$28,860	\$30,020	\$31,227	\$32,483
GROSS MARGIN		\$18,780	\$19,536	\$20,303	\$21,110	\$21,949	\$22,822	\$23,729	\$24,673	\$25,655	\$26,671
INTEREST		(10,875)	(10,286)	(9,529)	(8,695)	(7,779)	(6,771)	(5,682)	(4,442)	(3,100)	(1,624)
TAX DEPRECIATION		(15,090)	(24,851)	(16,277)	(11,041)	(10,799)	(8,844)	(2,906)	(2,714)	(2,683)	(2,683)
TAXABLE INCOME		\$7,265	\$15,611	\$5,503	\$1,374	\$3,372	\$9,207	\$15,162	\$17,517	\$19,871	\$22,367
TAXES: Income		2,976	6,377	2,248	(581)	(1,377)	(3,781)	(5,194)	(7,156)	(8,117)	(8,137)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$4,309)	\$9,234	\$3,255	\$813	\$1,994	\$5,426	\$9,968	\$10,361	\$11,754	\$14,230
TAX DEPRECIATION		15,090	24,851	16,277	11,041	10,799	8,844	2,906	2,714	2,683	2,683
PLANT COST		\$137,183									
LOAN		\$109,748									
PRINCIPAL PAYMENTS		(5,896)	(7,575)	(8,332)	(8,185)	(10,092)	(11,090)	(12,188)	(13,419)	(14,781)	(16,237)
NET CASH FLOW		\$27,437	\$3,863	\$3,043	\$4,680	\$2,688	\$2,711	\$1,200	(\$325)	(\$344)	(\$324)
CUMULATIVE CASH FLOW		\$27,437	(\$23,542)	(\$15,499)	(\$10,809)	(\$8,121)	(\$5,409)	(\$4,209)	(\$4,535)	(\$4,879)	(\$5,227)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.051	1.093	1.137	1.182	1.229	1.276	1.329	1.381	1.438	1.493
CUM NPV	20.0%	(\$27,437)	(\$24,181)	(\$18,605)	(\$15,881)	(\$14,595)	(\$13,505)	(\$13,103)	(\$13,184)	(\$13,274)	(\$13,369)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/DEVELOPER
SITE LOCATION - ALBANY, NY

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 3

\$65 TPD (wet) of 100.0% MODED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITH GASIFICATION;
WOOD @ \$40/TON

Stape & Webster Development Corporation

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	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
End of Year	15	16	17	18	19	20	21	22	23	24
Years from P.D.	11	12	13	14	15	16	17	18	19	20
Operating Year										
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol	\$2.22 / gallon	\$50,382	\$61,738	\$64,208	\$68,774	\$69,445	\$72,223	\$75,111	\$78,116	\$81,241
CO ₂		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		2,161	2,247	2,337	2,430	2,526	2,629	2,734	2,843	2,957
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$81,522	\$68,983	\$66,542	\$69,204	\$71,972	\$74,851	\$77,845	\$80,959	\$84,197
LESS O&M EXPENSES										
Labor - Supervisory		\$5,421	\$5,638	\$5,853	\$6,068	\$6,342	\$6,595	\$6,850	\$7,133	\$7,416
Fixed Maintenance Materials		1,909	1,965	2,065	2,147	2,233	2,323	2,415	2,512	2,617
Insurance		2,467	2,568	2,669	2,775	2,886	3,002	3,122	3,247	3,377
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		1,385	1,458	1,529	1,592	1,663	1,736	1,816	1,894	2,073
Chemicals		4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854
Power		0	0	0	0	0	0	0	0	0
Water		105	109	113	118	122	127	132	138	143
Waste Water		154	160	167	173	180	187	195	203	211
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0
- Mixed Stock	\$40.00	12,985	13,505	14,045	14,607	15,191	15,798	16,430	17,088	17,771
Gross Receipts Tax (Income Tax Deductible)		5,078	5,279	5,480	5,708	5,939	6,175	6,422	6,679	6,948
Total O&M Expenses		\$33,789	\$38,147	\$38,561	\$39,031	\$39,860	\$41,151	\$42,905	\$44,527	\$46,317
GROSS MARGIN		\$27,733	\$28,836	\$29,882	\$31,174	\$32,112	\$33,701	\$35,040	\$36,433	\$37,880
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(2,683)	(2,683)	(2,683)	(2,683)	(2,683)	(2,683)	(2,683)	(2,683)	(2,683)
TAXABLE INCOME		\$25,051	\$26,153	\$27,299	\$28,491	\$29,730	\$31,018	\$32,357	\$33,750	\$35,198
TAXES: Income		(10,233)	(10,683)	(11,152)	(11,638)	(12,145)	(12,671)	(13,218)	(13,787)	(14,378)
Production Tax Credit		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$14,817	\$15,469	\$16,147	\$16,852	\$17,585	\$18,347	\$19,139	\$19,963	\$20,820
TAX DEPRECIATION		2,683	2,683	2,683	2,683	2,683	2,683	2,683	2,683	2,683
PLANT COST		0	0	0	0	0	0	0	0	0
LOAN		0	0	0	0	0	0	0	0	0
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$17,500	\$18,152	\$18,830	\$19,535	\$20,268	\$21,030	\$21,822	\$22,646	\$23,502
CUMULATIVE CASH FLOW		\$17,500	\$35,652	\$54,482	\$73,997	\$94,265	\$115,295	\$137,117	\$159,763	\$183,265
CUMULATIVE IRR		8.55%	11.17%	13.88%	16.65%	19.48%	22.37%	25.31%	28.30%	31.34%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	\$11,034	\$8,998	\$7,238	\$5,717	\$4,401	\$3,284	\$2,280	\$1,430	\$894

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - ALBANY, NY

TABLE 3: REQUIRED ETHANOL PRICE
OPTION NO.: 4

Stone & Webster Development Corporation

595 TPD (wet) of 100.0% MIXED STOCK 50% WASTE WOOD & 50% WASTE PAPER, WITHOUT GASIFICATION;
WOOD @ \$40/TON; \$50/TON LIGNIN DISPOSAL COST

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	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
End of Year	4	5	6	7	8	9	10	11	12	13	14
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol		\$2.48 / gallon									
CO ₂											
Lignin											
Power											
Tipping Fee - Waste Pn per											
- Waste Wood											
- Mixed stock											
Total Revenue		\$44,980	\$48,854	\$48,520	\$50,481	\$52,478	\$54,578	\$56,782	\$59,032	\$61,383	\$63,649
LESS O&M EXPENSES											
Labor - Supervisory		\$2,810	\$2,823	\$3,040	\$3,181	\$3,288	\$3,419	\$3,556	\$3,698	\$3,848	\$4,000
Fixed Maintenance Materials		937	974	1,013	1,054	1,096	1,140	1,185	1,230	1,282	1,333
Insurance		1,241	1,294	1,342	1,390	1,432	1,510	1,570	1,633	1,698	1,766
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		6,135	6,411	6,899	7,001	7,318	7,645	7,989	8,349	8,724	9,117
Chemicals		2,890	3,005	3,128	3,251	3,381	3,518	3,656	3,803	3,958	4,113
Power		2,548	2,630	2,756	2,888	2,980	3,100	3,224	3,353	3,487	3,626
Water		188	194	171	178	185	192	200	208	216	225
Waste Water		104	106	113	117	122	127	132	137	142	146
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		1,914	2,018	2,130	2,247	2,371	2,501	2,639	2,784	2,937	3,099
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock		0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		9,772	9,123	9,488	9,888	10,262	10,673	11,100	11,544	12,008	12,496
Total O&M Expenses		\$31,210	\$32,518	\$33,861	\$35,301	\$36,782	\$38,325	\$39,934	\$41,611	\$43,358	\$45,181
GROSS MARGIN		\$13,770	\$16,336	\$14,659	\$15,180	\$15,696	\$16,253	\$16,848	\$17,421	\$18,025	\$18,468
INTEREST		(8,146)	(7,635)	(7,072)	(6,454)	(5,774)	(5,025)	(4,202)	(3,297)	(2,301)	(1,205)
TAX DEPRECIATION		(13,724)	(22,216)	(13,887)	(8,848)	(8,766)	(4,977)	(1,192)	(1,129)	(1,119)	(1,119)
TAXABLE INCOME		\$8,220	\$15,736	\$8,320	\$140	\$1,157	\$6,251	\$11,433	\$12,995	\$14,615	\$16,344
TAXES: Income		3,358	6,428	2,582	57	(473)	(2,554)	(4,870)	(5,306)	(5,970)	(6,678)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$4,862	\$9,308	\$5,738	\$83	\$685	\$3,696	\$6,563	\$7,689	\$8,645	\$9,667
TAX DEPRECIATION		13,724	22,216	13,887	8,848	8,766	4,977	1,192	1,129	1,119	1,119
PLANT COST		(\$10,1820)									
LOAN		\$81,458									
PRINCIPAL PAYMENTS		(5,111)	(5,622)	(6,184)	(6,800)	(7,483)	(8,231)	(9,054)	(9,960)	(10,958)	(12,051)
NET CASH FLOW		\$20,384	\$3,761	\$7,308	\$3,965	\$1,980	\$1,968	\$443	(\$1,100)	(\$1,144)	(\$1,102)
CUMULATIVE CASH FLOW		\$20,384	(\$15,013)	(\$9,305)	(\$5,340)	(\$3,360)	(\$1,412)	(\$689)	(\$2,088)	(\$3,213)	(\$4,405)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.030	1.008	1.104	1.144	1.184	1.228	1.289	1.314	1.380	1.409
CUM NPV	20.0%	\$20,384	(\$17,238)	(\$12,463)	(\$9,009)	(\$6,923)	(\$6,133)	(\$7,884)	(\$8,291)	(\$8,537)	(\$8,993)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - ALBANY, NY

TABLE 3: REQUIRED ETHANOL PRICE
OPTION NO.: 4

Stone & Webster Development Corporation

885 TPD (max) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITHOUT GASIFICATION ; Page 2 of 2
WOOD @ \$40/TON; \$50/TON LIGNIN DISPOSAL COST

End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$'000's)										
REVENUE										
Ethanol	\$2.48 /gallon	\$66,403	\$66,059	\$71,822	\$74,694	\$77,882	\$80,789	\$84,021	\$87,382	\$90,877
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tipping Fee- Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed stock	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$66,403	\$66,059	\$71,822	\$74,694	\$77,882	\$80,789	\$84,021	\$87,382	\$90,877
LESS O&M EXPENSES										
Labor - Supervisory		\$4,160	\$4,327	\$4,500	\$4,653	\$4,887	\$5,061	\$5,204	\$5,475	\$5,821
Fixed Maintenance Materials		1,387	1,442	1,500	1,580	1,622	1,687	1,755	1,825	1,974
Insurance		1,837	1,910	1,967	2,066	2,149	2,235	2,324	2,417	2,615
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		8,527	8,958	10,404	10,872	11,361	11,873	12,407	12,985	13,549
Chemicals		4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854
Power		3,771	3,922	4,079	4,242	4,412	4,588	4,772	4,963	5,161
Water		234	243	253	263	274	285	296	308	320
Waste Water		154	160	167	173	180	187	195	203	210
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		3,268	3,449	3,638	3,838	4,050	4,273	4,508	4,755	5,017
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0
- Mixed Stock	\$40.00	12,868	13,305	14,045	14,607	15,191	15,798	16,430	17,086	17,771
Gross Receipts Tax (Income Tax Deductible)		5,478	5,697	5,925	6,162	6,409	6,665	6,932	7,209	7,497
Total O&M Expenses		\$47,080	\$48,060	\$51,124	\$53,278	\$55,519	\$57,857	\$60,285	\$62,836	\$65,498
GROSS MARGIN		\$19,323	\$17,999	\$20,697	\$21,416	\$22,363	\$22,932	\$23,736	\$24,546	\$25,379
INTEREST		0	0	0	0	0	0	0	0	0
TAX DEPRECIATION		(1,119)	(1,119)	(1,119)	(1,119)	(1,119)	(1,119)	(1,119)	(1,119)	(1,119)
TAXABLE INCOME		\$18,204	\$16,880	\$19,578	\$20,300	\$21,244	\$21,813	\$22,617	\$23,427	\$24,260
TAXES: Income		(7,438)	(7,712)	(7,998)	(8,292)	(8,597)	(8,911)	(9,235)	(9,570)	(9,915)
Production Tax Credit		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$10,767	\$9,168	\$11,580	\$12,007	\$12,647	\$12,903	\$13,382	\$13,857	\$14,345
TAX DEPRECIATION		1,119	1,119	1,119	1,119	1,119	1,119	1,119	1,119	1,119
PLANT COST		0	0	0	0	0	0	0	0	0
LOAN		0	0	0	0	0	0	0	0	0
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$11,886	\$10,287	\$12,689	\$13,126	\$13,766	\$14,022	\$14,491	\$14,976	\$15,464
CUMULATIVE CASH FLOW		\$8,216	\$18,503	\$31,193	\$44,319	\$57,886	\$71,907	\$86,398	\$101,374	\$116,838
CUMULATIVE IRR		5.88%	10.00%	13.74%	16.60%	18.91%	19.97%	18.60%	19.17%	20.00%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$7,393)	(\$8,015)	(\$4,828)	(\$3,005)	(\$2,925)	(\$2,186)	(\$1,519)	(\$851)	30

TABLE 2: CASE INPUT

00/00/00
 11:08 AM

CASE: 505 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITHOUT GASIFICATION;
 WOOD @ \$20/TON; NO LIGNIN DISPOSAL COST

INPUT:			
CASE:		ECONOMIC:	
Option Number	3	Inflation Rate (PPI)	4.0%
Plant Size (see data sheet)	505 TPD wet-as-tipped GPD	Escalation Rate (Nominal)	4.0%
Ethanol Production	49,000	Capital Cost	4.0%
Plant Size	1	OGM Costs:	
Additional byproducts?	CO2: 0	Labor	4.0%
	Lignin: 1	Maintenance Materials	4.0%
	Power: 0	Insurance	4.0%
		Waste Disposal - Pretreatment	4.5%
		- Fermentation	4.0%
		- Solids Separation	4.5%
		Chemicals	4.0%
		Utilities:	
		Power	4.0%
		Water	4.0%
		Natural Gas	5.0%
		Steam	4.0%
		Waste Water	4.0%
		Feedstock:	4.0%
		Output:	
		Ethanol	4.0%
		CO2	4.0%
		Lignin	4.0%
		Tax Cts:	
		Federal income tax rate	35.0%
		State income tax rate	8.0%
		Effective rate	40.9%
		Local tax rate (Gross Receipts Tax)	0.85%
		Property Tax Rate	0.0% \$/100
		Estimated Annual Expense	80 k/yr
		Ethanol Production Tax Credit	60.00 k/yr for max. 10,000,000 gal/yr
		Last year credit applies	2000
		Power from Certain Planes, Tax Credit	0 k/yr
		Economic Development Incentives	0 (based on Table 2, Incentives Table)
		Tax Depreciation	10% Rate
		Buildings	3.5% 100% dect. bal.
		Development Costs	0% Include in Business Conv.
		Plant:	
		Biomass Conversion	6 100% dect. bal.
		Balance of Plant	20 100% dect. bal.
		Book Depreciation	20 years
		FINANCIAL:	
		Debt Structure:	
		Debt Fraction	60%
		Financing Term	10 (Note: Must be <= Economic Life)
		Interest Rate	10.0%
		Amortization of Loan	Level pay
		Short Term Construction Interest	5.0%
		Target Return on Equity	25%
SCHEDULE: (Beginning of Year)			
Present Day	1994		
Start Construction	1994		
Control of Capital Expenditure	1997		
First Year of Operation	1998		
Economic Life	20 years		
Annual Operating Schedule	300 days/yr		
	50.0% Mature Capacity Factor		
	50.0% First Year Capacity Factor		
TECHNICAL:			
Capital Cost of Facility	100% Sensitivity Index		
Land	\$7,500 k		
Buildings	\$6,250 k		
Development Costs	60 k		
Plant:			
Biomass Conversion	\$53,683 k		
Balance of Plant	\$14,297 k		
Total Present Day Capital Cost	\$84,720 k		
Escalation to Control of Expenditure	\$9,800 k (Note: had notes outside of)		
Interest Outlay Construction	\$7,500 k		
Total Capital Cost @ C.O. Date	\$101,820 k or \$171,120 per TPD		
Annual Operating Costs	100% Sensitivity Index		
Fixed:			
Labor	100% Sensitivity Index	60,196 gal Ethanol	\$2,370 k/yr
Fixed Maintenance Materials	60,052 *		\$770 k/yr
Insurance	1.0% of Capital Cost	60,068 *	\$1,020 k/yr
Total Fixed O&M Cost	60,276 gal Ethanol		\$4,160 k/yr
Variable:			
Variable Maintenance	60,000 gal Ethanol		80 k/yr
Waste Disposal - Pretreatment	60,000 *		80 *
- Fermentation	60,000 *		80 *
- Solids Separation	60,000 *		80 *
Chemicals	60,180 *		\$2,375 *
Utilities:			
Power	60,141 *		\$2,084 *
Water	60,008 *		\$130 *
Natural Gas	60,088 *		\$1,484 *
Steam	60,000 *		80 *
Waste Water	60,000 *		80 *
Total Variable O&M Cost	60,414 gal Ethanol		\$8,128 k/yr
Total Fixed & Variable O&M	60,690 gal Ethanol		\$10,248 k/yr
Feedstock:			
Blend			
Waste Paper	0.0%	0.0 lb/gal Ethanol	
Wood Waste	0.0%	0.0 *	
Mixed Stock	100.0%	0.0 lb/gal Average	
Tipping Fee (\$/ton)			
Maximum Tipping Fee			
Annual Quantities			
Output: (per ton of feedstock)			
Ethanol	62.33 gal/wet ton	Unit Price	\$1.84 /gal Required 14,844,850 gallons Ethanol / year
CO2	0.00 CF/wet ton		0 CF CO2 / year
Lignin	0.55 tons/wet ton		68,458 tons lignin / year
Power	0.00 kwh/wet ton		0 kwh / year

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is treated as revenue. If negative, tipping fee becomes feedstock charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - ALBANY, NY

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 5

595 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER, WITHOUT GASIFICATION)
WOOD @ \$20/TON, NO LIGNIN DISPOSAL COST

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol		\$33,210	\$34,548	\$35,930	\$37,367	\$38,861	\$40,410	\$42,032	\$43,714	\$45,462	\$47,281
CO ₂		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
- Mixed stock	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$33,210	\$34,548	\$35,930	\$37,367	\$38,861	\$40,410	\$42,032	\$43,714	\$45,462	\$47,281
LESS O&M EXPENSES											
Labor - Supervisory		\$2,810	\$2,823	\$3,040	\$3,181	\$3,285	\$3,419	\$3,558	\$3,698	\$3,848	\$4,000
Fixed Maintenance Materials		837	874	1,013	1,054	1,089	1,140	1,185	1,233	1,282	1,333
Insurance		1,241	1,291	1,342	1,396	1,452	1,510	1,570	1,633	1,698	1,766
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0	0
Chemicals		2,890	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power		2,548	2,650	2,756	2,866	2,980	3,100	3,224	3,353	3,487	3,626
Water		158	164	171	178	185	192	200	208	216	225
Waste Water		104	108	113	117	122	127	132	137	142	148
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		1,914	2,019	2,130	2,247	2,371	2,501	2,639	2,784	2,937	3,099
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$20.00	4,385	4,562	4,744	4,934	5,131	5,336	5,550	5,772	6,003	6,243
Gross Receipts Tax (Income Tax Deductible)		2,741	2,850	2,964	3,083	3,206	3,334	3,468	3,606	3,751	3,901
Total O&M Expenses		\$19,729	\$20,548	\$21,399	\$22,286	\$23,211	\$24,175	\$25,180	\$26,227	\$27,316	\$28,454
GROSS MARGIN		\$13,481	\$14,001	\$14,531	\$15,081	\$15,650	\$16,240	\$16,853	\$17,487	\$18,145	\$18,827
INTEREST		(\$146)	(\$635)	(\$702)	(\$454)	(\$774)	(\$525)	(\$202)	(\$297)	(\$301)	(\$205)
TAX DEPRECIATION		(\$3,724)	(\$2,238)	(\$3,687)	(\$5,448)	(\$7,668)	(\$8,877)	(\$1,192)	(\$1,129)	(\$1,119)	(\$1,119)
TAXABLE INCOME		(\$8,379)	(\$15,071)	(\$4,428)	(\$219)	\$1,110	\$6,239	\$11,458	\$13,061	\$14,725	\$16,502
TAXES: Income		3,423	6,463	2,626	90	(453)	(2,546)	(4,661)	(5,335)	(6,015)	(6,741)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$4,956)	(\$8,608)	(\$3,802)	(\$130)	\$657	\$3,693	\$6,797	\$7,726	\$8,710	\$9,761
TAX DEPRECIATION		13,724	22,238	13,687	6,846	6,766	4,877	1,192	1,129	1,119	1,119
PLANT COST	(\$101,820)										
LOAN	\$61,456										
PRINCIPAL PAYMENTS		(\$1,111)	(\$5,622)	(\$1,184)	(\$5,803)	(\$7,483)	(\$8,231)	(\$8,054)	(\$8,960)	(\$10,956)	(\$12,051)
NET CASH FLOW	(\$20,364)	\$3,857	\$7,228	\$3,900	\$1,914	\$1,940	\$435	(\$1,085)	(\$1,105)	(\$1,127)	(\$1,171)
CUMULATIVE CASH FLOW	(\$20,364)	(\$16,507)	(\$9,279)	(\$5,379)	(\$3,465)	(\$1,525)	(\$1,090)	(\$2,374)	(\$3,479)	(\$4,606)	(\$5,777)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.018	1.059	1.096	1.136	1.181	1.225	1.271	1.319	1.369	1.420
CUM NPV	20.6%	(\$20,364)	(\$17,317)	(\$12,297)	(\$10,040)	(\$8,117)	(\$6,337)	(\$4,191)	(\$2,751)	(\$1,970)	(\$9,159)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/DEVELOPER
SITE LOCATION - ALBANY, NY

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 5

505 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITHOUT GASIFICATION ;
WOOD @ \$20/TON; NO LIGNIN DISPOSAL COST

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol	\$1.84 /gallon	\$48,172	\$51,139	\$53,184	\$55,312	\$57,524	\$59,825	\$62,218	\$64,707	\$67,295
CO ₂		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed stock	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$48,172	\$51,139	\$53,184	\$55,312	\$57,524	\$59,825	\$62,218	\$64,707	\$67,295
LESS O&M EXPENSES										
Labor - Supervisory		\$4,980	\$4,327	\$4,500	\$4,680	\$4,867	\$5,061	\$5,264	\$5,475	\$5,693
Fixed Maintenance Materials		1,387	1,442	1,500	1,560	1,622	1,687	1,755	1,825	1,899
Insurance		1,837	1,810	1,887	2,080	2,149	2,235	2,324	2,417	2,514
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0
Chemicals		4,277	4,448	4,627	4,812	5,004	5,204	5,412	5,629	5,854
Power		3,771	3,822	4,079	4,242	4,412	4,588	4,772	4,963	5,161
Water		234	243	253	263	274	285	296	308	320
Waste Water		154	160	167	173	180	187	195	203	211
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		3,269	3,449	3,639	3,839	4,050	4,273	4,509	4,756	5,017
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0
- Mixed Stock		0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		4,493	4,752	5,022	5,303	5,595	5,898	6,215	6,544	6,886
Total O&M Expenses		\$29,839	\$30,674	\$32,160	\$33,501	\$34,899	\$36,350	\$37,874	\$39,456	\$41,100
GROSS MARGIN		\$18,333	\$20,465	\$21,024	\$21,811	\$22,625	\$23,475	\$24,344	\$25,251	\$26,195
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(1,119)	(1,139)	(1,119)	(1,119)	(1,119)	(1,119)	(1,119)	(1,119)	(1,119)
TAXABLE INCOME		\$18,414	\$19,146	\$19,905	\$20,692	\$21,507	\$22,356	\$23,225	\$24,132	\$25,076
TAXES: Income		(7,622)	(7,821)	(8,131)	(8,453)	(8,785)	(9,130)	(9,489)	(9,859)	(10,241)
Production Tax Credit		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$10,792	\$11,325	\$11,774	\$12,239	\$12,721	\$13,226	\$13,736	\$14,273	\$14,835
TAX DEPRECIATION		1,119	1,139	1,119	1,119	1,119	1,119	1,119	1,119	1,119
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$12,011	\$12,444	\$12,893	\$13,358	\$13,840	\$14,339	\$14,857	\$15,390	\$15,940
CUMULATIVE CASH FLOW		\$6,234	\$18,678	\$31,571	\$44,929	\$58,769	\$73,108	\$87,965	\$103,358	\$119,306
CUMULATIVE IRR		5.59%	10.80%	13.67%	15.55%	16.87%	17.85%	18.58%	19.15%	20.00%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$7,542)	(\$8,147)	(\$4,942)	(\$3,901)	(\$3,003)	(\$2,227)	(\$1,558)	(\$979)	\$0

TABLE 2: CASE INPUT

03/28/05
 11:07 AM

CASE: 546 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITHOUT GASIFICATION;
 WOOD @ \$40/TON; NO UGNN DISPOSAL COST

INPUT:		ECONOMIC:	
CASE: Option Number: 6 Plant Size (bedstock size): 546 TPD wet, as-shipped Ethanol Production: 40,000 GPD Plant Site: 1 Additional byproducts: 0 CO ₂ : 0 Lignin: 1 Power: 0		ECONOMIC: Inflation Rate (PPV): 4.0% Escalation Rates (Nominal): Capital Cost: 4.0% O&M Costs: Labor: 4.0% Maintenance Materials: 4.0% Insurance: 4.0% Waste Disposal - Pretreatment: - Fermentation: 4.0% - Solids Separation: 4.0% Chemicals: 4.0% Utilities: Power: 4.0% Water: 4.0% Natural Gas: 5.0% Steam: 4.0% Waste Water: 4.0% Feedstock Output: Ethanol: 4.0% CO ₂ : 4.0% Lignin: 4.0%	
SCHEDULE: (Beginning of Year) Present Day: 1994 Start Construction: 1996 Control of Capital Expenditure: 1997 First Year of Operation: 1998 Economic Life: 20 years Annual Operating Schedule: 305 days/yr Mature Capacity Factor: 83.0% First Year Capacity Factor: 83.0% (Don't change this)		Tax Data: Federal Income Tax rate: 35.0% State Income Tax rate: 4.0% Effective rate: 40.0% Local Tax rate (Gross Receipts Tax): 8.25% Property Tax Rate: 0.0% Estimated Annual Expense: \$0 Ethanol Production Tax Credit: \$0.00 / gal for max. \$5,000,000 / yr Last year credit applies: 2000 Power Plant Credit Review Tax Credit: 0 Economic Development Incentives: 0 (based on Table 2, Incentives Table) Tax Depreciation: Buildings: 31.5 100% dec. bal. Development Costs: 0 Include in Biomass Conv. Plant: Biomass Conversion: 6 200% dec. bal. Balance of Plant: 20 100% dec. bal. Book Depreciation: 20 years	
TECHNICAL: Capital Cost of Facility: 100% Sensitivity Index Land: \$7,500 k Buildings: \$8,250 k Development Costs: \$0 k Plant: Biomass Conversion: \$53,883 k Balance of Plant: \$14,267 k Total Present Day Capital Cost: \$76,050 k Escalation to Control of Expenditure: \$8,800 k (Note: land not included) Interest During Construction: \$7,500 k Total Capital Cost at C.O. Date: \$92,350 k or \$171,129 per TPD Annual Operating Costs: 100% Sensitivity Index Fixed: Labor: \$0.126 / gal Ethanol \$2,310 / yr Fixed Maintenance Materials: \$0.052 / gal Ethanol \$970 / yr Insurance: \$0.008 / gal Ethanol \$1,020 / yr Total Fixed O&M Cost: \$0.186 / gal Ethanol \$4,300 / yr Variable: Variable Maintenance: \$0.000 / gal Ethanol \$0 / yr Waste Disposal - Pretreatment: - Fermentation: \$0.000 / gal Ethanol \$0 / yr - Solids Separation: \$0.000 / gal Ethanol \$0 / yr Chemicals: \$0.000 / gal Ethanol \$0 / yr Utilities: Power: \$0.141 / gal Ethanol \$2,684 / yr Water: \$0.008 / gal Ethanol \$150 / yr Natural Gas: \$0.009 / gal Ethanol \$1,445 / yr Steam: \$0.000 / gal Ethanol \$0 / yr Waste Water: \$0.008 / gal Ethanol \$99 / yr Total Variable O&M Cost: \$0.149 / gal Ethanol \$2,938 / yr Total Fixed & Variable O&M: \$0.335 / gal Ethanol \$7,238 / yr		FINANCIAL: Debt Structure: Debt Fraction: 80% Financing Term: 10 (Note: Must be <= Economic Life) Interest Rate: 10.0% Amortization of Loan: Level pm Short Term Construction Interest: 6.0% Target Return on Equity: 20%	
Feedstock: Waste Paper: 0.0% 0.0 lb/gal Ethanol Wood Waste: 0.0% 0.0 lb/gal Ethanol Mixed Stock: 100.0% 0.0 lb/gal Average		Annual Quantities 0 wet tons / year 0 wet tons / year 180,853 wet tons / year 180,853 wet tons / year	
Output: (per ton of feedstock) Ethanol: 62.33 gal/wet ton CO ₂ : 0.00 CF/wet ton Lignin: 0.35 tons/wet ton Power: 0.00 kwh/wet ton		Use Price \$2.10 / gal Required: 14,844,850 gallons Ethanol / year \$0.00 / CF CF CO ₂ / year \$0.00 / ton tons Lignin / year \$0.03 / kwh kwh / year	

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is treated as revenue. If negative, tipping fee becomes feedstock charge and loss expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER
SITE LOCATION - ALBANY, NY

TABLE 3: REQUIRED ETHANOL PRICE
OPTION NO.: 6

Stone & Webster Development Corporation

585 TPD (wet) of 100.0% MIXED STOCK (58% WASTE WOOD & 42% WASTE PAPER), WITHOUT GASIFICATION,
WOOD @ \$40/TON; NO LIGNIN DISPOSAL COST

Page 1 of 2

End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT ((\$1000's))											
REVENUE											
Ethanol \$2.10/gallon		\$37,899	\$39,519	\$41,100	\$42,744	\$44,454	\$46,232	\$48,081	\$50,005	\$52,005	\$54,085
CO ₂		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee- Waste Paper \$0.00		0	0	0	0	0	0	0	0	0	0
- Waste Wood \$0.00		0	0	0	0	0	0	0	0	0	0
- Mixed stock \$0.00		0	0	0	0	0	0	0	0	0	0
Total Revenue		\$37,899	\$39,519	\$41,100	\$42,744	\$44,454	\$46,232	\$48,081	\$50,005	\$52,005	\$54,085
LESS O&M EXPENSES											
Labor - Supervisory		\$2,810	\$2,923	\$3,040	\$3,161	\$3,286	\$3,416	\$3,558	\$3,698	\$3,848	\$4,000
Fixed Maintenance Materials		937	974	1,013	1,054	1,096	1,140	1,185	1,233	1,282	1,333
Insurance		1,241	1,291	1,342	1,396	1,452	1,510	1,570	1,633	1,698	1,766
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0	0
Chemicals		2,890	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power		2,548	2,650	2,756	2,866	2,980	3,100	3,224	3,353	3,487	3,626
Water		158	164	171	178	185	192	200	208	216	225
Waste Water		104	106	113	117	122	127	132	137	142	148
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		1,914	2,019	2,130	2,247	2,371	2,501	2,639	2,784	2,937	3,099
Feedstock - Waste Paper \$0.00		0	0	0	0	0	0	0	0	0	0
- Waste Wood \$0.00		0	0	0	0	0	0	0	0	0	0
- Mixed Stock \$40.00		8,772	9,123	9,486	9,865	10,262	10,673	11,100	11,544	12,006	12,488
Gross Receipts Tax (Income Tax Deductible)		3,135	3,260	3,391	3,526	3,667	3,814	3,967	4,125	4,290	4,462
Total O&M Expenses		\$24,509	\$25,518	\$26,589	\$27,684	\$28,804	\$29,952	\$31,229	\$32,518	\$33,880	\$35,259
GROSS MARGIN		\$13,390	\$14,001	\$14,511	\$15,060	\$15,650	\$16,280	\$16,852	\$17,487	\$18,125	\$18,826
INTEREST		(8,196)	(7,935)	(7,672)	(7,404)	(7,134)	(6,862)	(6,587)	(6,310)	(6,031)	(5,751)
TAX DEPRECIATION		(13,724)	(22,238)	(13,887)	(8,845)	(8,766)	(4,977)	(1,192)	(1,129)	(1,119)	(1,119)
TAXABLE INCOME		\$6,379	\$15,971	\$6,428	\$219	\$1,110	\$8,239	\$11,458	\$15,061	\$14,725	\$18,502
TAXES: Income		3,423	8,483	2,626	90	(453)	(2,548)	(4,681)	(5,335)	(8,015)	(8,741)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$4,956	\$15,388	\$3,802	\$130	\$657	\$5,691	\$6,777	\$9,726	\$6,710	\$9,761
TAX DEPRECIATION		13,724	22,238	13,887	8,845	8,766	4,977	1,192	1,129	1,119	1,119
PLANT COST		\$101,620									
LOAN		\$61,450									
PRINCIPAL PAYMENTS		(5,111)	(5,622)	(6,184)	(6,803)	(7,483)	(8,231)	(9,054)	(9,960)	(10,956)	(12,051)
NET CASH FLOW		(\$20,364)	\$3,857	\$7,226	\$3,900	\$1,914	\$1,940	\$435	(\$1,085)	(\$1,105)	(\$1,127)
CUMULATIVE CASH FLOW		(\$20,364)	(\$16,707)	(\$9,479)	(\$5,578)	(\$3,664)	(\$1,725)	(\$1,289)	(\$2,374)	(\$3,479)	(\$4,606)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.018	1.056	1.096	1.135	1.181	1.225	1.271	1.319	1.369	1.420
CUM NPV	20.0%	(\$20,364)	(\$17,317)	(\$12,287)	(\$10,040)	(\$8,117)	(\$6,337)	(\$4,191)	(\$2,494)	(\$8,979)	(\$8,358)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - ALBANY, NY

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 6

Stone & Webster Development Corporation

605 TPD (wet) of 100.0% MIXED STOCK 50% WASTE WOOD & 50% WASTE PAPER, WITHOUT GASIFICATION ;
WOOD @ \$40/TON; NO LIGNIN DISPOSAL COST

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	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
End of Year	15	16	17	18	19	20	21	22	23	24
Years from P.D.	11	12	13	14	15	16	17	18	19	20
Operating Year										
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,258	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol	\$2.10/gallon	\$58,248	\$58,498	\$60,838	\$63,272	\$65,803	\$68,435	\$71,172	\$74,010	\$76,980
CO ₂		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed stock	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$58,248	\$58,498	\$60,838	\$63,272	\$65,803	\$68,435	\$71,172	\$74,010	\$76,980
LESS O&M EXPENSES										
Labor - Supervisory		\$4,160	\$4,327	\$4,500	\$4,680	\$4,867	\$5,061	\$5,264	\$5,475	\$5,693
Fixed Maintenance materials		1,367	1,442	1,500	1,560	1,622	1,687	1,755	1,825	1,898
Insurance		1,637	1,910	1,987	2,066	2,149	2,235	2,324	2,417	2,514
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0
Chemicals		4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854
Power		3,771	3,922	4,079	4,242	4,412	4,588	4,772	4,963	5,161
Water		234	243	253	263	274	285	296	308	320
Waste Water		154	160	167	173	180	187	195	203	211
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		3,269	3,449	3,639	3,839	4,050	4,273	4,508	4,755	5,017
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0
- Mixed Stock	\$40.00	12,985	13,505	14,045	14,607	15,191	15,798	16,430	17,088	17,771
Gross Receipts Tax (Income Tax Deductible)		4,840	4,828	5,019	5,220	5,429	5,646	5,872	6,107	6,351
Total O&M Expenses		\$38,715	\$38,233	\$39,814	\$41,461	\$43,177	\$44,985	\$46,828	\$48,768	\$50,791
GROSS MARGIN		\$19,533	\$20,265	\$21,024	\$21,811	\$22,626	\$23,470	\$24,344	\$25,251	\$26,189
INTEREST		0	0	0	0	0	0	0	0	0
TAX DEPRECIATION		(1,119)	(1,119)	(1,119)	(1,119)	(1,119)	(1,119)	(1,119)	(1,119)	(1,119)
TAXABLE INCOME		\$18,414	\$19,146	\$19,905	\$20,692	\$21,507	\$22,351	\$23,225	\$24,132	\$25,070
TAXES: Income		(7,522)	(7,821)	(8,131)	(8,453)	(8,785)	(9,130)	(9,488)	(9,858)	(10,241)
Production Tax Credit		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$10,892	\$11,325	\$11,774	\$12,239	\$12,721	\$13,220	\$13,738	\$14,274	\$14,829
TAX DEPRECIATION		1,119	1,119	1,119	1,119	1,119	1,119	1,119	1,119	1,119
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$12,011	\$12,444	\$12,893	\$13,358	\$13,840	\$14,339	\$14,857	\$15,393	\$15,948
CUMULATIVE CASH FLOW		\$8,234	\$18,678	\$31,571	\$44,929	\$59,769	\$73,108	\$87,965	\$103,358	\$118,306
CUMULATIVE IRR		5.59%	10.80%	13.67%	15.25%	16.87%	17.85%	18.58%	19.15%	19.60%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$7,542)	(\$6,147)	(\$4,842)	(\$3,501)	(\$2,003)	(\$2,227)	(\$1,556)	(\$879)	(\$460)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - BUFFALO, NY

TABLE 3: REQUIRED ETHANOL PRICE
OPTION NO.: 8
595 TPD (wet) of 100.0% MIXED STOCK 80% WASTE WOOD & 20% WASTE PAPER @ \$20/TON
WITHOUT GASIFICATION; \$50/TON LIGNIN DISPOSAL COST

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol	\$2.24 / gallon	\$40,427	\$42,044	\$43,725	\$45,474	\$47,293	\$49,185	\$51,152	\$53,199	\$55,327	\$57,540
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$40,427	\$42,044	\$43,725	\$45,474	\$47,293	\$49,185	\$51,152	\$53,199	\$55,327	\$57,540
LESS O&M EXPENSES											
Labor - Supervisory		\$2,810	\$2,823	\$3,040	\$3,181	\$3,268	\$3,419	\$3,568	\$3,698	\$3,848	\$4,000
Fixed Maintenance Materials		973	1,012	1,053	1,065	1,139	1,184	1,232	1,281	1,332	1,385
Insurance		1,277	1,329	1,382	1,437	1,494	1,554	1,618	1,681	1,748	1,818
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		8,135	8,411	8,689	7,001	7,316	7,645	7,988	8,348	8,724	9,117
Chemicals		2,890	3,005	3,126	3,251	3,381	3,516	3,658	3,803	3,955	4,113
Power		2,548	2,650	2,756	2,866	2,980	3,100	3,224	3,353	3,487	3,628
Water		44	45	47	49	51	53	55	57	60	62
Waste Water		39	40	42	44	45	47	49	51	53	55
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		1,914	2,016	2,130	2,247	2,371	2,501	2,639	2,784	2,937	3,099
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$20.00	4,386	4,562	4,744	4,934	5,131	5,336	5,550	5,772	6,003	6,243
Gross Receipts Tax (Income Tax Deductible)		3,935	3,469	3,607	3,752	3,902	4,058	4,220	4,388	4,564	4,747
Total O&M Expenses		\$28,351	\$27,464	\$28,625	\$29,838	\$31,098	\$32,414	\$33,788	\$35,217	\$36,710	\$38,268
GROSS MARGIN		\$14,076	\$14,579	\$15,100	\$15,636	\$16,195	\$16,771	\$17,364	\$17,982	\$18,617	\$19,272
INTEREST		(8,427)	(7,886)	(7,318)	(6,677)	(5,973)	(5,199)	(4,347)	(3,411)	(2,380)	(1,247)
TAX DEPRECIATION		(14,304)	(23,173)	(14,462)	(9,204)	(8,122)	(6,189)	(1,222)	(1,188)	(1,147)	(1,147)
TAXABLE INCOME		(\$8,655)	(\$6,492)	(\$6,678)	(\$242)	\$1,100	\$6,403	\$11,797	\$13,443	\$15,090	\$16,880
TAXES: Income		3,536	6,737	2,728	99	(850)	(2,616)	(4,819)	(5,479)	(6,184)	(6,898)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$5,120)	(\$9,755)	(\$6,950)	(\$143)	\$851	\$3,787	\$6,978	\$7,964	\$8,906	\$9,982
TAX DEPRECIATION		14,304	23,173	14,462	9,204	8,122	6,189	1,222	1,188	1,147	1,147
PLANT COST	\$105,335										
LOAN	\$94,268										
PRINCIPAL PAYMENTS		(5,287)	(5,818)	(6,398)	(7,038)	(7,741)	(8,515)	(9,367)	(10,304)	(11,334)	(12,467)
NET CASH FLOW		(\$2,107)	\$3,897	\$7,602	\$4,114	\$2,083	\$2,032	\$441	\$1,187	\$1,212	\$1,336
CUMULATIVE CASH FLOW		(\$2,107)	(\$17,170)	(\$9,568)	(\$5,454)	(\$3,431)	(\$1,400)	(\$958)	(\$2,120)	(\$3,338)	(\$4,599)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.026	1.063	1.101	1.140	1.181	1.223	1.266	1.311	1.357	1.406
CUM NPV	20.0%	(\$2,107)	(\$17,320)	(\$12,540)	(\$10,180)	(\$8,154)	(\$6,368)	(\$5,220)	(\$3,548)	(\$2,072)	(\$9,288)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
 PROFORMA FINANCIAL STATEMENT
 THIRD PARTY CONTRACTOR / DEVELOPER
 SITE LOCATION - BUFFALO, NY

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 8

Stone & Webster Development Corporation

505 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$20/TON
 WITHOUT GASIFICATION; \$50/TON LIGNIN DISPOSAL COST

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P. D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol	\$2.24 / gallon	\$59,841	\$62,235	\$64,724	\$67,313	\$70,006	\$72,806	\$75,718	\$78,747	\$81,897
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tipping Fee- Waste Pt per	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$59,841	\$62,235	\$64,724	\$67,313	\$70,006	\$72,806	\$75,718	\$78,747	\$81,897
LESS O&M EXPENSES										
Labor - Supervisory		\$4,100	\$4,327	\$4,500	\$4,680	\$4,867	\$5,061	\$5,264	\$5,475	\$5,693
Fixed Maintenance Materials		1,441	1,498	1,556	1,621	1,685	1,753	1,823	1,896	1,972
Insurance		1,891	1,967	2,045	2,127	2,212	2,301	2,393	2,488	2,586
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		8,527	8,956	9,404	9,872	10,361	10,873	11,407	11,963	12,549
Chemicals		4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854
Power		3,771	3,922	4,079	4,242	4,412	4,588	4,772	4,963	5,161
Water		84	87	90	93	96	99	102	105	108
Waste Water		57	60	62	65	67	70	73	76	78
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		3,268	3,449	3,639	3,839	4,050	4,273	4,508	4,755	5,017
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0
- Mixed Stock	\$20.00	6,493	6,752	7,022	7,303	7,595	7,899	8,215	8,544	8,886
Gross Receipts Tax (Income Tax Deductible)		4,837	5,134	5,340	5,553	5,775	6,006	6,247	6,497	6,756
Total O&M Expenses		\$39,888	\$41,580	\$43,345	\$45,180	\$47,105	\$49,107	\$51,184	\$53,372	\$55,643
GROSS MARGIN		\$19,953	\$20,654	\$21,379	\$22,128	\$22,901	\$23,699	\$24,524	\$25,375	\$26,254
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(1,147)	(1,147)	(1,147)	(1,147)	(1,147)	(1,147)	(1,147)	(1,147)	(1,147)
TAXABLE INCOME		\$18,806	\$19,507	\$20,232	\$20,981	\$21,754	\$22,552	\$23,377	\$24,228	\$25,107
TAXES: Income		(7,682)	(7,969)	(8,265)	(8,571)	(8,886)	(9,213)	(9,549)	(9,897)	(10,256)
Production Tax Credit		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$11,124	\$11,538	\$11,967	\$12,410	\$12,867	\$13,340	\$13,827	\$14,331	\$14,851
TAX DEPRECIATION		1,147	1,147	1,147	1,147	1,147	1,147	1,147	1,147	1,147
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$12,271	\$12,685	\$13,114	\$13,557	\$14,014	\$14,487	\$14,974	\$15,478	\$15,998
CUMULATIVE CASH FLOW		\$6,336	\$19,021	\$32,135	\$45,692	\$59,707	\$74,193	\$89,168	\$104,646	\$120,643
CUMULATIVE IRR		5.84%	10.88%	13.72%	15.58%	16.91%	17.87%	18.60%	19.17%	19.61%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$7,638)	(\$6,214)	(\$4,869)	(\$3,602)	(\$2,422)	(\$1,339)	(\$354)	(\$82)	\$0

Case:	Option Number	2	
	Plant Size (backhoe rate)	595	TPD wet, as-shipped
	Plant Production	49,000	GPD
	Plant Size	1	
	Additional byproducts T	0	(0 = No, 1 = Yes)
	CO2:	0	
	Light:	0	
	Power:	1	

SCHEDULE: (Beginning of Year)		Power: _____
Present Day	_____	1994
Start Construction	_____	1995
Control of Capital Expenditure	_____	1997
First Year of Operation	_____	1998
Economic Life	_____	20 years
Annual Operating Schedule	_____	303 days/yr
	_____	83.0% Mature Capacity Factor
	_____	83.0% First Year Capacity Factor

TECHNICAL:		per TPD (100%)	per TPD (100%)
Capital Cost of Facility	100%	Sensitivity Index	
Land		\$7,500	k
Buildings		\$9,487	k
Development Costs		\$0	k
Plant:			
Biomass Conversion		\$35,940	k
Balance of Plant		\$44,285	k
Total Present Day Capital Cost		\$117,172	k
Escalation to Control of Expenditure		\$13,700	k (Note: had not escalated)
Interest During Construction		\$10,800	k
Total Capital Cost at C.D. Date		\$141,672	k or \$141,672 per TPD

Annual Operating Costs	100%	Sensitivity Index			
Fixed					
Labor	100%	Sensitivity Index	\$0.203	/gal Ethanol	\$3,010
Fixed Maintenance	Merge file		\$0.074	"	\$1,100
Insurance	1.0%	of Capital Cost	\$0.006		\$1,410
Total Fixed Cost			\$0.279	/gal Ethanol	\$3,520

Variable:	2017	2018
Variable Maintenance	\$0.000	\$0
Waste Disposal - Pre-treatment	\$0.000	\$0
- Fermentation	\$0.000	\$0
- Solids Separation	\$0.049	\$721
Chemicals	\$0.160	\$5,375
Utilities		
Power	\$0.000	\$0
Water	\$0.001	\$16
Natural Gas	\$0.000	\$0
Steam	\$0.000	\$0
Waste Water	\$0.002	\$34
Total Variable O&M Cost	\$0.212	\$5,144
Total Fixed & Variable Cost	\$0.694	\$8,669

Feedstock:	Blend		
Waste Paper	0.0%	0.0	Etanol Ethanol
Wood Waste	0.0%	0.0	
Mixed Stock	100.0%	0.0	Etanol Average

[illegible]

ECONOMICS:	
Inflation Rate (FPI)	4.0%
Escalation Rate (Plominel)	
Capital Cost	4.0%
Costs:	
Labor	4.0%
Maintenance Materials	4.0%
Insurance	4.0%
Waste Disposal - Pretreatment	4.0%
- Fermentation	4.0%
- Solids Separation	4.0%
Chemicals	4.0%
Utilities	
Power	4.0%
Water	4.0%
Natural Gas	4.0%
Steam	4.0%
Waste Water	4.0%
Feedstocks:	4.0%
Output:	
Ethanol	4.0%
CO2	4.0%
Lumps	4.0%

Tax Data:		-0.00	
Federal income tax rate	35.0%		
State income tax rate	5.5%		
Effective rate	40.6%		
Local tax rate (Grass Receipts Tax)	8.50%		
Property Tax Rate	0.0%	\$100	
Estimated Annual Expenses	20	k/y	
Ethanol Production Tax Credit	\$0.00	/gal for max. 16,000,000 gal/y	
Last year's credit applies	2000		
Power Tax Certain Renewal Tax Credit		Arks	
Ethanol Development Incentive	0	(based on Table 2, Incentive Table)	
Tax Depreciation	Life	Rate	
Buildings	11.8	100% decl bal.	
Development Costs	---	Include in Biomass Conv.	
Plant:			
Biomass Conversion	5	200% decl bal.	
Balance of Plant	20	150% decl bal.	
Rank Determination	20	years	

Debt Structure:	
Debt Maturity	10
Finance Term	10.0%
Interest Rate	Level pm
Amortization of Loan	8.0%
Short-Term Construction Interest	20%
Terminal Return on Equity	

(Note: Must be <= Goodwill Life)

Annual Quantities	
0	well tons / year
0	
160,255	well tons / year
160,256	well tons / year

Output:	per ton of feedstock	Unit Price	Required	
Ethanol	32.39 gal/wei ton	\$2.25 /gal	14,844,550	gal/ton Ethanol / year
CO ₂	0.06 CF/wei ton	\$0.00 /CF	0	CF CO ₂ / year
Ureign	0.00 tons/wei ton	\$0.00 /ton	0	ton s Ureign / year
Power	221.86 kWh/wei ton	\$0.03 /kwh	59,689,400	kwh / year

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is treated as revenue. If negative, tipping fee becomes feedstock charge and is an expense.

BIO MASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/DEVELOPER
SITE LOCATION - BUFFALO, NY

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 9

595 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$40/TON;
 WITH GASIFICATION

Stone & Webster Development Corporation

Page 1 of 2

End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT											
REVENUE											
Ethanol		\$2.25 / gallon	\$40,662	\$42,288	\$43,980	\$45,739	\$47,566	\$49,471	\$51,460	\$53,508	\$55,648
CO ₂			0	0	0	0	0	0	0	0	0
Lignin			0	0	0	0	0	0	0	0	0
Power			1,460	1,518	1,578	1,642	1,708	1,776	1,847	1,921	2,077
Tipping Fee - Waste Paper		\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood		\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock		\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue			\$42,121	\$43,806	\$45,558	\$47,381	\$49,276	\$51,247	\$53,297	\$55,429	\$57,648
LESS O&M EXPENSES											
Labor - Supervisory			\$3,062	\$3,069	\$3,061	\$4,119	\$4,204	\$4,450	\$4,634	\$4,819	\$5,012
Fixed Maintenance Materials			1,339	1,392	1,448	1,505	1,560	1,628	1,693	1,761	1,832
Insurance			1,715	1,784	1,855	1,930	2,007	2,087	2,171	2,257	2,348
Property Taxes			0	0	0	0	0	0	0	0	0
Variable Maintenance			0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment			0	0	0	0	0	0	0	0	0
- Fermentation			0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)			888	939	981	1,025	1,071	1,119	1,170	1,222	1,277
Chemicals			2,890	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955
Power			0	0	0	0	0	0	0	0	0
Water			19	20	21	22	23	24	25	26	27
Waste Water			39	40	42	44	45	47	49	51	53
Steam			0	0	0	0	0	0	0	0	0
Natural Gas			0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper			0	0	0	0	0	0	0	0	0
- Waste Wood			0	0	0	0	0	0	0	0	0
- Mixed Stock			0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)			\$4,475	\$4,514	\$4,558	\$4,608	\$4,665	\$4,728	\$4,797	\$4,873	\$4,948
Total O&M Expenses			\$22,809	\$23,725	\$24,640	\$25,672	\$26,704	\$27,776	\$28,894	\$30,050	\$31,264
GROSS MARGIN			\$19,312	\$20,080	\$20,918	\$21,709	\$22,572	\$23,469	\$24,403	\$25,373	\$26,382
INTEREST			(11,310)	(10,900)	(9,820)	(8,981)	(8,016)	(6,977)	(5,834)	(4,577)	(3,194)
TAX DEPRECIATION			(15,883)	(25,916)	(16,888)	(11,437)	(11,189)	(7,073)	(2,973)	(2,778)	(2,745)
TAXABLE INCOME			\$6,888	\$10,338	\$15,829	\$13,111	\$13,358	\$15,419	\$15,595	\$18,018	\$20,442
TAXES: Income			3,138	6,073	2,381	(536)	(1,375)	(1,848)	(8,370)	(7,380)	(8,350)
Production Tax Credit			0	0	0	0	0	0	0	0	0
INCOME AFTER TAX			\$4,543	\$14,265	\$13,448	\$13,647	\$14,733	\$17,267	\$17,225	\$20,398	\$22,792
TAX DEPRECIATION			15,683	25,916	16,888	11,437	11,189	7,073	2,973	2,778	2,745
PLANT COST			\$141,372								
LOAN			\$113,098								
PRINCIPAL PAYMENTS			(7,096)	(7,800)	(8,587)	(9,445)	(10,390)	(11,420)	(12,572)	(13,829)	(15,212)
NET CASH FLOW			\$28,274	\$4,043	\$8,347	\$4,853	\$2,787	\$2,791	\$1,216	(\$374)	(\$376)
CUMULATIVE CASH FLOW			\$28,274	\$32,317	\$40,664	\$45,517	\$48,304	\$51,095	\$52,311	\$53,937	\$55,561
CUMULATIVE IRR			NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO			1.049	1.091	1.134	1.179	1.226	1.275	1.326	1.379	1.433
CUM NPV		20.0%	\$28,274	\$24,805	\$19,106	\$16,300	\$14,965	\$13,844	\$13,437	\$13,541	\$13,785

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - BUFFALO, NY

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 0

Stone & Webster Development Corporation

505 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$40/TON;
WITH GASIFICATION

Page 2 of 2

End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.O.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$'000's)										
REVENUE										
Ethanol <input type="text" value="\$2.25"/> /gallon	\$80,169	\$82,507	\$85,101	\$87,705	\$70,413	\$73,229	\$76,159	\$79,206	\$82,373	\$85,069
CO2	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	2,181	2,247	2,337	2,430	2,528	2,629	2,734	2,843	2,957	3,075
Tipping Fee - Waste Paper <input type="text" value="\$0.00"/>	0	0	0	0	0	0	0	0	0	0
- Waste Wood <input type="text" value="\$0.00"/>	0	0	0	0	0	0	0	0	0	0
- Mixed Stock <input type="text" value="\$0.00"/>	0	0	0	0	0	0	0	0	0	0
Total Revenue	\$82,350	\$84,844	\$87,438	\$90,135	\$72,940	\$75,858	\$78,892	\$82,049	\$85,330	\$88,143
LESS O&M EXPENSES										
Labor - Supervisory	\$5,421	\$5,638	\$5,863	\$6,098	\$6,342	\$6,596	\$6,859	\$7,133	\$7,419	\$7,716
Fixed Maintenance Materials	1,981	2,060	2,143	2,228	2,318	2,410	2,507	2,607	2,711	2,820
Insurance	2,539	2,641	2,747	2,856	2,971	3,089	3,213	3,342	3,475	3,614
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	1,395	1,458	1,523	1,592	1,663	1,738	1,816	1,899	1,984	2,073
Chemicals	4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854	6,088
Power	0	0	0	0	0	0	0	0	0	0
Water	29	30	31	32	34	35	37	38	39	41
Waste Water	57	60	62	65	67	70	73	76	78	82
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper <input type="text" value="\$0.00"/>	0	0	0	0	0	0	0	0	0	0
- Waste Wood <input type="text" value="\$0.00"/>	0	0	0	0	0	0	0	0	0	0
- Mixed Stock <input type="text" value="\$40.00"/>	12,985	13,505	14,045	14,607	15,191	15,798	16,430	17,088	17,771	18,482
Gross Receipts Tax (Income Tax Deductible)	5,144	5,350	5,564	5,788	6,015	6,258	6,509	6,769	7,040	7,321
Total O&M Expenses	\$33,829	\$35,189	\$36,604	\$38,075	\$39,606	\$41,199	\$42,856	\$44,579	\$46,372	\$48,236
GROSS MARGIN	\$48,521	\$49,655	\$50,834	\$52,060	\$33,334	\$34,659	\$36,037	\$37,469	\$38,958	\$40,567
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(2,745)	(2,745)	(2,745)	(2,745)	(2,745)	(2,745)	(2,745)	(2,745)	(2,745)	(2,745)
TAXABLE INCOME	\$25,776	\$26,910	\$28,089	\$29,314	\$30,589	\$31,914	\$33,291	\$34,724	\$36,213	\$37,819
TAXES: Income	(10,528)	(10,693)	(11,474)	(11,875)	(12,485)	(13,037)	(13,600)	(14,185)	(14,793)	(15,427)
Production Tax Credit	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX	\$15,248	\$16,217	\$16,614	\$17,439	\$18,093	\$18,877	\$19,691	\$20,539	\$21,420	\$22,392
TAX DEPRECIATION	2,745	2,745	2,745	2,745	2,745	2,745	2,745	2,745	2,745	2,745
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$17,993	\$18,962	\$19,359	\$20,184	\$20,838	\$21,622	\$22,437	\$23,284	\$24,165	\$25,037
CUMULATIVE CASH FLOW	\$12,218	\$30,878	\$50,236	\$70,320	\$91,151	\$112,774	\$135,211	\$158,506	\$182,671	\$207,707
CUMULATIVE IRR	8.52%	11.15%	13.85%	16.65%	19.53%	17.88%	18.81%	19.17%	19.02%	20.00%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	\$11,345	\$20,251	\$27,442	\$33,878	\$39,525	\$44,358	\$48,344	\$51,470	\$53,713

TABLE 2b: CASE INPUT

03/28/05
12:08 PM

CASE: 505 TPD (wet) of 100.0% MIXED STOCK (80% WASTE WOOD & 20% WASTE PAPER) @ \$20/TON
WITHOUT GASIFICATION: \$50/TON LIGNIN DISPOSAL COST

INPUT:		ECONOMIC:	
CASE:	Option Number	10	
	Plant Size (feedstock rate)	505 TPD wet as-tipped	
	Ethanol Production	40,000 GPD	
	Plant Size	1	
	Additional byproducts?	CO2: 0 (0 = No, 1 = Yes)	
	Lignin:	1	
	Power:	0	
SCHEDULE: (Beginning of Year)			
	Present Day	1994	
	Start Construction	1999	
	Control of Capital Expenditure	1997	
	First Year of Operation	1998	
	Economic Life	20 years	
	Annual Operating Schedule	308 days/yr	
		83.0% Maintenance Capacity Factor	
		83.0% First Year Capacity Factor	
TECHNICAL:			
	Capital Cost of Facility	100% Sensitivity Index	
	Land	\$7,500 k	
	Buildings	\$8,487 k	
	Development Costs	\$0 k	
	Plant:		
	Biomass Conversion	\$25,840 k	
	Balance of Plant	\$14,826 k	
	Total Present Day Capital Cost	\$48,633 k	
	Escalation to Control of Expenditure	\$10,000 k (Note: land not escalated)	
	Interest During Construction	\$7,800 k	
	Total Capital Cost at C.O.D. Date	\$105,335 k or \$177,034 per TPD	
	Annual Operating Costs	100% Sensitivity Index	
	Fixed:		
	Labor	\$0.180 /gal Ethanol	\$2,310 k/yr
	Fixed Maintenance Materials	\$0.054	\$250 k/yr
	Insurance	\$0.071	\$1,000 k/yr
	Total Fixed O&M Cost	\$0.285 /gal Ethanol	\$4,560 k/yr
	Variable:		
	Variable Maintenance	\$0.000 /gal Ethanol	\$0 k/yr
	Waste Disposal - Pretreatment	\$0.000	\$0
	- Fermentation	\$0.000	\$0
	- Solids Separation	\$0.332	\$4,223
	Chemicals	\$2.180	\$2,376
	Utilities:		
	Power	\$0.141	\$2,004
	Water	\$0.002	\$20
	Natural Gas	\$0.060	\$1,484
	Steam	\$0.000	\$0
	Waste Water	\$0.002	\$20
	Total Variable O&M Cost	\$2.738 /gal Ethanol	\$10,824 k/yr
	Total Fixed & Variable O&M	\$1.019 /gal Ethanol	\$15,084 k/yr
	Feedstock:		
	Waste Paper	0.0% 0.0 bbl/gal Ethanol	
	Wood Waste	0.0% 0.0	
	Mixed Stock	100.0% 0.0 bbl/gal Average	
	Output:		
	Ethanol	\$2.35 /bbl (wet)	\$2.50 /gal Required
	CO2	0.00 CF/wet ton	0 CF CO2 / year
	Lignin	0.55 tons/wet ton	\$0.456 tons lignin / year
	Power	0.00 kWh/wet ton	0 kWh / year
Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is treated as revenue. If negative, tipping fee becomes feedstock charge and is an expense.			

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/DEVELOPER
SITE LOCATION - BUFFALO, NY

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 10

500 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$20/TON
WITHOUT GASIFICATION; \$50/TON LIGNIN DISPOSAL COST

Stone & Webster Development Corporation

Page 1 of 2

End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		100,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol \$2.50 /gallon		\$45,207	\$47,015	\$48,898	\$50,852	\$52,886	\$55,001	\$57,201	\$59,489	\$61,869	\$64,344
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper \$0.00		0	0	0	0	0	0	0	0	0	0
- Waste Wood \$0.00		0	0	0	0	0	0	0	0	0	0
- Mixed Stock \$0.00		0	0	0	0	0	0	0	0	0	0
Total Revenue		\$45,207	\$47,015	\$48,898	\$50,852	\$52,886	\$55,001	\$57,201	\$59,489	\$61,869	\$64,344
LESS O&M EXPENSES											
Labor - Supervisory		\$2,810	\$2,823	\$3,040	\$3,161	\$3,283	\$3,410	\$3,556	\$3,698	\$3,848	\$4,000
Fixed Maintenance Materials		979	1,012	1,053	1,095	1,139	1,184	1,232	1,281	1,332	1,385
Insurance		1,277	1,328	1,382	1,437	1,494	1,554	1,618	1,681	1,748	1,818
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		8,135	8,411	8,699	7,001	7,316	7,645	7,989	8,349	8,724	9,117
Chemicals		2,890	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power		2,548	2,660	2,758	2,866	2,980	3,100	3,224	3,353	3,487	3,626
Water		44	45	47	49	51	53	55	57	60	62
Waste Water		39	40	42	44	45	47	48	51	53	55
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		1,914	2,019	2,130	2,247	2,371	2,501	2,638	2,784	2,937	3,099
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock \$40.00		8,772	9,123	9,488	9,863	10,252	10,673	11,100	11,544	12,006	12,486
Gross Receipts Tax (Income Tax Deductible)		3,790	3,879	4,034	4,195	4,363	4,538	4,719	4,906	5,104	5,308
Total O&M Expenses		\$31,132	\$32,436	\$33,706	\$35,213	\$36,691	\$38,230	\$39,835	\$41,506	\$43,252	\$45,070
GROSS MARGIN		\$14,075	\$14,579	\$15,192	\$15,639	\$16,195	\$16,771	\$17,366	\$17,983	\$18,617	\$19,274
INTEREST		(8,427)	(7,898)	(7,316)	(6,677)	(6,073)	(5,499)	(4,947)	(4,411)	(3,890)	(3,385)
TAX DEPRECIATION		(14,304)	(23,173)	(14,462)	(9,204)	(8,122)	(6,169)	(1,222)	(1,159)	(1,147)	(1,147)
TAXABLE INCOME		(\$8,853)	(\$1,492)	(\$6,678)	(\$242)	\$1,100	\$8,403	\$11,797	\$13,413	\$15,090	\$16,890
TAXES: Income		3,636	6,737	2,728	98	(450)	(2,016)	(8,840)	(5,479)	(6,184)	(6,896)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$5,217)	(\$8,229)	(\$9,406)	(\$340)	\$651	\$6,387	\$8,957	\$7,934	\$8,906	\$9,994
TAX DEPRECIATION		14,304	23,173	14,462	9,204	8,122	5,169	1,222	1,156	1,147	1,147
PLANT COST (\$105,335)											
LOAN \$84,268											
PRINCIPAL PAYMENTS		(\$,287)	(\$,816)	(\$,308)	(7,038)	(7,741)	(\$,515)	(\$,387)	(10,304)	(11,334)	(12,467)
NET CASH FLOW		(\$2,107)	\$3,887	\$7,882	\$4,114	\$2,023	\$2,032	\$441	(\$1,167)	(\$1,212)	(\$1,339)
CUMULATIVE CASH FLOW		(\$2,107)	(\$1,170)	(\$9,988)	(\$5,454)	(\$3,431)	(\$1,400)	(\$958)	(\$2,126)	(\$3,338)	(\$4,599)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.028	1.063	1.101	1.140	1.181	1.223	1.268	1.311	1.357	1.406
CUM MPY 20.0%		(\$2,107)	(\$17,820)	(\$12,540)	(\$10,160)	(\$8,184)	(\$6,368)	(\$4,220)	(\$2,548)	(\$9,072)	(\$9,288)

BIO MASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/DEVELOPER
SITE LOCATION - BUFFALO, NY

TABLES: REQUIRED ETHANOL PRICE
OPTION NO.: 10

Stone & Webster Development Corporation

565 TPD (wet) of 100.0% MOED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$20/TON
WITHOUT GASIFICATION; \$60/TON LIGNIN DISPOSAL COST

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	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
End of Year	15	16	17	18	19	20	21	22	23	24
Years from P.D.	11	12	13	14	15	16	17	18	19	20
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT										
REVENUE										
Ethanol	\$2.50 / gallon	\$68,918	\$69,594	\$72,378	\$75,273	\$78,284	\$81,415	\$84,672	\$88,059	\$91,581
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$68,918	\$69,594	\$72,378	\$75,273	\$78,284	\$81,415	\$84,672	\$88,059	\$91,581
LESS O&M EXPENSES										
Labor - Supervisory		\$4,160	\$4,327	\$4,500	\$4,680	\$4,861	\$5,061	\$5,284	\$5,475	\$5,681
Fixed Maintenance Materials		1,441	1,488	1,535	1,621	1,686	1,783	1,823	1,888	1,972
Insurance		1,881	1,967	2,048	2,127	2,212	2,301	2,393	2,488	2,586
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		9,327	9,956	10,404	10,872	11,361	11,873	12,407	12,955	13,519
Chemicals		4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854
Power		3,771	3,922	4,078	4,242	4,412	4,586	4,772	4,963	5,161
Water		64	67	70	73	75	78	82	85	88
Waste Water		57	60	62	65	67	70	73	75	78
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		3,283	3,449	3,630	3,839	4,050	4,273	4,506	4,755	5,017
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0
- Mixed Stock	\$40.00	12,985	13,505	14,045	14,607	15,191	15,798	16,430	17,088	17,771
Gross Receipts Tax (Income Tax Deductible)		5,521	5,742	5,971	6,210	6,458	6,717	6,986	7,265	7,555
Total O&M Expenses		\$46,865	\$48,840	\$50,889	\$53,140	\$55,383	\$57,716	\$60,148	\$62,664	\$65,327
GROSS MARGIN		\$18,963	\$20,654	\$21,379	\$22,128	\$22,901	\$23,699	\$24,524	\$25,375	\$26,254
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(1,147)	(1,147)	(1,147)	(1,147)	(1,147)	(1,147)	(1,147)	(1,147)	(1,147)
TAXABLE INCOME		\$18,806	\$19,507	\$20,232	\$20,981	\$21,754	\$22,552	\$23,377	\$24,228	\$25,107
TAXES: Income		(7,682)	(7,968)	(8,265)	(8,571)	(8,888)	(9,213)	(9,549)	(9,897)	(10,256)
Production Tax Credit		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$11,124	\$11,539	\$11,967	\$12,410	\$12,867	\$13,340	\$13,827	\$14,331	\$14,851
TAX DEPRECIATION		1,147	1,147	1,147	1,147	1,147	1,147	1,147	1,147	1,147
PLANT COST		0	0	0	0	0	0	0	0	0
LOAN		0	0	0	0	0	0	0	0	0
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$12,271	\$12,686	\$13,114	\$13,557	\$14,014	\$14,487	\$14,974	\$15,478	\$15,988
CUMULATIVE CASH FLOW		\$8,336	\$19,021	\$32,135	\$45,692	\$59,707	\$74,193	\$89,169	\$104,643	\$120,631
CUMULATIVE IRR		5.64%	10.88%	13.72%	15.59%	16.91%	17.67%	18.00%	19.17%	20.00%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$7,638)	(\$8,214)	(\$4,980)	(\$3,032)	(\$3,022)	(\$2,238)	(\$1,584)	(\$882)	\$0

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - BUFFALO, NY

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 11

595 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$20/TON

WITHOUT GASIFICATION: \$0/TON LIGNIN DISPOSAL COST

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$'000's)											
REVENUE											
Ethanol \$1.88 /gallon		\$33,566	\$34,009	\$36,305	\$37,756	\$39,268	\$40,839	\$42,472	\$44,171	\$45,938	\$47,778
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper \$0.00		0	0	0	0	0	0	0	0	0	0
- Waste Wood \$0.00		0	0	0	0	0	0	0	0	0	0
- Mixed Stock \$0.00		0	0	0	0	0	0	0	0	0	0
Total Revenue		\$33,566	\$34,009	\$36,305	\$37,756	\$39,268	\$40,839	\$42,472	\$44,171	\$45,938	\$47,778
LESS O&M EXPENSES											
Labor - Supervisory		\$2,810	\$2,823	\$3,040	\$3,181	\$3,268	\$3,419	\$3,556	\$3,698	\$3,846	\$4,000
Fixed Maintenance Materials		973	1,012	1,063	1,095	1,138	1,184	1,232	1,281	1,332	1,385
Insurance		1,277	1,329	1,382	1,437	1,494	1,554	1,616	1,681	1,748	1,818
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0	0
Chemicals		2,880	3,005	3,128	3,251	3,381	3,518	3,656	3,803	3,955	4,113
Power		2,548	2,650	2,758	2,866	2,980	3,100	3,224	3,353	3,487	3,626
Water		44	45	47	49	51	53	55	57	60	62
Waste Water		39	40	42	44	45	47	49	51	53	55
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		1,914	2,019	2,130	2,247	2,371	2,501	2,639	2,784	2,937	3,099
Feedstock - Waste Paper \$0.00		0	0	0	0	0	0	0	0	0	0
- Waste Wood \$0.00		0	0	0	0	0	0	0	0	0	0
- Mixed Stock \$20.00		4,366	4,562	4,744	4,934	5,131	5,336	5,550	5,772	6,003	6,243
Gross Receipts Tax (Income Tax Deductible)		2,789	2,880	2,995	3,115	3,240	3,369	3,504	3,644	3,790	3,941
Total O&M Expenses		\$18,650	\$20,165	\$21,314	\$22,198	\$23,120	\$24,080	\$25,081	\$26,124	\$27,211	\$28,343
GROSS MARGIN		\$13,916	\$14,444	\$14,992	\$15,558	\$16,148	\$16,758	\$17,391	\$18,047	\$18,727	\$19,435
INTEREST		(9,427)	(7,894)	(7,318)	(6,677)	(5,973)	(5,189)	(4,347)	(3,411)	(2,380)	(1,247)
TAX DEPRECIATION		(14,304)	(23,173)	(14,462)	(8,204)	(9,122)	(5,189)	(1,222)	(1,158)	(1,147)	(1,147)
TAXABLE INCOME		(\$9,815)	(\$10,627)	(\$9,788)	(\$321)	\$1,053	\$6,380	\$11,822	\$13,479	\$15,200	\$17,039
TAXES: Income		3,601	8,782	2,772	131	(430)	(2,610)	(4,829)	(5,500)	(8,200)	(8,960)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$6,214)	(\$10,835)	(\$10,114)	(\$190)	\$623	\$3,770	\$6,993	\$7,979	\$6,999	\$10,078
TAX DEPRECIATION		14,304	23,173	14,462	9,204	9,122	5,189	1,222	1,158	1,147	1,147
PLANT COST \$105,335											
LOAN \$84,268											
PRINCIPAL PAYMENTS		(\$,287)	(\$,616)	(\$,365)	(7,038)	(7,741)	(\$,515)	(\$,387)	(10,304)	(11,334)	(12,487)
NET CASH FLOW		(\$21,067)	\$3,603	\$7,522	\$4,050	\$1,078	\$2,004	\$434	(\$1,152)	(\$1,173)	(\$1,198)
CUMULATIVE CASH FLOW		(\$21,067)	(\$17,264)	(\$9,742)	(\$5,692)	(\$3,716)	(\$1,713)	(\$1,279)	(\$2,431)	(\$3,604)	(\$4,802)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.018	1.053	1.093	1.135	1.177	1.222	1.268	1.318	1.366	1.417
CUM NPV 20.0%		(\$21,067)	(\$17,898)	(\$12,874)	(\$10,331)	(\$9,378)	(\$8,572)	(\$8,427)	(\$8,749)	(\$8,022)	(\$8,253)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - BUFFALO, NY

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 11

Stone & Webster Development Corporation

500 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$29/TON
WITHOUT GASIFICATION; \$0/TON LIGNIN DISPOSAL COST

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	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
End of Year	15	16	17	18	19	20	21	22	23	24
Years from P. D.	11	12	13	14	15	16	17	18	19	20
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$'000's)										
REVENUE										
Ethanol	\$1.86 / gallon	\$49,687	\$51,874	\$53,741	\$55,891	\$58,128	\$60,451	\$62,889	\$65,384	\$67,999
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$49,687	\$51,874	\$53,741	\$55,891	\$58,128	\$60,451	\$62,889	\$65,384	\$67,999
LESS O&M EXPENSES										
Labor - Supervisory		\$4,160	\$4,327	\$4,500	\$4,680	\$4,867	\$5,061	\$5,264	\$5,475	\$5,693
Fixed Maintenance Materials		1,441	1,498	1,568	1,621	1,685	1,753	1,823	1,899	2,051
Insurance		1,891	1,957	2,045	2,127	2,212	2,301	2,393	2,488	2,581
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0
Chemicals		4,877	4,448	4,627	4,812	5,004	5,204	5,412	5,628	5,854
Power		3,771	3,922	4,078	4,242	4,412	4,588	4,772	4,963	5,161
Water		84	87	70	73	75	78	82	85	82
Waste Water		57	60	62	65	67	70	73	75	78
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		3,289	3,448	3,639	3,839	4,050	4,273	4,508	4,755	5,017
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0
- Mixed Stock	\$20.00	8,493	8,752	7,022	7,303	7,595	7,899	8,215	8,544	8,886
Gross Receipts Tax (Income Tax Deductible)		4,098	4,283	4,434	4,611	4,795	4,987	5,187	5,394	5,610
Total O&M Expenses		\$29,523	\$30,753	\$32,035	\$33,371	\$34,763	\$36,215	\$37,727	\$39,304	\$40,946
GROSS MARGIN		\$20,163	\$20,921	\$21,706	\$22,520	\$23,365	\$24,237	\$25,162	\$26,080	\$27,053
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(1,147)	(1,147)	(1,147)	(1,147)	(1,147)	(1,147)	(1,147)	(1,147)	(1,147)
TAXABLE INCOME		\$19,016	\$19,774	\$20,559	\$21,373	\$22,218	\$23,090	\$23,995	\$24,933	\$25,906
TAXES: Income		(7,768)	(8,078)	(8,395)	(8,731)	(9,075)	(9,432)	(9,802)	(10,185)	(10,582)
Production Tax Credit		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$11,248	\$11,696	\$12,164	\$12,642	\$13,143	\$13,658	\$14,193	\$14,748	\$15,324
TAX DEPRECIATION		1,147	1,147	1,147	1,147	1,147	1,147	1,147	1,147	1,147
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$12,395	\$12,843	\$13,311	\$13,789	\$14,288	\$14,804	\$15,340	\$15,895	\$16,471
CUMULATIVE CASH FLOW		\$6,353	\$18,196	\$32,504	\$48,292	\$65,580	\$84,385	\$104,725	\$126,620	\$149,091
CUMULATIVE IRR		5.55%	10.70%	13.88%	15.54%	16.87%	17.84%	18.58%	19.15%	20.00%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	\$7,786	\$8,345	\$8,922	\$9,518	\$10,135	\$10,773	\$11,433	\$12,115	\$12,819

CASE: 525 TPD (weq. of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$20/TON
 WITHOUT GASIFICATION: \$0/TON LIGNIN DISPOSAL COST

INPUT:		ECONOMIC:	
CASE: Option Number	12	Inflation Rate (FP)	4.0%
Plant Size (feedstock rate)	525 TPD wet, as-shipped	Escalation Rates (Nominal)	
Ethanol Production	49,000 GPO	Capital Cost	4.0%
Plant Size	1	OSM Costs:	
Additional byproducts?	CO2: 0 (0 = No, 1 = Yes)	Labor	4.0%
	Lignin: 1	Maintenance Materials	4.0%
	Power: 2	Insurance	4.0%
SCHEDULE: (Beginning of Year)		Waste Disposal - Pretreatment	4.0%
Present Day	1994	- Fermentation	4.0%
Start Construction	1995	- Solids Separation	4.0%
Centroid of Capital Expenditure	1997		
First Year of Operation	1998	Chemicals	4.0%
Economic Life	20 years	Utilities:	
Annual Operating Schedule	303 days/yr	Power	4.0%
	83.0% Mature Capacity Factor	Water	4.0%
	83.0% First Year Capacity Factor	Natural Gas	3.0%
	(Don't change this)	Steam	4.0%
		Waste Water	4.0%
TECHNICAL:		Feedstock:	4.0%
Capital Cost of Facility	100% Sensitivity Index	Output:	
Land	\$7,500 k	Ethanol	4.0%
Buildings	\$9,467 k	CO2	4.0%
Development Costs	\$0 k	Lignin	4.0%
Plant:			
Biomass Conversion	\$55,940 k		
Balance of Plant	\$14,826 k		
Total Present Day Capital Cost	\$70,366 k		
Escalation to Centroid of Expenditure	\$10,000 k (Note: level not escalated)		
Interest During Construction	\$7,900 k		
Total Capital Cost at C.D. Date	\$105,333 k or \$177,034 per TPD		
Annual Operating Costs	100% Sensitivity Index		
Fixed:			
Labor	\$0,155 /gal Ethanol	\$2,310 /yr	
Fixed Maintenance Materials	\$0,024	\$360 /yr	
Insurance	\$0,071	\$1,050 /yr	
Total Fixed O&M Cost	\$0,250 /gal Ethanol	\$4,720 /yr	
Variable:			
Variable Maintenance	\$0,000 /gal Ethanol	\$0 /yr	
Waste Disposal - Pretreatment	\$0,000	\$0	
- Fermentation	\$0,000	\$0	
- Solids Separation	\$0,000	\$0	
Chemicals	\$0,190	\$2,275	
Utilities:			
Power	\$0,141	\$2,064	
Water	\$0,002	\$26	
Natural Gas	\$0,000	\$1,484	
Steam	\$0,000	\$0	
Waste Water	\$0,002	\$32	
Total Variable O&M Cost	\$0,404 /gal Ethanol	\$4,001 /yr	
Total Fixed & Variable O&M	\$0,654 /gal Ethanol	\$8,721 /yr	
Feedstock:		Typing Fee	
Waste Paper	0.0%	0.0	0.0
Wood Waste	0.0%	0.0	0.0
Wood Stock	100.0%	0.0	0.0
Output:		Unit Price	
Ethanol	\$2.55 /gal wet ton	\$2.12 /gal Required	14,644,550 gallons Ethanol / year
CO2	0.00 /CF wet ton	\$0.00 /CF	0 CF CO2 / year
Lignin	0.55 /ton wet ton	\$0.00 /ton	\$6,458 tons Lignin / year
Power	0.00 /kwh wet ton	\$0.00 /kwh	0 kwh / year

FINANCIAL:	
Tax Data:	
Federal Income Tax Rate	35.0%
State Income Tax Rate	0.0%
Effective Rate	40.0%
Local Tax Rate (Gross Receipts Tax)	0.35%
Property Tax Rate	0.0%
Estimated Annual Expense	\$0 /yr
Ethanol Production Tax Credit	\$0.00 /gal for max. 15,000,000 gal/yr
Last year credit applies	2000
Power from Certain Renew. Tax Credit	0 /kwh
Economic Development Incentives	0 (based on Table 2, Incentives Table)
Tax Depreciation	
Buildings	31.5 100% decl. bal.
Development Costs	0 - include in Biomass Conv.
Plant:	
Biomass Conversion	8 100% decl. bal.
Balance of Plant	20 100% decl. bal.
Book Depreciation	20 years
Debt Structure:	
Debt Fraction	0%
Financing Term	10
Interest Rate	10.0%
Amortization of Loan	Level pm
Short-Term Construction Interest	8.0%
Target Return on Equity	20%

Annual Quantities	
Wet Tons / year	0
Wet Tons / year	0
Wet Tons / year	180,255
Wet Tons / year	180,255

Note: The average typing fee is calculated so that the project yields the Target Return on Equity. If this is positive, typing fee is treated as revenue. If negative, typing fee becomes feedstock charge and cash expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - BUFFALO, NY

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 12

565 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$20/TON

Stone & Webster Development Corporation

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	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
End of Year	4	5	6	7	8	9	10	11	12	13	14
Years from P.D.	0	1	2	3	4	5	6	7	8	9	10
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$'000's)											
REVENUE											
Ethanol	\$2.12 /gallon	\$38,347	\$39,881	\$41,476	\$43,135	\$44,881	\$46,655	\$48,521	\$50,482	\$52,461	\$54,580
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$38,347	\$39,881	\$41,476	\$43,135	\$44,881	\$46,655	\$48,521	\$50,482	\$52,461	\$54,580
LESS O&M EXPENSES											
Labor - Supervisory		\$2,810	\$2,823	\$3,040	\$3,181	\$3,288	\$3,419	\$3,558	\$3,698	\$3,848	\$4,000
Fixed Maintenance Materials		973	1,042	1,053	1,095	1,138	1,184	1,232	1,281	1,332	1,385
Insurance		1,277	1,328	1,382	1,437	1,494	1,554	1,616	1,681	1,748	1,818
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0	0
Chemicals		2,890	3,005	3,126	3,251	3,381	3,510	3,656	3,800	3,955	4,113
Power		2,548	2,650	2,758	2,868	2,980	3,100	3,224	3,353	3,487	3,626
Water		44	45	47	49	51	53	55	57	60	62
Waste Water		39	40	42	44	45	47	49	51	53	55
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		1,914	2,019	2,130	2,247	2,371	2,501	2,639	2,784	2,937	3,096
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$40.00	8,772	9,123	9,486	9,868	10,262	10,673	11,100	11,544	12,006	12,486
Gross Receipts Tax (Income Tax Deductible)		3,164	3,290	3,422	3,559	3,701	3,848	4,003	4,163	4,330	4,503
Total O&M Expenses		\$24,431	\$25,437	\$26,484	\$27,576	\$28,712	\$29,897	\$31,130	\$32,415	\$33,753	\$35,147
GROSS MARGIN		\$13,916	\$14,444	\$14,992	\$15,559	\$16,169	\$16,758	\$17,391	\$18,067	\$18,727	\$19,432
INTEREST		(9,427)	(7,890)	(7,316)	(6,877)	(6,473)	(6,099)	(5,747)	(5,411)	(5,090)	(4,781)
TAX DEPRECIATION		(14,304)	(23,173)	(14,482)	(9,204)	(9,122)	(5,189)	(1,222)	(1,158)	(1,147)	(1,147)
TAXABLE INCOME		(\$8,815)	(\$16,827)	(\$6,706)	(\$321)	\$1,059	\$6,390	\$11,822	\$13,479	\$15,200	\$17,038
TAXES: Income		3,601	6,792	2,772	131	(430)	(2,810)	(4,629)	(5,806)	(6,209)	(6,880)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$5,214)	(\$9,835)	(\$4,014)	(\$390)	\$629	\$3,780	\$6,993	\$7,673	\$8,991	\$10,078
TAX DEPRECIATION		14,304	23,173	14,482	9,204	9,122	5,189	1,222	1,158	1,147	1,147
PLANT COST	\$105,335										
LOAN	\$54,268										
PRINCIPAL PAYMENTS		(5,287)	(5,818)	(6,398)	(7,038)	(7,741)	(8,516)	(9,367)	(10,304)	(11,334)	(12,457)
NET CASH FLOW		(\$21,067)	\$3,803	\$7,522	\$4,050	\$1,878	\$2,004	\$434	(\$1,152)	(\$1,173)	(\$1,198)
CUMULATIVE CASH FLOW		(\$21,067)	(\$17,264)	(\$9,742)	(\$5,692)	(\$3,718)	(\$1,713)	(\$1,279)	(\$2,431)	(\$3,604)	(\$4,802)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.015	1.053	1.093	1.135	1.177	1.222	1.268	1.316	1.366	1.417
CUM NPV	20.0%	(\$21,067)	(\$17,698)	(\$12,674)	(\$10,331)	(\$9,378)	(\$8,572)	(\$8,427)	(\$8,749)	(\$9,253)	(\$9,454)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - BUFFALO, NY

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 12

595 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$29/TON
WITHOUT GASIFICATION; \$4/TON LIGNIN DISPOSAL COST

Stone & Webster Development Corporation

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	2006	2006	2010	2011	2012	2013	2014	2015	2016	2017
End of Year	15	16	17	18	19	20	21	22	23	24
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol	\$2.12 / gallon	\$58,763	\$59,033	\$61,395	\$63,851	\$66,405	\$69,061	\$71,823	\$74,688	\$77,654
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tippling Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$58,763	\$59,033	\$61,395	\$63,851	\$66,405	\$69,061	\$71,823	\$74,688	\$77,654
LESS O&M EXPENSES										
Labor - Supervisory		\$4,160	\$4,327	\$4,500	\$4,680	\$4,867	\$5,061	\$5,264	\$5,475	\$5,693
Fixed Maintenance Materials		1,441	1,488	1,538	1,621	1,685	1,753	1,823	1,896	1,972
Insurance		1,651	1,967	2,045	2,127	2,212	2,301	2,393	2,488	2,585
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0
Chemicals		4,277	4,448	4,627	4,812	5,004	5,204	5,412	5,629	5,854
Power		3,771	3,922	4,078	4,242	4,412	4,588	4,772	4,963	5,161
Water		64	67	70	73	75	78	82	85	88
Waste Water		57	60	62	65	67	70	73	75	78
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		3,289	3,449	3,639	3,839	4,050	4,273	4,508	4,755	5,017
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0
- Mixed Stock	\$40.00	12,985	13,505	14,045	14,607	15,181	15,798	16,430	17,085	17,771
Gross Receipts Tax (Income Tax Deductible)		4,863	4,870	5,065	5,268	5,478	5,698	5,925	6,162	6,409
Total O&M Expenses		\$36,600	\$38,113	\$39,889	\$41,351	\$43,042	\$44,824	\$46,681	\$48,616	\$50,632
GROSS MARGIN		\$20,163	\$20,921	\$21,706	\$22,520	\$23,363	\$24,237	\$25,142	\$26,072	\$27,022
INTEREST		0	0	0	0	0	0	0	0	0
TAX DEPRECIATION		(1,147)	(1,147)	(1,147)	(1,147)	(1,147)	(1,147)	(1,147)	(1,147)	(1,147)
TAXABLE INCOME		\$19,016	\$19,774	\$20,559	\$21,373	\$22,216	\$23,090	\$23,995	\$24,925	\$25,875
TAXES: Income		(7,766)	(8,078)	(8,386)	(8,731)	(9,075)	(9,432)	(9,802)	(10,185)	(10,582)
Production Tax Credit		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$11,250	\$11,696	\$12,173	\$12,642	\$13,141	\$13,657	\$14,193	\$14,740	\$15,293
TAX DEPRECIATION		1,147	1,147	1,147	1,147	1,147	1,147	1,147	1,147	1,147
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$12,397	\$12,843	\$13,320	\$13,789	\$14,288	\$14,804	\$15,340	\$15,887	\$16,440
CUMULATIVE CASH FLOW		\$12,397	\$25,240	\$38,560	\$52,349	\$66,588	\$81,392	\$96,732	\$112,619	\$129,059
CUMULATIVE IRR		6.88%	10.76%	13.68%	15.54%	16.87%	17.84%	18.58%	19.15%	19.60%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$7,766)	(\$6,345)	(\$5,102)	(\$4,028)	(\$3,100)	(\$2,300)	(\$1,608)	(\$1,011)	(\$498)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - ROCHESTER, NY

TABLE 4: REQUIRED ETHANOL PRICE

OPTION NO.: 14

695 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$20/TON;
WITHOUT GASIFICATION: \$50/TON LIGNIN DISPOSAL COST

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT											
REVENUE											
Ethanol	\$2.23 /gallon	\$40,282	\$41,873	\$43,548	\$45,290	\$47,101	\$48,985	\$50,945	\$52,982	\$55,102	\$57,308
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$40,282	\$41,873	\$43,548	\$45,290	\$47,101	\$48,985	\$50,945	\$52,982	\$55,102	\$57,308
LESS O&M EXPENSES											
Labor - Supervisory		\$2,810	\$2,823	\$3,040	\$3,151	\$3,288	\$3,418	\$3,558	\$3,698	\$3,848	\$4,000
Fixed Maintenance Materials		961	1,000	1,040	1,081	1,124	1,169	1,216	1,265	1,315	1,368
Insurance		1,265	1,310	1,360	1,420	1,480	1,539	1,601	1,665	1,732	1,801
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		8,135	8,411	8,689	7,001	7,316	7,645	7,989	8,349	8,724	9,117
Chemicals		2,890	3,005	3,128	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power		2,548	2,650	2,756	2,866	2,980	3,100	3,224	3,353	3,487	3,628
Water		83	88	90	93	97	101	105	109	114	119
Waste Water		55	57	59	61	64	67	69	72	75	78
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		1,814	2,018	2,130	2,247	2,371	2,501	2,639	2,784	2,937	3,099
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$30.00	4,386	4,562	4,744	4,934	5,131	5,336	5,550	5,772	6,003	6,243
Gross Receipts Tax (Income Tax Deductible)		9,322	9,485	9,593	9,738	9,886	10,041	10,203	10,371	10,546	10,728
Total O&M Expenses		\$28,369	\$27,483	\$28,844	\$28,856	\$31,119	\$32,435	\$33,809	\$35,240	\$36,734	\$38,291
GROSS MARGIN		\$13,894	\$14,390	\$14,803	\$15,434	\$15,982	\$16,550	\$17,136	\$17,742	\$18,368	\$19,015
INTEREST		(8,307)	(7,785)	(7,212)	(6,581)	(5,886)	(5,125)	(4,285)	(3,382)	(2,346)	(1,229)
TAX DEPRECIATION		(14,055)	(22,772)	(14,215)	(9,050)	(8,970)	(8,087)	(12,10)	(1,148)	(1,135)	(1,135)
TAXABLE INCOME		(\$8,468)	(\$10,169)	(\$6,624)	(\$898)	\$1,125	\$4,338	\$11,641	\$13,234	\$14,887	\$16,651
TAXES: Income		3,459	8,005	2,905	51	(160)	(2,589)	(4,735)	(5,408)	(6,081)	(6,802)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$5,009)	(\$2,163)	(\$3,719)	(\$847)	\$865	\$1,749	\$6,906	\$7,826	\$8,805	\$9,849
TAX DEPRECIATION		14,055	22,772	14,215	9,050	8,970	8,087	12,10	1,148	1,135	1,135
PLANT COST	(\$103,032)										
LOAN	\$83,066										
PRINCIPAL PAYMENTS		(\$2,12)	(\$,733)	(\$,307)	(\$,937)	(\$,631)	(\$,394)	(\$,233)	(\$,157)	(\$,172)	(\$,230)
NET CASH FLOW		(\$20,766)	\$3,834	\$7,478	\$4,060	\$1,896	\$2,004	\$442	(\$1,136)	(\$1,783)	(\$1,305)
CUMULATIVE CASH FLOW		(\$20,766)	(\$16,932)	(\$9,458)	(\$5,400)	(\$3,410)	(\$1,406)	(\$883)	(\$2,101)	(\$3,284)	(\$4,589)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.025	1.064	1.102	1.142	1.182	1.224	1.268	1.312	1.359	1.407
CUM NPV	20.0%	(\$20,766)	(\$17,571)	(\$12,379)	(\$10,038)	(\$9,073)	(\$8,268)	(\$6,119)	(\$4,437)	(\$2,712)	(\$1,152)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/DEVELOPER
SITE LOCATION - ROCHESTER, NY

TABLE 4: REQUIRED ETHANOL PRICE

OPTION NO.: 19

Stone & Webster Development Corporation

595 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$20/TON;
WITHOUT GASIFICATION; \$30/TON LIGNIN DISPOSAL COST

Page 2 of 2

End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	190,255	190,255	190,255	190,255	190,255	190,255	190,255	190,255	190,255	190,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol	\$2.23/gallon	\$58,598	\$81,982	\$64,481	\$67,040	\$69,721	\$72,510	\$75,410	\$78,427	\$81,564
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$58,598	\$81,982	\$64,481	\$67,040	\$69,721	\$72,510	\$75,410	\$78,427	\$81,564
LESS O&M EXPENSES										
Labor - Supervisory	\$4,160	\$4,327	\$4,500	\$4,680	\$4,867	\$5,061	\$5,264	\$5,475	\$5,693	\$5,921
Fixed Maintenance Materials	1,423	1,480	1,539	1,600	1,664	1,731	1,800	1,872	1,947	2,025
Insurance	1,673	1,648	2,020	2,107	2,191	2,279	2,370	2,465	2,563	2,664
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	9,527	9,950	10,404	10,872	11,361	11,873	12,407	12,965	13,549	14,158
Chemicals	4,277	4,448	4,627	4,812	5,004	5,204	5,412	5,629	5,854	6,086
Power	3,774	3,922	4,079	4,242	4,412	4,588	4,772	4,963	5,161	5,366
Water	123	129	133	138	144	150	156	162	168	175
Waste Water	61	64	66	69	73	76	80	84	88	92
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	3,269	3,449	3,639	3,839	4,050	4,273	4,508	4,755	5,017	5,293
Feedstock - Waste Paper	0	0	0	0	0	0	0	0	0	0
- Waste Wood	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	6,493	6,752	7,022	7,303	7,595	7,899	8,215	8,544	8,886	9,241
Gross Receipts Tax (Income Tax Deductible)	4,917	5,114	5,318	5,531	5,752	5,982	6,221	6,470	6,729	6,996
Total O&M Expenses	\$39,914	\$41,609	\$43,373	\$45,215	\$47,135	\$49,138	\$51,227	\$53,406	\$55,678	\$58,049
GROSS MARGIN	\$18,684	\$20,374	\$21,088	\$21,825	\$22,586	\$23,372	\$24,183	\$25,021	\$25,885	\$26,778
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(1,135)	(1,135)	(1,135)	(1,135)	(1,135)	(1,135)	(1,135)	(1,135)	(1,135)	(1,135)
TAXABLE INCOME	\$16,549	\$19,239	\$19,953	\$20,690	\$21,451	\$22,236	\$23,048	\$23,886	\$24,750	\$25,659
TAXES: Income	(7,877)	(7,859)	(8,151)	(8,452)	(8,763)	(9,084)	(9,415)	(9,757)	(10,110)	(10,482)
Production Tax Credit	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX	\$10,971	\$11,380	\$11,802	\$12,238	\$12,688	\$13,153	\$13,633	\$14,129	\$14,640	\$15,177
TAX DEPRECIATION	1,135	1,135	1,135	1,135	1,135	1,135	1,135	1,135	1,135	1,135
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$12,107	\$12,515	\$12,937	\$13,373	\$13,823	\$14,288	\$14,768	\$15,264	\$15,775	\$16,218
CUMULATIVE CASH FLOW	\$9,285	\$18,801	\$31,738	\$45,111	\$58,934	\$73,222	\$87,990	\$103,254	\$119,029	\$135,247
CUMULATIVE IRR	5.66%	10.87%	13.73%	15.59%	16.91%	17.87%	18.60%	19.17%	19.61%	20.00%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	\$7,532	\$6,129	\$4,919	\$3,879	\$2,961	\$2,208	\$1,542	\$909	\$475

TABLE 2: CASE INPUT

03/28/05
02:17 PM

CASE: 595 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$40/TON;
WITH GASIFICATION

INPUT:		ECONOMIC:	
CASE: Option Number: 15 Plant Size (feedstock rate): 595 TPD wet, as-tipped Ethanol Production: 48,000 GPD Plant Size: 1 Additional byproducts?: 0 (0 = No, 1 = Yes) CO ₂ : 0 Uplift: 0 Power: 1		ECONOMIC: Inflation Rate (PP): 4.0% Escalation Rates (Nominal): Capital Cost: 4.0% O&M Costs: Labor: 4.0% Maintenance Materials: 4.0% Insurance: 4.0% Waste Disposal - Pretreatment: 4.0% - Fermentation: 4.0% - Solids Separation: 4.0% Chemicals: 4.0% Utilities: Power: 4.0% Water: 4.0% Natural Gas: 5.0% Steam: 4.0% Waste Water: 4.0% Feedstock: 4.0% Output: Ethanol: 8.0% CO ₂ : 4.0% Uplift: 4.0%	
SCHEDULE: (Beginning of Year) Present Day: 1994 Start Construction: 1995 Control of Capital Expenditure: 1997 First Year of Operation: 1998 Economic Life: 20 years Annual Operating Schedule: 300 days/yr Maturity Capacity Factor: 83.0% First Year Capacity Factor: 83.0% (Don't change this)		Tax Data: Federal income tax rate: 35.0% State income tax rate: 9.0% Effective rate: 40.0% Local tax rate (Other Flexible Tax): 8.25% Property Tax Rate: 0.0% \$/sq ft Estimated Annual Expenses: \$0 k/yr Ethanol Production Tax Credit: \$0.00 gal/yr max. 15,000,000 gal/yr Last year credit applies: 2000 Power for Certain Renew. Tax Credit: 0 (based on Table 2, Incentive Table) Economic Development Incentives: 0 Tax Depreciation: Buildings: 31.5 100% accel. bal. Development Costs: 0 Include in Depreciable Cost Plant: 3 200% accel. bal. Biomass Conversion: 3 200% accel. bal. Balance of Plant: 30 150% accel. bal. Book Depreciation: 20 years	
TECHNICAL: Capital Cost of Facility: 100% Sensitivity Index Land: \$7,500 k Buildings: \$2,375 k Development Costs: \$0 k Plant: Biomass Conversion: \$24,972 k Balance of Plant: \$43,832 k Total (Present Day) Capital Cost: \$115,878 k Escalation to Control of Expenditure: \$13,500 k (Total land not escalated) Interest During Construction: \$10,300 k Total Capital Cost at C.O. Date: \$139,478 k or \$234,418 per TPD Annual Operating Costs: 100% Sensitivity Index Fixed: Labor: 100% Sensitivity Index: \$5,800 gal/Ethanol \$3,010 k/yr Fixed Maintenance Materials: \$0.072 \$1,880 k/yr Insurance: 100% of Capital Cost: \$0.084 \$1,360 k/yr Total Fixed O&M Cost: \$0.350 gal/Ethanol \$5,450 k/yr Variable: Variable Maintenance: \$0.000 gal/Ethanol \$0 k/yr Waste Disposal - Pretreatment: \$0.000 \$0 - Fermentation: \$0.000 \$0 - Solids Separation: \$0.048 \$721 Chemicals: \$0.180 \$2,375 Utilities: Power: \$0.000 \$0 Water: \$0.002 \$0 Natural Gas: \$0.000 \$0 Steam: \$0.000 \$0 Waste Water: \$0.003 \$45 Total Variable O&M Cost: \$0.214 gal/Ethanol \$3,171 k/yr Total Fixed & Variable O&M: \$0.563 gal/Ethanol \$8,651 k/yr		FINANCIAL: Debt Structure: Debt Fraction: 80% Financing Term: 10 (Note: Must be <= Economic Life) Interest Rate: 10.0% Amortization of Loan: Level pm Short Term Construction Interest: 0.0% Target Return on Equity: 15.0%	
Feedstock: Blend: Waste Paper: 0.0% 0.0 lb/gal Ethanol Wood Waste: 0.0% 0.0 lb/gal Ethanol Mixed Stock: 100.0% 0.0 lb/gal Average Tipping Fee (\$/ton): \$40.00 Maximum Tipping Fee (\$/ton): \$40.00 Annual Quantity (wet tons / year): 0 185,285 190,200		Output (per ton of feedstock): Ethanol: 62.35 gal/wet ton CO ₂ : 0.00 CF/wet ton Uplift: 0.00 tons/wet ton Power: 221.85 kWh/wet ton Unit Price: Ethanol: \$2.24 /gal Required: 14,644,550 gallons Ethanol / year CO ₂ : \$0.00 /CF CF CO ₂ / year: 0 Uplift: \$0.00 /ton tons uplift / year: 0 Power: \$0.05 /kWh 36,888,400 kWh / year	

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is treated as revenue. If negative, tipping fee becomes feedstock charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/DEVELOPER
SITE LOCATION - ROCHESTER, NY

TABLE 4: REQUIRED ETHANOL PRICE
OPTION NO.: 15
565 TPD (year) of 100.0% MOVED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$40/TON;
WITH GASIFICATION

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol	\$2.24 /gallon	\$40,362	\$41,998	\$43,677	\$45,425	\$47,242	\$49,131	\$51,098	\$53,140	\$55,266	\$57,477
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		1,460	1,518	1,579	1,642	1,708	1,776	1,847	1,921	1,998	2,077
Tipping Fee-- Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$41,842	\$43,516	\$45,256	\$47,066	\$48,949	\$50,907	\$52,943	\$55,061	\$57,264	\$59,554
LESS O&M EXPENSES											
Labor - Supervisory		\$3,662	\$3,800	\$3,961	\$4,118	\$4,264	\$4,466	\$4,634	\$4,819	\$5,012	\$5,212
Fixed Maintenance Materials		1,314	1,367	1,421	1,478	1,537	1,599	1,663	1,729	1,798	1,870
Insurance		1,691	1,759	1,829	1,902	1,978	2,058	2,140	2,225	2,314	2,407
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		898	939	981	1,025	1,071	1,119	1,170	1,222	1,277	1,335
Chemicals		2,690	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power		0	0	0	0	0	0	0	0	0	0
Water		37	39	40	42	43	45	47	49	51	53
Waste Water		55	57	59	61	64	67	69	72	75	78
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$40.00	0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		3,452	3,590	3,734	3,883	4,038	4,200	4,368	4,543	4,724	4,913
Total O&M Expenses		\$22,771	\$23,667	\$24,639	\$25,629	\$26,669	\$27,731	\$28,846	\$30,008	\$31,212	\$32,467
GROSS MARGIN		\$19,071	\$19,829	\$20,617	\$21,437	\$22,280	\$23,176	\$24,097	\$25,053	\$26,051	\$27,087
INTEREST		(11,158)	(10,458)	(9,688)	(8,841)	(7,908)	(6,884)	(5,758)	(4,516)	(3,162)	(1,651)
TAX DEPRECIATION		(15,418)	(25,384)	(16,814)	(11,259)	(11,014)	(6,970)	(2,942)	(2,748)	(2,717)	(2,717)
TAXABLE INCOME		(\$7,505)	(\$16,013)	(\$5,685)	\$1,335	\$3,367	\$9,322	\$15,399	\$17,791	\$20,183	\$22,719
TAXES: Income		3,066	6,541	2,322	(548)	(1,375)	(3,308)	(8,200)	(7,267)	(8,245)	(9,261)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$4,439)	(\$16,472)	(\$3,362)	\$781	\$1,991	\$5,514	\$9,106	\$10,523	\$11,938	\$13,439
TAX DEPRECIATION		15,418	25,384	16,814	11,259	11,014	6,970	2,942	2,749	2,717	2,717
PLANT COST		(\$139,478)									
LOAN		\$111,583									
PRINCIPAL PAYMENTS		(7,001)	(7,701)	(8,472)	(9,319)	(10,251)	(11,276)	(12,403)	(13,644)	(15,008)	(16,508)
NET CASH FLOW		(\$27,896)	\$3,977	\$8,211	\$4,780	\$2,731	\$2,765	\$1,206	(\$353)	(\$372)	(\$353)
CUMULATIVE CASH FLOW		(\$27,896)	(\$23,919)	(\$15,708)	(\$10,928)	(\$8,197)	(\$5,432)	(\$4,224)	(\$4,959)	(\$5,312)	(\$5,665)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.050	1.092	1.135	1.180	1.227	1.276	1.327	1.380	1.435	1.492
CUM NPV	20.0%	(\$27,896)	(\$24,582)	(\$18,880)	(\$16,144)	(\$14,788)	(\$13,689)	(\$13,383)	(\$13,470)	(\$13,538)	(\$13,595)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - ROCHESTER, NY

TABLE 4: REQUIRED ETHANOL PRICE

OPTION NO.: 15

565 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$40/TON;
 WITH GASIFICATION

Stone & Webster Development Corporation

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	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
End of Year	15	16	17	18	19	20	21	22	23	24
Years from P.O.	11	12	13	14	15	16	17	18	19	20
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol \$2.24 /gallon	\$59,778	\$62,167	\$64,853	\$67,238	\$69,929	\$72,726	\$75,635	\$78,661	\$81,807	\$85,079
CO2	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	2,181	2,247	2,337	2,430	2,528	2,629	2,734	2,843	2,957	3,075
Tipping Fee - Waste Paper	0	0	0	0	0	0	0	0	0	0
- Waste Wood	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	0	0	0	0	0	0	0	0	0	0
Total Revenue	\$61,959	\$64,414	\$66,990	\$69,670	\$72,457	\$75,355	\$78,369	\$81,504	\$84,764	\$88,155
LESS O&M EXPENSES										
Labor - Supervisory	\$5,421	\$5,636	\$5,863	\$6,098	\$6,342	\$6,595	\$6,859	\$7,133	\$7,419	\$7,716
Fixed Maintenance Materials	1,945	2,023	2,104	2,186	2,275	2,369	2,461	2,560	2,662	2,768
Insurance	2,603	2,603	2,708	2,818	2,929	3,046	3,167	3,294	3,426	3,563
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	1,385	1,458	1,523	1,592	1,663	1,739	1,816	1,896	1,984	2,073
Chemicals	4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854	6,088
Power	0	0	0	0	0	0	0	0	0	0
Water	55	57	60	62	64	67	70	72	75	78
Waste Water	81	84	88	91	95	98	102	106	111	115
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper	0	0	0	0	0	0	0	0	0	0
- Waste Wood	0	0	0	0	0	0	0	0	0	0
- Mixed Stock \$40.00	12,985	13,505	14,045	14,607	15,191	15,795	16,430	17,088	17,771	18,482
Gross Receipts Tax (Income Tax Deductible)	5,110	5,314	5,527	5,748	5,976	6,217	6,465	6,724	6,993	7,273
Total O&M Expenses	\$33,772	\$35,130	\$36,543	\$38,012	\$39,540	\$41,130	\$42,784	\$44,505	\$46,284	\$48,158
GROSS MARGIN	\$28,187	\$29,283	\$30,446	\$31,658	\$32,917	\$34,225	\$35,585	\$36,999	\$38,479	\$39,996
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(2,717)	(2,717)	(2,717)	(2,717)	(2,717)	(2,717)	(2,717)	(2,717)	(2,717)	(2,717)
TAXABLE INCOME	\$25,470	\$26,566	\$27,731	\$28,941	\$30,199	\$31,508	\$32,868	\$34,282	\$35,762	\$37,279
TAXES: Income	(10,395)	(10,853)	(11,320)	(11,822)	(12,330)	(12,871)	(13,427)	(14,004)	(14,605)	(15,230)
Production Tax Credit	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX	\$15,075	\$15,713	\$16,411	\$17,119	\$17,869	\$18,637	\$19,441	\$20,278	\$21,157	\$22,049
TAX DEPRECIATION	2,717	2,717	2,717	2,717	2,717	2,717	2,717	2,717	2,717	2,717
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$17,792	\$18,430	\$19,128	\$19,836	\$20,586	\$21,354	\$22,158	\$22,995	\$23,869	\$24,786
CUMULATIVE CASH FLOW	\$12,104	\$30,535	\$49,663	\$69,499	\$90,085	\$111,423	\$133,581	\$156,576	\$180,440	\$205,166
CUMULATIVE IRR	6.53%	11.16%	13.55%	15.65%	17.53%	19.08%	20.41%	21.57%	22.60%	23.50%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	(\$11,204)	(\$9,137)	(\$7,350)	(\$5,805)	(\$4,489)	(\$3,314)	(\$2,313)	(\$1,452)	(\$705)	\$0

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is treated as revenue. If negative, tipping fee becomes feedstock charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER
SITE LOCATION - ROCHESTER, NY

TABLE 4: REQUIRED ETHANOL PRICE
OPTION NO.: 15
590 TPD (w/o) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$40/TON;
WITHOUT GASIFICATION; \$50/TON LIGNIN DISPOSAL COST

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.O.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		150,255	150,255	150,255	150,255	150,255	150,255	150,255	150,255	150,255	150,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol		\$2.48 / gallon	\$45,043	\$46,645	\$48,718	\$50,667	\$52,694	\$54,801	\$56,994	\$59,273	\$61,644
CO2			0	0	0	0	0	0	0	0	0
Lignin			0	0	0	0	0	0	0	0	0
Power			0	0	0	0	0	0	0	0	0
Tippling Fee- Waste Paper		\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood		\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock		\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue			\$45,043	\$46,645	\$48,718	\$50,667	\$52,694	\$54,801	\$56,994	\$59,273	\$61,644
LESS O&M EXPENSES											
Labor - Supervisory		\$2,810	\$2,823	\$3,040	\$3,191	\$3,288	\$3,419	\$3,556	\$3,698	\$3,848	\$4,000
Fixed Maintenance Materials		961	1,000	1,040	1,081	1,124	1,169	1,216	1,265	1,315	1,368
Insurance		1,295	1,318	1,369	1,423	1,480	1,539	1,601	1,665	1,732	1,801
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		6,135	6,411	6,899	7,001	7,315	7,645	7,989	8,349	8,724	9,117
Chemicals		2,890	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power		2,548	2,650	2,759	2,886	2,980	3,100	3,224	3,353	3,487	3,626
Water		83	88	90	93	97	101	105	109	114	119
Waste Water		55	57	59	61	64	67	69	72	75	78
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		1,914	2,019	2,130	2,247	2,371	2,501	2,639	2,784	2,937	3,099
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock		0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)			3,718	3,865	4,019	4,180	4,347	4,521	4,702	4,890	5,085
Total O&M Expenses			\$31,149	\$32,454	\$33,815	\$35,233	\$36,711	\$38,252	\$39,857	\$41,531	\$43,276
GROSS MARGIN			\$13,894	\$14,190	\$14,903	\$15,434	\$15,983	\$16,549	\$17,136	\$17,742	\$18,368
INTEREST			(\$307)	(\$785)	(\$2,12)	(\$581)	(\$855)	(\$1,125)	(\$1,485)	(\$1,942)	(\$2,498)
TAX DEPRECIATION			(\$14,055)	(\$22,772)	(\$14,215)	(\$9,050)	(\$6,970)	(\$5,087)	(\$1,103)	(\$1,148)	(\$1,135)
TAXABLE INCOME			(\$8,468)	(\$16,166)	(\$6,524)	(\$195)	\$1,123	\$6,336	\$11,641	\$13,234	\$14,667
TAXES: Income			3,459	6,805	2,005	81	(490)	(2,589)	(4,755)	(5,406)	(6,081)
Production Tax Credit			0	0	0	0	0	0	0	0	0
INCOME AFTER TAX			(\$5,009)	(\$9,583)	(\$4,529)	(\$117)	\$666	\$3,749	\$6,886	\$7,829	\$8,586
TAX DEPRECIATION			14,055	22,772	14,215	9,050	6,970	5,087	1,103	1,148	1,135
PLANT COST											
LOAN											
PRINCIPAL PAYMENTS											
NET CASH FLOW			(\$20,766)	\$3,834	\$7,476	\$4,050	\$1,996	\$2,004	\$442	(\$1,138)	(\$1,083)
CUMULATIVE CASH FLOW			(\$20,766)	(\$16,932)	(\$9,456)	(\$5,406)	(\$3,410)	(\$1,408)	(\$983)	(\$2,101)	(\$3,284)
CUMULATIVE IRR			NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO			1.025	1.084	1.102	1.142	1.182	1.224	1.268	1.312	1.359
CUM NPV			20.0%	(\$20,766)	(\$17,571)	(\$12,379)	(\$10,036)	(\$9,073)	(\$8,265)	(\$5,119)	(\$3,437)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER
SITE LOCATION - ROCHESTER, NY

TABLE 4: REQUIRED ETHANOL PRICE

OPTION NO.: 18

525 TPD (wet) of 100.0% MIXED STOCK (54% WASTE WOOD & 56% WASTE PAPER) @ \$40/TON;
WITHOUT GASIFICATION; \$58/TON LIGNIN DISPOSAL COST

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol	\$2.48 /gallon	\$68,674	\$68,341	\$72,115	\$75,000	\$78,000	\$81,120	\$84,384	\$87,739	\$91,248
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$68,674	\$68,341	\$72,115	\$75,000	\$78,000	\$81,120	\$84,384	\$87,739	\$91,248
LESS O&M EXPENSES										
Labor - Supervisory	\$4,160	\$4,327	\$4,500	\$4,680	\$4,867	\$5,061	\$5,264	\$5,475	\$5,693	\$5,921
Fixed Maintenance Materials	1,423	1,480	1,539	1,600	1,664	1,731	1,800	1,872	1,947	2,025
Insurance	1,873	1,848	2,026	2,107	2,191	2,279	2,370	2,465	2,563	2,666
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	9,527	9,958	10,404	10,872	11,361	11,873	12,407	12,965	13,549	14,158
Chemicals	4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854	6,088
Power	3,771	3,922	4,079	4,242	4,412	4,588	4,772	4,963	5,161	5,368
Water	123	128	133	138	144	150	156	162	168	175
Waste Water	81	84	88	91	95	98	102	106	111	115
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	3,268	3,448	3,639	3,839	4,050	4,273	4,508	4,755	5,017	5,293
Feedstock - Waste Paper	0	0	0	0	0	0	0	0	0	0
- Waste Wood	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$40.00	12,985	13,505	14,048	14,607	15,191	15,798	16,430	17,088	17,771
Gross Receipts Tax (Income Tax Deductible)	5,501	5,721	5,948	6,187	6,435	6,692	6,960	7,238	7,528	7,829
Total O&M Expenses		\$48,981	\$48,987	\$51,027	\$53,175	\$55,414	\$57,749	\$60,181	\$62,710	\$65,383
GROSS MARGIN		\$19,694	\$19,354	\$21,088	\$21,825	\$22,586	\$23,371	\$24,203	\$25,029	\$25,865
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(1,135)	(1,135)	(1,135)	(1,135)	(1,135)	(1,135)	(1,135)	(1,135)	(1,135)	(5,819)
TAXABLE INCOME		\$18,559	\$18,219	\$19,953	\$20,690	\$21,451	\$22,236	\$23,068	\$23,894	\$20,046
TAXES: Income	(7,577)	(7,577)	(7,577)	(7,577)	(7,577)	(7,577)	(7,577)	(7,577)	(7,577)	(7,577)
Production Tax Credit	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$10,982	\$10,642	\$12,376	\$13,113	\$13,874	\$14,659	\$15,491	\$16,317	\$12,469
TAX DEPRECIATION	1,135	1,135	1,135	1,135	1,135	1,135	1,135	1,135	1,135	5,819
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$12,117	\$11,777	\$13,511	\$14,248	\$15,009	\$15,794	\$16,626	\$17,452	\$18,288
CUMULATIVE CASH FLOW		\$12,117	\$23,894	\$37,405	\$51,653	\$66,662	\$82,456	\$99,082	\$116,534	\$134,822
CUMULATIVE IRR		5.86%	10.07%	13.73%	16.89%	19.61%	21.97%	24.00%	25.75%	27.28%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$7,532)	(\$6,129)	(\$4,919)	(\$3,878)	(\$2,981)	(\$2,208)	(\$1,542)	(\$900)	(\$475)

03/28/05

Note: The average Net Profit is calculated so that the profit yields the Target Return on Equity. If value is positive, then the fee is treated as expense. If negative, then the fee becomes feedback charge and is an expense.

BIO MASS - TO - ETHANOL PRODUCTION FACILITY
 PROFORMA FINANCIAL STATEMENT
 THIRD PARTY CONTRACTOR / DEVELOPER
 SITE LOCATION - ROCHESTER, NY

TABLE 4: REQUIRED ETHANOL PRICE

OPTION NO.: 17

565 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$20/TON;
 WITHOUT GASIFICATION; \$0/TON LIGNIN DISPOSAL COST

Stone & Webster Development Corporation

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	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
End of Year	4	5	6	7	8	9	10	11	12	13	14
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol	\$1.85 /gal Net	\$33,402	\$34,738	\$36,128	\$37,573	\$39,078	\$40,639	\$42,264	\$43,958	\$45,713	\$47,542
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$33,402	\$34,738	\$36,128	\$37,573	\$39,078	\$40,639	\$42,264	\$43,958	\$45,713	\$47,542
LESS O&M EXPENSES											
Labor - Supervisory		\$2,810	\$2,823	\$3,040	\$3,181	\$3,268	\$3,419	\$3,556	\$3,698	\$3,846	\$4,000
Fixed Maintenance Materials		981	1,000	1,040	1,081	1,124	1,169	1,218	1,265	1,315	1,368
Insurance		1,265	1,316	1,369	1,423	1,480	1,539	1,601	1,665	1,732	1,801
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0	0
Chemicals		2,890	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power		2,548	2,650	2,756	2,866	2,980	3,100	3,224	3,353	3,487	3,626
Water		63	66	69	73	77	81	86	90	95	100
Waste Water		33	37	39	41	44	47	50	53	57	60
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		1,914	2,019	2,130	2,247	2,371	2,501	2,639	2,784	2,937	3,099
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$23.00	4,386	4,582	4,744	4,934	5,131	5,336	5,550	5,772	6,003	6,243
Gross Receipts Tax (Income Tax Deductible)		2,756	2,866	2,981	3,100	3,224	3,353	3,487	3,626	3,771	3,922
Total O&M Expenses		\$10,668	\$10,483	\$11,333	\$12,218	\$13,140	\$14,102	\$15,103	\$16,147	\$17,235	\$18,368
GROSS MARGIN		\$13,734	\$14,255	\$14,795	\$15,355	\$15,938	\$16,537	\$17,161	\$17,811	\$18,478	\$19,174
INTEREST		(6,307)	(7,785)	(7,212)	(8,561)	(8,888)	(9,125)	(9,285)	(9,362)	(9,346)	(9,229)
TAX DEPRECIATION		(14,055)	(22,772)	(14,215)	(9,050)	(8,970)	(5,087)	(1,210)	(1,146)	(1,135)	(1,135)
TAXABLE INCOME		(\$6,627)	(\$16,303)	(\$6,632)	(\$277)	\$1,079	\$6,326	\$11,666	\$13,300	\$14,997	\$16,809
TAXES: Income		3,524	8,680	2,709	113	(440)	(2,584)	(4,786)	(5,433)	(5,120)	(5,667)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$5,103)	(\$9,643)	(\$6,923)	(\$164)	\$636	\$3,742	\$6,881	\$7,867	\$8,877	\$11,142
TAX DEPRECIATION		14,055	22,772	14,215	9,050	8,970	5,087	1,210	1,146	1,135	1,135
PLANT COST	(\$103,832)										
LOAN	\$83,066										
PRINCIPAL PAYMENTS		(\$2,12)	(\$,733)	(\$,307)	(\$,937)	(\$,631)	(\$,384)	(\$,233)	(\$,157)	(\$,112)	(\$,280)
NET CASH FLOW		(\$20,786)	\$3,740	\$7,386	\$3,985	\$1,649	\$1,076	\$435	(\$1,123)	(\$1,144)	(\$1,166)
CUMULATIVE CASH FLOW		(\$20,786)	(\$17,020)	(\$9,630)	(\$5,644)	(\$3,995)	(\$2,919)	(\$2,484)	(\$3,607)	(\$4,751)	(\$5,917)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.016	1.054	1.094	1.136	1.179	1.223	1.269	1.317	1.367	1.418
CUM NPV	20.0%	(\$20,786)	(\$17,650)	(\$12,513)	(\$10,207)	(\$9,267)	(\$8,472)	(\$7,827)	(\$7,340)	(\$6,992)	(\$6,728)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/DEVELOPER
SITE LOCATION - ROCHESTER, NY

TABLE 4: REQUIRED ETHANOL PRICE

OPTION NO.: 17

595 TPD (w/o) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$20/TON;
WITHOUT GASIFICATION; \$9/TON LIGNIN DISPOSAL COST

Stone & Webster Development Corporation

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	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
End of Year	15	16	17	18	19	20	21	22	23	24
Years from P.D.	11	12	13	14	15	16	17	18	19	20
Operating Year										
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$'000's)										
REVENUE										
Ethanol	\$1.85 / gallon	\$49,443	\$51,421	\$53,478	\$55,617	\$57,842	\$60,155	\$62,582	\$65,064	\$67,687
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$49,443	\$51,421	\$53,478	\$55,617	\$57,842	\$60,155	\$62,582	\$65,064	\$67,687
LESS O&M EXPENSES										
Labor - Supervisory		\$4,180	\$4,327	\$4,500	\$4,680	\$4,867	\$5,061	\$5,264	\$5,475	\$5,693
Fixed Maintenance Materials		1,423	1,480	1,539	1,600	1,664	1,731	1,800	1,872	1,947
Insurance		1,873	1,848	2,026	2,107	2,191	2,279	2,370	2,465	2,563
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0
Chemicals		4,277	4,440	4,627	4,812	5,004	5,204	5,412	5,629	5,854
Power		3,771	3,922	4,078	4,242	4,412	4,588	4,772	4,963	5,161
Water		123	128	133	138	144	150	156	162	168
Waste Water		81	84	88	91	95	98	102	106	111
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		3,289	3,449	3,639	3,839	4,050	4,273	4,508	4,755	5,017
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0
- Mixed Stock	\$20.00	6,493	6,752	7,022	7,300	7,595	7,899	8,215	8,544	8,886
Gross Receipts Tax (Income Tax Deductible)		4,079	4,242	4,412	4,588	4,772	4,963	5,161	5,368	5,586
Total O&M Expenses		\$29,549	\$30,780	\$32,083	\$33,400	\$34,794	\$36,248	\$37,760	\$39,335	\$40,983
GROSS MARGIN		\$19,894	\$20,641	\$21,415	\$22,217	\$23,048	\$23,907	\$24,821	\$25,729	\$26,683
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(1,135)	(1,135)	(1,135)	(1,135)	(1,135)	(1,135)	(1,135)	(1,135)	(1,135)
TAXABLE INCOME		\$18,759	\$19,506	\$20,280	\$21,082	\$21,913	\$22,772	\$23,686	\$24,594	\$25,548
TAXES: Income		(7,583)	(7,988)	(8,284)	(8,612)	(8,961)	(9,333)	(9,728)	(10,145)	(10,586)
Production Tax Credit		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$11,096	\$11,518	\$11,996	\$12,470	\$12,952	\$13,439	\$13,958	\$14,449	\$14,962
TAX DEPRECIATION		1,135	1,135	1,135	1,135	1,135	1,135	1,135	1,135	1,135
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$12,231	\$12,653	\$13,131	\$13,605	\$14,087	\$14,566	\$15,043	\$15,517	\$15,977
CUMULATIVE CASH FLOW		\$12,231	\$24,884	\$38,015	\$51,620	\$65,707	\$80,273	\$95,316	\$110,833	\$126,810
CUMULATIVE IRR		5.57%	10.78%	13.86%	15.54%	16.87%	17.84%	18.50%	19.00%	19.36%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	\$7,852	\$6,280	\$5,033	\$3,974	\$3,059	\$2,269	\$1,587	\$998	\$489

TABLE 2: CASE INPUT

03/29/98
 02:22 PM

CASE: 595 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$40/TON;
 WITHOUT GASIFICATION: \$0/TON LIGNIN DISPOSAL COST

INPUT:		ECONOMIC:	
CASE:	Option Number	18	Inflation Rate (FP)
Plant Size (feedstock rate)	595 TPD wet, as-tipped GPD		Escalation Rates (Nominal)
Ethanol Production	45,000		Capital Cost
Plant Size	1		O&M Costs:
Additional byproduct?	CO2: 0 (0 = No, 1 = Yes)		Labor
	Lignin: 1		Maintenance Materials
	Power: 0		Insurance
SCHEDULE:	(Beginning of Year)		Waste Disposal - Pretreatment
Present Day	1994		- Fermentation
Start Construction	1996		- Solids Separation
Centroid of Capital Expenditure	1997		
First Year of Operation	1998		Chemicals
Economic Life	20 years		Utilities:
Annual Operating Schedule	303 days/yr		Power
	63.0% Mature Capacity Factor		Water
	63.0% First Year Capacity Factor		Natural Gas
	(Don't change this)		Steam
TECHNICAL:			Waste Water
Capital Cost of Facility	100% Sensitivity Index		Feedstock
Land	\$7,500 k		Output:
Buildings	\$9,375 k		Ethanol
Development Costs	\$0 k		CO2
Plant:			Lignin
Stonewall Conversion	\$54,972 k		
Balance of Plant	\$14,485 k		
Total Present Day Capital Cost	\$64,322 k		
Escalation to Centroid of Expenditure	\$8,800 k (Note: land not escalated)		
Interest During Construction	\$7,700 k		
Total Capital Cost at C.O.D. Date	\$100,832 k = \$174,506 (wet TPD)		
Annual Operating Costs	100% Sensitivity Index		
Fixed:			
Labor	\$0.190 /gal Ethanol	\$2,310 /yr	
Fixed Maintenance Materials	\$0.053	\$790 /yr	
Insurance	\$0.070	\$1,042 /yr	
Total Fixed O&M Cost	\$0.279 /gal Ethanol	\$4,142 /yr	
Variable:			
Variable Maintenance	\$0.000 /gal Ethanol	\$0 /yr	
Waste Disposal - Pretreatment	\$0.000	\$0	
- Fermentation	\$0.000	\$0	
- Solids Separation	\$0.000	\$0	
Chemicals	\$0.180	\$2,375	
Utilities:			
Power	\$0.141	\$2,084	
Water	\$0.005	\$68	
Natural Gas	\$0.089	\$1,404	
Steam	\$0.000	\$0	
Waste Water	\$0.003	\$43	
Total Variable O&M Cost	\$0.407 /gal Ethanol	\$6,047 /yr	
Total Fixed & Variable O&M	\$0.686 /gal Ethanol	\$10,187 /yr	
Feedstock:			
Waste Paper	0.0% 0.0 /gal Ethanol		
Wood Waste	0.0% 0.0		
Mixed Stock	100.0% 0.0 /gal Average		
Output:			
Ethanol	\$2.35 /gal/wet ton	\$2.31 /gal Required	14,644,000 gallons Ethanol / year
CO2	0.00 CF/wet ton	0.00 CF	0 CF CO2 / year
Lignin	0.55 tons/wet ton	20.00 /ton	66,450 tons lignin / year
Power	0.00 tons/wet ton	0.00 /ton	0 /ton / year

Tipping Fee		Maximum Tipping Fee		Annual Quantities	
Waste Paper	0.0%	0.0	0	0	0 wet tons / year
Wood Waste	0.0%	0.0	0	0	0 wet tons / year
Mixed Stock	100.0%	0.0	0	180,250	180,250 wet tons / year

Lignin Price		Lignin Price	
CF	\$0.00	CF	\$0.00
ton	\$0.00	ton	\$0.00
ton	\$0.00	ton	\$0.00

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is treated as revenue. If negative, tipping fee becomes feedstock charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/DEVELOPER
SITE LOCATION - ROCHESTER, NY

OPTION NO. 4: REQUIRED ETHANOL PRICE

OPTION NO. 4

585 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$40/TON:
WITHOUT GASIFICATION: \$0/TON LIGNIN DISPOSAL COST

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,530	14,844,530	14,844,530	14,844,530	14,844,530	14,844,530	14,844,530	14,844,530	14,844,530	14,844,530
CASH FLOW STATEMENT (\$'000's)											
REVENUE											
Ethanol	\$2.11/gallon	\$38,183	\$39,710	\$41,238	\$42,560	\$44,068	\$46,455	\$48,313	\$50,248	\$52,258	\$54,348
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$38,183	\$39,710	\$41,238	\$42,560	\$44,068	\$46,455	\$48,313	\$50,248	\$52,258	\$54,348
LESS O&M EXPENSES											
Labor - Supervisory		\$2,810	\$2,823	\$3,040	\$3,181	\$3,288	\$3,419	\$3,556	\$3,698	\$3,846	\$4,000
Fixed Maintenance Materials		981	1,000	1,040	1,081	1,124	1,169	1,218	1,265	1,315	1,368
Insurance		1,265	1,318	1,368	1,423	1,480	1,539	1,601	1,665	1,732	1,801
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0	0
Chemicals		2,890	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power		2,548	2,650	2,758	2,869	2,980	3,100	3,224	3,353	3,487	3,626
Water		83	86	90	93	97	101	105	109	114	118
Waste Water		55	57	59	61	64	67	69	72	75	78
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		1,814	2,019	2,130	2,247	2,371	2,501	2,639	2,784	2,937	3,099
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$40.00	6,772	8,123	9,488	9,868	10,262	10,673	11,100	11,544	12,008	12,485
Gross Receipts Tax (Income Tax Deductible)		3,180	3,278	3,407	3,543	3,685	3,833	3,986	4,145	4,311	4,484
Total O&M Expenses		\$24,448	\$25,455	\$26,503	\$27,598	\$28,733	\$29,918	\$31,152	\$32,438	\$33,777	\$35,172
GROSS MARGIN		\$13,734	\$14,255	\$14,735	\$15,358	\$15,835	\$16,837	\$17,161	\$17,810	\$18,481	\$19,176
INTEREST		(5,307)	(7,785)	(7,212)	(5,581)	(5,069)	(5,125)	(4,285)	(3,392)	(2,346)	(1,229)
TAX DEPRECIATION		(14,056)	(22,772)	(14,215)	(9,050)	(8,970)	(5,087)	(1,210)	(1,148)	(1,135)	(1,135)
TAXABLE INCOME		(\$5,627)	(\$10,303)	(\$6,632)	(\$277)	\$1,078	\$6,323	\$11,666	\$13,300	\$14,997	\$16,609
TAXES: Income		3,524	6,660	2,708	113	(440)	(2,584)	(4,788)	(5,433)	(5,128)	(5,867)
Production Tax Credit		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$5,103)	(\$9,843)	(\$3,923)	(\$164)	\$838	\$3,742	\$6,878	\$7,867	\$9,869	\$10,742
TAX DEPRECIATION		14,055	22,772	14,215	9,050	8,970	5,087	1,210	1,148	1,135	1,135
PLANT COST	(\$100,632)										
LOAN	\$83,066										
PRINCIPAL PAYMENTS		(\$2,112)	(\$,733)	(\$,307)	(\$,937)	(\$,631)	(\$,394)	(\$,233)	(\$,157)	(\$,172)	(\$,290)
NET CASH FLOW		(\$20,768)	\$3,740	\$7,398	\$3,986	\$1,949	\$1,978	\$435	(\$1,123)	(\$1,144)	(\$1,188)
CUMULATIVE CASH FLOW		(\$20,768)	(\$17,028)	(\$9,630)	(\$5,644)	(\$3,695)	(\$1,716)	(\$1,284)	(\$2,407)	(\$3,551)	(\$4,739)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.016	1.054	1.094	1.138	1.179	1.223	1.269	1.317	1.367	1.418
CUM NPV	20.0%	(\$20,768)	(\$17,850)	(\$12,513)	(\$10,207)	(\$9,267)	(\$8,472)	(\$8,327)	(\$8,640)	(\$8,908)	(\$9,326)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - ROCHESTER, NY

TABLE 4: REQUIRED ETHANOL PRICE

OPTION NO. 1

595 TPD (wet) at 100.0%

MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$48/TON;
WITHOUT GASIFICATION; \$0/TON LIGNIN DISPOSAL COST

Stone & Webster Development Corporation

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	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
End of Year	15	16	17	18	19	20	21	22	23	24
Years from P.D.	11	12	13	14	15	16	17	18	19	20
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$'000's)										
REVENUE										
Ethanol	\$2.11 /gallon	\$58,520	\$58,781	\$61,132	\$63,577	\$66,120	\$68,765	\$71,518	\$74,378	\$77,351
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$58,520	\$58,781	\$61,132	\$63,577	\$66,120	\$68,765	\$71,518	\$74,378	\$77,351
LESS O&M EXPENSES										
Labor - Supervisory		\$4,160	\$4,327	\$4,500	\$4,680	\$4,867	\$5,061	\$5,264	\$5,475	\$5,693
Fixed Maintenance Materials		1,423	1,480	1,539	1,600	1,664	1,731	1,800	1,872	1,947
Insurance		1,873	1,948	2,026	2,107	2,191	2,278	2,370	2,463	2,563
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0
Chemicals		4,277	4,448	4,627	4,812	5,004	5,204	5,412	5,629	5,854
Power		3,771	3,922	4,079	4,242	4,412	4,588	4,772	4,963	5,161
Water		123	128	133	138	144	150	158	162	168
Waste Water		81	84	88	91	95	98	102	106	111
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		3,269	3,449	3,639	3,839	4,050	4,273	4,508	4,755	5,017
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0
- Mixed Stock		0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		4,893	4,848	5,043	5,245	5,455	5,673	5,900	6,136	6,381
Total O&M Expenses		\$36,826	\$38,140	\$39,717	\$41,380	\$43,072	\$44,856	\$46,714	\$48,650	\$50,666
GROSS MARGIN		\$21,694	\$20,641	\$21,415	\$22,197	\$23,048	\$23,909	\$24,801	\$25,728	\$26,685
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(1,135)	(1,135)	(1,135)	(1,135)	(1,135)	(1,135)	(1,135)	(1,135)	(1,135)
TAXABLE INCOME		\$19,759	\$19,506	\$20,280	\$21,062	\$21,913	\$22,774	\$23,666	\$24,593	\$25,550
TAXES: Income		(7,683)	(7,688)	(8,284)	(8,612)	(8,951)	(9,303)	(9,668)	(10,046)	(10,436)
Production Tax Credit		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$11,998	\$11,538	\$11,996	\$12,450	\$12,962	\$13,471	\$13,998	\$14,547	\$15,114
TAX DEPRECIATION		1,135	1,135	1,135	1,135	1,135	1,135	1,135	1,135	1,135
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$12,231	\$12,673	\$13,131	\$13,605	\$14,097	\$14,606	\$15,134	\$15,680	\$16,247
CUMULATIVE CASH FLOW		\$6,303	\$18,975	\$32,106	\$45,711	\$58,807	\$71,413	\$83,547	\$95,227	\$106,474
CUMULATIVE IRR		6.57%	10.79%	13.66%	15.64%	16.87%	17.84%	18.58%	19.15%	19.60%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$7,982)	(\$5,260)	(\$3,033)	(\$3,974)	(\$3,059)	(\$2,209)	(\$1,387)	(\$598)	(\$489)

Note: The average fee per job is calculated so that the protocol yields the Target Return on Equity. If value is positive, sharing fee is treated as revenue. If negative, such a fee becomes feedback charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - SYRACUSE, NY

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 20

695 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$20/TON;

WITHOUT GASIFICATION; \$60/TON LIGNIN

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.O.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol		\$39,704	\$41,386	\$43,042	\$44,763	\$46,554	\$48,416	\$50,353	\$52,367	\$54,462	\$56,640
CO ₂		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock		0	0	0	0	0	0	0	0	0	0
Total Revenue		\$39,704	\$41,386	\$43,042	\$44,763	\$46,554	\$48,416	\$50,353	\$52,367	\$54,462	\$56,640
LESS O&M EXPENSES											
Labor - Supervisory		\$2,810	\$2,923	\$3,040	\$3,161	\$3,286	\$3,419	\$3,558	\$3,698	\$3,846	\$4,000
Fixed Maintenance Materials		937	974	1,013	1,054	1,099	1,140	1,185	1,233	1,282	1,333
Insurance		1,229	1,278	1,329	1,382	1,438	1,495	1,555	1,617	1,682	1,749
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		6,135	6,411	6,689	7,001	7,310	7,646	7,989	8,349	8,724	9,117
Chemicals		2,580	3,005	3,126	3,251	3,381	3,510	3,650	3,800	3,955	4,113
Power		2,648	2,850	2,750	2,866	2,980	3,100	3,224	3,353	3,487	3,626
Water		65	69	71	74	78	80	83	86	89	93
Waste Water		21	22	22	23	24	25	26	27	28	29
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		1,914	2,019	2,100	2,247	2,371	2,501	2,639	2,784	2,937	3,099
Feedstock		0	0	0	0	0	0	0	0	0	0
- Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock		4,386	4,502	4,744	4,934	5,151	5,396	5,550	5,772	6,003	6,243
Gross Receipts Tax (Income Tax Deductible)		3,263	3,414	3,551	3,693	3,841	3,994	4,154	4,320	4,483	4,673
Total O&M Expenses		\$28,217	\$27,326	\$28,481	\$29,666	\$30,942	\$32,262	\$33,617	\$35,042	\$36,527	\$38,075
GROSS MARGIN		\$13,577	\$14,061	\$14,561	\$15,078	\$15,612	\$16,155	\$16,735	\$17,325	\$17,935	\$18,565
INTEREST		(\$1,097)	(\$1,589)	(\$1,030)	(\$1,415)	(\$1,739)	(\$1,895)	(\$1,177)	(\$1,277)	(\$1,287)	(\$1,188)
TAX DEPRECIATION		(\$13,620)	(\$22,071)	(\$13,784)	(\$1,782)	(\$1,703)	(\$1,842)	(\$1,187)	(\$1,125)	(\$1,114)	(\$1,114)
TAXABLE INCOME		(\$5,140)	(\$15,599)	(\$8,253)	(\$120)	\$1,170	\$6,227	\$11,371	\$12,921	\$14,533	\$16,252
TAXES: Income		3,325	6,372	2,554	49	(475)	(2,544)	(4,645)	(5,279)	(5,937)	(6,639)
Tax Credits		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$5,615)	(\$15,227)	(\$3,899)	(\$71)	\$692	\$3,683	\$6,726	\$7,644	\$8,597	\$9,613
TAX DEPRECIATION		13,620	22,071	13,784	8,782	8,703	4,942	1,187	1,125	1,114	1,114
PLANT COST		(\$101,210)									
LOAN		\$80,985									
PRINCIPAL PAYMENTS		(\$1,090)	(\$1,580)	(\$1,147)	(\$1,782)	(\$1,438)	(\$1,182)	(\$1,009)	(\$1,000)	(\$1,000)	(\$1,000)
NET CASH FLOW		(\$20,242)	\$3,725	\$7,256	\$3,818	\$1,950	\$1,957	\$444	(\$1,087)	(\$1,131)	(\$1,178)
CUMULATIVE CASH FLOW		(\$20,242)	(\$16,517)	(\$8,261)	(\$5,323)	(\$3,374)	(\$1,417)	(\$973)	(\$2,060)	(\$3,191)	(\$4,370)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.000	1.067	1.105	1.144	1.185	1.227	1.270	1.315	1.361	1.409
CUM NPV		20.0%	(\$20,242)	(\$17,138)	(\$12,099)	(\$8,820)	(\$5,860)	(\$3,094)	(\$7,945)	(\$8,248)	(\$8,511)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - SYRACUSE, NY

TABLE 3: REQUIRED ETHANOL PRICE
OPTION NO.: 20
585 TPD (wet) of 100.0% MIXED STOCK (60% WASTE WOOD & 40% WASTE PAPER) @ \$20/TON;
WITHOUT GASIFICATION: \$50/TON LIGNIN

Stone & Webster Development Corporation

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	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
End of Year	15	16	17	18	19	20	21	22	23	24
Years from P.D.	11	12	13	14	15	16	17	18	19	20
Operating Year										
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol	\$2.20 /gallon	\$58,906	\$61,282	\$63,712	\$66,261	\$68,911	\$71,668	\$74,534	\$77,516	\$80,616
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tipping Fee- Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$58,906	\$61,282	\$63,712	\$66,261	\$68,911	\$71,668	\$74,534	\$77,516	\$80,616
LESS O&M EXPENSES										
Labor - Supervisory		\$4,180	\$4,327	\$4,500	\$4,680	\$4,867	\$5,061	\$5,264	\$5,475	\$5,691
Fixed Maintenance Materials		1,387	1,442	1,500	1,560	1,622	1,687	1,755	1,825	1,898
Insurance		1,619	1,692	1,767	1,846	1,929	2,013	2,102	2,194	2,289
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		9,527	9,858	10,404	10,872	11,361	11,873	12,407	12,965	13,549
Chemicals		4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854
Power		3,771	3,822	4,076	4,242	4,412	4,586	4,772	4,963	5,161
Waste		97	101	105	109	113	118	122	127	132
Waste Water		31	32	33	34	36	37	39	40	42
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		3,289	3,448	3,639	3,838	4,050	4,273	4,508	4,755	5,017
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0
- Mixed Stock		6,493	6,732	7,022	7,363	7,756	8,203	8,715	9,297	9,941
Gross Receipts Tax (Income Tax Deductible)		4,860	5,054	5,258	5,467	5,685	5,913	6,149	6,395	6,651
Total O&M Expenses		\$39,891	\$41,375	\$43,131	\$44,963	\$46,874	\$48,866	\$50,944	\$53,112	\$55,372
GROSS MARGIN		\$19,015	\$19,907	\$20,581	\$21,298	\$22,038	\$22,801	\$23,590	\$24,404	\$25,244
INTEREST		0	0	0	0	0	0	0	0	0
TAX DEPRECIATION		(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)
TAXABLE INCOME		\$17,901	\$18,793	\$19,467	\$20,183	\$20,923	\$21,687	\$22,476	\$23,290	\$24,130
TAXES: Income		(7,394)	(7,669)	(7,932)	(8,245)	(8,547)	(8,859)	(9,181)	(9,514)	(9,857)
Tax Credits		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$10,507	\$11,124	\$11,535	\$11,938	\$12,376	\$12,828	\$13,294	\$13,776	\$14,273
TAX DEPRECIATION		1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$11,621	\$12,238	\$12,649	\$13,052	\$13,490	\$13,942	\$14,408	\$14,890	\$15,387
CUMULATIVE CASH FLOW		\$0,399	\$16,417	\$31,046	\$44,098	\$55,588	\$65,530	\$74,938	\$83,828	\$92,215
CUMULATIVE IRR		5.70%	10.88%	13.74%	15.60%	16.91%	17.87%	18.60%	19.17%	20.00%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$7,351)	(\$5,981)	(\$4,800)	(\$3,764)	(\$2,868)	(\$2,104)	(\$1,505)	(\$945)	(\$404)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER
SITE LOCATION - SYRACUSE, NY

TABLES: REQUIRED ETHANOL PRICE

OPTION NO.: 21

585 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$40/TON;
WITH GASIFICATION

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol <input type="text" value="\$2.20"/> /gallon		\$39,802	\$41,394	\$43,049	\$44,771	\$46,562	\$48,425	\$50,362	\$52,378	\$54,471	\$56,650
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		1,480	1,518	1,579	1,642	1,708	1,778	1,847	1,921	1,998	2,077
Tipping Fee - Waste Paper	<input type="text" value="\$0.00"/>	0	0	0	0	0	0	0	0	0	0
- Waste Wood	<input type="text" value="\$0.00"/>	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	<input type="text" value="\$0.00"/>	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$41,281	\$42,912	\$44,628	\$46,413	\$48,270	\$50,201	\$52,209	\$54,297	\$56,469	\$58,728
LESS O&M EXPENSES											
Labor - Supervisory		\$3,662	\$3,669	\$3,661	\$4,119	\$4,284	\$4,458	\$4,634	\$4,819	\$5,012	\$5,212
Food Maintenance Materials		1,277	1,328	1,382	1,437	1,494	1,554	1,618	1,681	1,745	1,810
Insurance		1,585	1,721	1,780	1,881	1,938	2,013	2,094	2,177	2,264	2,355
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		898	939	981	1,025	1,071	1,119	1,170	1,222	1,277	1,335
Chemicals		2,890	3,005	3,128	3,251	3,381	3,518	3,658	3,803	3,955	4,113
Power	Economic Incentives Reduction: <input type="text" value="0%"/>	0	0	0	0	0	0	0	0	0	0
Water		29	30	32	33	34	36	37	38	40	42
Waste Water		21	22	22	23	24	25	26	27	28	29
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas	Economic Incentives Reduction: <input type="text" value="0%"/>	0	0	0	0	0	0	0	0	0	0
Feedstock		0	0	0	0	0	0	0	0	0	0
- Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock	<input type="text" value="\$40.00"/>	0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		8,772	9,123	9,488	9,868	10,262	10,673	11,100	11,544	12,004	12,488
Total O&M Expenses		\$22,008	\$23,517	\$24,463	\$25,448	\$26,489	\$27,593	\$28,740	\$29,931	\$30,968	\$32,235
GROSS MARGIN		\$19,273	\$19,395	\$20,165	\$20,965	\$21,801	\$22,608	\$23,509	\$24,366	\$25,501	\$26,493
INTEREST		(10,896)	(10,212)	(9,460)	(8,633)	(7,723)	(6,722)	(5,621)	(4,410)	(3,078)	(1,612)
TAX DEPRECIATION		(14,957)	(24,634)	(16,138)	(10,950)	(10,709)	(8,790)	(2,888)	(2,698)	(2,667)	(2,667)
TAXABLE INCOME		\$7,200	\$15,452	\$25,433	\$31,385	\$33,389	\$38,155	\$15,000	\$17,358	\$19,735	\$22,214
TAXES: Income		2,841	6,312	2,219	(505)	(1,378)	(3,740)	(8,152)	(7,107)	(5,082)	(8,074)
Tax Credits	<input type="text" value="\$0"/> Investment <input type="text" value="\$0"/> Wages	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$4,259	\$9,140	\$23,214	\$31,890	\$34,727	\$41,895	\$6,848	\$10,251	\$14,653	\$14,140
TAX DEPRECIATION		14,857	24,634	16,138	10,950	10,709	8,790	2,888	2,698	2,667	2,667
PLANT COST	<input type="text" value="\$138,187"/>										
LOAN	<input type="text" value="\$108,958"/>										
PRINCIPAL PAYMENTS		(8,837)	(7,520)	(6,272)	(5,069)	(10,009)	(11,010)	(12,111)	(13,323)	(14,655)	(16,120)
NET CASH FLOW		\$27,239	\$3,862	\$26,942	\$26,821	\$24,718	\$30,885	\$14,737	\$17,928	\$20,008	\$22,214
CUMULATIVE CASH FLOW		\$27,239	\$31,701	\$58,643	\$85,464	\$110,182	\$141,067	\$155,804	\$173,732	\$193,740	\$215,954
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.052	1.094	1.137	1.182	1.229	1.278	1.329	1.382	1.437	1.494
CUM NPV	<input type="text" value="20.0%"/>	\$27,239	\$24,021	\$19,484	\$15,791	\$14,504	\$13,422	\$13,022	\$13,187	\$13,248	\$13,289

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/DEVELOPER
SITE LOCATION - SYRACUSE, NY

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 21

505 TPD (wet) of 100.0% MODED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$40/TON;
WITH GASIFICATION

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol	\$2.20 /gallon	\$58,918	\$61,273	\$63,724	\$66,273	\$68,924	\$71,681	\$74,548	\$77,530	\$80,631
CO ₂		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		2,161	2,247	2,337	2,430	2,525	2,622	2,734	2,843	3,075
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$61,077	\$63,520	\$66,061	\$68,703	\$71,451	\$74,309	\$77,282	\$80,373	\$83,506
LESS O&M EXPENSES										
Labor - Supervisory		\$5,421	\$5,838	\$6,263	\$6,698	\$7,142	\$7,595	\$8,059	\$7,133	\$7,419
Fixed Maintenance Materials		1,891	1,967	2,045	2,127	2,212	2,301	2,393	2,488	2,589
Insurance		2,418	2,547	2,649	2,755	2,865	2,980	3,099	3,223	3,352
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		1,395	1,458	1,523	1,592	1,663	1,738	1,818	1,898	2,073
Chemicals		4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854
Power		0	0	0	0	0	0	0	0	0
Water		43	46	47	49	51	53	55	57	59
Waste Water		31	32	33	34	36	37	39	40	44
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0
- Mixed Stock	\$40.00	12,885	13,505	14,045	14,607	15,191	15,798	16,430	17,088	17,771
Gross Receipts Tax (Income Tax Deductible)		5,039	5,240	5,450	5,668	5,895	6,131	6,378	6,631	6,898
Total O&M Expenses		\$33,531	\$34,800	\$36,282	\$37,741	\$39,258	\$40,837	\$42,479	\$44,185	\$45,865
GROSS MARGIN		\$27,545	\$28,640	\$29,779	\$30,962	\$32,193	\$33,472	\$34,802	\$36,188	\$37,641
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(2,687)	(2,687)	(2,687)	(2,687)	(2,687)	(2,687)	(2,687)	(2,687)	(2,687)
TAXABLE INCOME		\$24,858	\$25,953	\$27,092	\$28,275	\$29,506	\$30,785	\$32,115	\$33,501	\$34,954
TAXES: Income		(10,363)	(10,610)	(11,075)	(11,558)	(12,061)	(12,584)	(13,127)	(13,692)	(14,290)
Tax Credits	\$0 Investment \$0 Wages	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$14,495	\$15,343	\$16,017	\$16,717	\$17,445	\$18,201	\$18,988	\$19,809	\$20,664
TAX DEPRECIATION		2,687	2,687	2,687	2,687	2,687	2,687	2,687	2,687	2,687
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$17,182	\$18,030	\$18,703	\$19,403	\$20,131	\$20,888	\$21,675	\$22,496	\$23,343
CUMULATIVE CASH FLOW		\$11,810	\$29,840	\$48,543	\$68,047	\$88,178	\$108,066	\$127,741	\$147,234	\$166,577
CUMULATIVE IRR		6.55%	11.17%	13.86%	15.55%	16.93%	17.89%	18.61%	19.17%	20.00%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$10,960)	(\$5,939)	(\$7,189)	(\$5,675)	(\$4,372)	(\$3,242)	(\$2,265)	(\$1,420)	(\$689)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - SYRACUSE, NY

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 22

565 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$40/TON;
WITHOUT GASIFICATION: \$60/TON LIGNIN

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol	\$2.47 /gallon	\$44,575	\$46,358	\$48,212	\$50,141	\$52,146	\$54,232	\$56,402	\$58,658	\$61,004	\$63,444
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$44,575	\$46,358	\$48,212	\$50,141	\$52,146	\$54,232	\$56,402	\$58,658	\$61,004	\$63,444
LESS O&M EXPENSES											
Labor - Supervisory		\$2,810	\$2,923	\$3,040	\$3,161	\$3,286	\$3,419	\$3,556	\$3,698	\$3,846	\$4,000
Fixed Maintenance Materials		937	974	1,013	1,054	1,096	1,140	1,185	1,233	1,282	1,333
Insurance		1,229	1,278	1,329	1,382	1,436	1,493	1,553	1,617	1,682	1,749
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		6,135	6,411	6,699	7,001	7,316	7,645	7,989	8,349	8,724	9,117
Chemicals		2,890	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power	Economic Incentives Reduction: 0%	2,546	2,630	2,756	2,895	2,980	3,100	3,224	3,353	3,487	3,626
Water		85	88	71	74	76	80	83	86	89	93
Waste Water		21	22	22	23	24	25	26	27	28	29
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas	Economic Incentives Reduction: 0%	1,914	2,019	2,130	2,247	2,371	2,501	2,639	2,784	2,937	3,099
Feedstock		0	0	0	0	0	0	0	0	0	0
- Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock	(\$40.00)	8,772	9,123	9,486	9,868	10,262	10,673	11,100	11,544	12,008	12,486
Gross Receipts Tax (Income Tax Deductible)		3,677	3,828	3,978	4,137	4,302	4,474	4,653	4,839	5,033	5,234
Total O&M Expenses		\$30,988	\$32,297	\$33,652	\$35,063	\$36,534	\$38,068	\$39,666	\$41,332	\$43,069	\$44,880
GROSS MARGIN		\$13,587	\$14,061	\$14,560	\$15,078	\$15,612	\$16,165	\$16,736	\$17,325	\$17,935	\$18,564
INTEREST		(\$,097)	(\$,569)	(\$,030)	(\$,415)	(\$,739)	(\$,095)	(\$,477)	(\$,877)	(\$,287)	(\$,108)
TAX DEPRECIATION		(\$3,620)	(\$2,071)	(\$3,784)	(\$,782)	(\$,703)	(\$,942)	(\$,167)	(\$,125)	(\$,114)	(\$,114)
TAXABLE INCOME		(\$3,140)	(\$15,599)	(\$4,253)	(\$120)	\$1,170	\$6,227	\$11,371	\$12,924	\$14,533	\$18,252
TAXES: Income		3,325	6,372	2,554	49	(478)	(2,544)	(4,045)	(5,279)	(5,937)	(6,639)
Tax Credits	\$0 Investment, \$0 Waiver	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$4,815)	(\$9,227)	(\$6,807)	(\$71)	\$692	\$3,683	\$7,326	\$7,644	\$8,597	\$11,613
TAX DEPRECIATION		13,620	22,071	13,784	6,782	8,703	4,942	1,987	1,125	1,114	1,114
PLANT COST	(\$10,1210)										
LOAN	\$80,968										
PRINCIPAL PAYMENTS		(\$,080)	(\$,508)	(\$,147)	(\$,782)	(\$,438)	(\$,182)	(\$,000)	(\$,000)	(\$,000)	(\$,000)
NET CASH FLOW		(\$20,242)	\$3,725	\$7,258	\$3,938	\$1,050	\$1,957	\$444	(\$1,067)	(\$1,131)	(\$1,179)
CUMULATIVE CASH FLOW		(\$20,242)	(\$16,517)	(\$9,261)	(\$5,323)	(\$3,374)	(\$1,417)	(\$973)	(\$2,060)	(\$3,191)	(\$4,370)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.030	1.067	1.105	1.144	1.185	1.227	1.270	1.315	1.361	1.409
CUM NPV	20.0%	(\$20,242)	(\$17,138)	(\$12,099)	(\$9,820)	(\$6,890)	(\$8,094)	(\$7,815)	(\$8,248)	(\$8,511)	(\$8,942)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER
SITE LOCATION - SYRACUSE, NY

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 22

505 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$40/TON;
WITHOUT GASIFICATION; 880TON LIGNIN

Stone & Webster Development Corporation

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	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
End of Year	15	16	17	18	19	20	21	22	23	24
Years from P.D.	11	12	13	14	15	16	17	18	19	20
Operating Year										
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol	\$2.47/gallon	\$65,982	\$66,621	\$71,366	\$74,221	\$77,190	\$80,277	\$83,488	\$86,626	\$90,301
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$65,982	\$66,621	\$71,366	\$74,221	\$77,190	\$80,277	\$83,488	\$86,626	\$90,301
LESS O&M EXPENSES										
Labor - Supervisory		\$4,160	\$4,327	\$4,500	\$4,680	\$4,867	\$5,061	\$5,264	\$5,475	\$5,693
Fixed Maintenance Materials		1,387	1,442	1,500	1,560	1,622	1,687	1,755	1,825	1,896
Insurance		1,819	1,892	1,967	2,046	2,126	2,213	2,302	2,394	2,489
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		9,327	9,856	10,404	10,872	11,361	11,873	12,407	12,965	13,548
Chemicals		4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854
Power		3,774	3,822	4,079	4,242	4,412	4,588	4,772	4,963	5,161
Economic Incentives Reduction:										
Water		97	101	105	109	113	118	122	127	132
Waste Water		31	32	33	34	36	37	39	40	42
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		3,289	3,449	3,639	3,839	4,050	4,273	4,508	4,755	5,017
Economic Incentives Reduction:										
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0
- Mixed Stock	\$40.00	12,985	13,505	14,045	14,607	15,191	15,798	16,430	17,088	17,771
Gross Receipts Tax (Income Tax Deductible)		5,444	5,661	5,899	6,123	6,368	6,623	6,888	7,163	7,448
Total O&M Expenses		\$48,787	\$48,734	\$50,785	\$52,923	\$55,152	\$57,476	\$59,898	\$62,424	\$65,057
GROSS MARGIN		\$19,215	\$18,887	\$20,581	\$21,298	\$22,038	\$22,801	\$23,590	\$24,204	\$25,244
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)
TAXABLE INCOME		\$18,101	\$17,773	\$19,467	\$20,183	\$20,923	\$21,687	\$22,476	\$23,290	\$24,130
TAXES: Income		(7,394)	(7,669)	(7,932)	(8,245)	(8,547)	(8,859)	(9,181)	(9,514)	(9,857)
Tax Credits	\$0 Investment \$0 Wages	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$10,707	\$11,104	\$11,534	\$11,938	\$12,376	\$12,828	\$13,294	\$13,776	\$14,273
TAX DEPRECIATION		1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$11,821	\$12,218	\$12,628	\$13,053	\$13,490	\$13,942	\$14,408	\$14,890	\$15,387
CUMULATIVE CASH FLOW		\$6,389	\$18,417	\$31,046	\$44,099	\$57,589	\$71,532	\$86,940	\$103,831	\$119,218
CUMULATIVE IRR		5.70%	10.88%	13.74%	15.80%	16.91%	17.87%	18.60%	19.17%	20.00%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$7,351)	(\$5,981)	(\$4,600)	(\$3,214)	(\$2,008)	(\$1,154)	(\$1,505)	(\$945)	(\$484)

TABLE 2: CASE INPUT

03/28/05
 03:41 PM

CASE: 595 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$24/TON;
 WITHOUT GASIFICATION; \$0/TON LIGNIN

INPUT:		ECONOMIC:	
CASE: Option Number: 23 Plant Size (feedstock rate): 595 TPD wet, air-dipped Ethanol Production: 46,000 GPD Plant Size: 1 Additional byproducts: CO2: 0 (0 = No, 1 = Yes) Lignin: 1 Power: 0		ECONOMIC: Inflation Rate (FP): 4.0% Escalation Rates (Monthly): Capital Cost: 4.0% O&M Costs: Labor: 4.0% Maintenance Materials: 4.0% Insurance: 4.0% Waste Disposal - Pretreatment: 4.0% - Fermentation: 4.0% - Solids Separation: 4.0% Chemicals: 4.0% Utilities: Power: 4.0% Water: 4.0% Natural Gas: 4.0% Steam: 4.0% Waste Water: 4.0% Feedstock: Output: Ethanol: 4.0% CO2: 4.0% Lignin: 4.0%	
SCHEDULE: (Beginning of Year) Present Day: 2004 Start Construction: 2005 Cessation of Capital Expenditure: 2007 First Year of Operation: 2008 Economic Life: 20 years Annual Operating Schedule: 303 days/yr Minimum Capacity Factor: 83.0% First Year Capacity Factor: 83.0% (Don't change this)		Tax Data: Federal Income tax rate: 35.0% State Income tax rate: 6.0% Effective rate: 40.0% Local tax rate (Once Receipts Tax): 3.25% Property Tax Rate: 0.0% Estimated Annual Expenses: \$0 Ethanol Production Tax Credit: \$0 Last year credit applies: 2000 Power from Certain Renew. Tax Credit: 0 Economic Development Incentives: 0 Tax Depreciation: Buildings: 31.2% Development Costs: 100% decd. bal. Plant: 150% decd. bal. Biomass Conversion: 8% Balance of Plant: 20% Book Depreciation: 20 years	
TECHNICAL: Capital Cost of Facility: (100%) Sensitivity Index Land: \$7,500/k Buildings: \$5,196/k Development Costs: \$0/k Plant: Biomass Conversion: \$53,196/k Balance of Plant: \$14,213/k Total Present Day Capital Cost: \$64,110/k Escalation to Cessation of Expenditure: \$2,800/k (Note: land not escalated) Interest During Construction: \$7,500/k Total Capital Cost at C.O.D. Date: \$101,210/k or \$176,101 per TPD Annual Operating Costs: (100%) Sensitivity Index Fixed: Labor: 100% Sensitivity Index: \$0.156/gal Ethanol Fixed Maintenance Materials: \$0.052/kyr Insurance: 1.0% of Capital Cost: \$0.068/kyr Total Fixed O&M Cost: \$0.274/gal Ethanol Variable: Variable Maintenance: \$0.000/gal Ethanol Waste Disposal - Pretreatment: \$0.000/kyr - Fermentation: \$0.000/kyr - Solids Separation: \$0.000/kyr Chemicals: \$0.100/kyr Utilities: Power: \$0.141/kyr Water: \$0.004/kyr Natural Gas: \$0.000/kyr Steam: \$0.000/kyr Waste Water: \$0.001/kyr Total Variable O&M Cost: \$0.404/gal Ethanol Total Fixed & Variable O&M: \$0.680/gal Ethanol		FINANCIAL: Debt Structure: Debt Fraction: 80% Financing Term: 10 (Note: Must be <= Economic Life) Interest Rate: 10.0% Amortization of Loan: Level out Short Term Construction Interest: 6.0% Target Return on Equity: 20%	
Feedstock: Waste Paper: 0.0% Wood Waste: 0.0% Mixed Stock: 100.0%		Output: Ethanol: 62.35 gal/wet ton CO2: 0.00 CF/wet ton Lignin: 0.55 tons/wet ton Power: 0.00 kWh/wet ton	
Feedstock: Waste Paper: 0.0% Wood Waste: 0.0% Mixed Stock: 100.0%		Output: Ethanol: 62.35 gal/wet ton CO2: 0.00 CF/wet ton Lignin: 0.55 tons/wet ton Power: 0.00 kWh/wet ton	

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is billed as revenue. If negative, tipping fee becomes feedstock charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - SYRACUSE, NY

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 23

505 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$20/TON;

WITHOUT GASIFICATION; \$0/TON LIGNIN

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol	\$1.82 /gallon	\$32,934	\$34,252	\$35,822	\$37,047	\$38,529	\$40,070	\$41,673	\$43,339	\$45,073	\$46,878
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$32,934	\$34,252	\$35,822	\$37,047	\$38,529	\$40,070	\$41,673	\$43,339	\$45,073	\$46,878
LESS O&M EXPENSES											
Labor - Supervisory		\$2,510	\$2,823	\$3,040	\$3,181	\$3,288	\$3,418	\$3,556	\$3,695	\$3,840	\$4,000
Fixed Maintenance Materials		837	874	1,013	1,054	1,086	1,140	1,185	1,233	1,282	1,333
Insurance		1,229	1,278	1,329	1,382	1,435	1,495	1,555	1,617	1,682	1,749
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0	0
Chemicals		2,890	3,005	3,128	3,251	3,381	3,515	3,656	3,803	3,955	4,113
Power	Economic Incentives Reduction: 0%	2,548	2,450	2,756	2,868	2,980	3,100	3,224	3,353	3,487	3,628
Water		65	68	71	74	76	80	83	86	89	93
Waste Water		21	22	22	23	24	25	26	27	28	29
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas	Economic Incentives Reduction: 0%	1,914	2,018	2,130	2,247	2,371	2,501	2,638	2,784	2,937	3,099
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$20.00	4,366	4,562	4,744	4,934	5,131	5,336	5,550	5,772	6,003	6,243
Gross Receipts Tax (Income Tax Deductible)		2,717	2,825	2,939	3,058	3,179	3,306	3,439	3,576	3,719	3,867
Total O&M Expenses		\$18,517	\$20,328	\$21,185	\$22,048	\$22,854	\$23,818	\$24,912	\$26,048	\$27,029	\$28,153
GROSS MARGIN		\$14,418	\$13,924	\$14,637	\$14,999	\$15,675	\$16,252	\$16,761	\$17,291	\$18,044	\$18,725
INTEREST		(8,097)	(7,589)	(7,030)	(6,415)	(5,739)	(5,085)	(4,377)	(3,627)	(2,837)	(1,989)
TAX DEPRECIATION		(10,620)	(22,071)	(13,794)	(8,782)	(8,700)	(8,942)	(1,187)	(1,125)	(1,114)	(1,114)
TAXABLE INCOME		\$4,299	\$4,264	\$3,813	\$1,102	\$1,226	\$2,214	\$11,308	\$12,939	\$14,093	\$15,622
TAXES: Income		3,390	5,427	2,599	81	(459)	(2,539)	(4,655)	(5,308)	(5,962)	(6,704)
Tax Credits	\$0 Investment \$0 Wages	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$4,009	\$4,304	\$3,793	\$1,021	\$684	\$3,678	\$6,741	\$7,631	\$8,131	\$8,918
TAX DEPRECIATION		13,620	22,071	13,794	8,782	8,700	4,942	1,187	1,125	1,114	1,114
PLANT COST	(\$10,120)										
LOAN	\$80,988										
PRINCIPAL PAYMENTS		(5,000)	(5,688)	(6,147)	(6,762)	(7,438)	(8,182)	(9,000)	(9,900)	(10,880)	(11,979)
NET CASH FLOW		\$20,242	\$3,831	\$7,178	\$3,874	\$1,903	\$1,929	\$436	(\$1,072)	(\$1,092)	(\$1,114)
CUMULATIVE CASH FLOW		\$20,242	\$24,673	\$32,851	\$36,725	\$38,628	\$40,557	\$41,993	\$40,921	\$39,829	\$38,715
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.018	1.057	1.087	1.138	1.181	1.226	1.272	1.320	1.369	1.421
CUM NPV	20.0%	\$20,242	\$17,218	\$12,233	(\$9,991)	(\$8,074)	(\$5,298)	(\$2,452)	(\$6,451)	(\$8,793)	(\$9,921)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - BYRACUSE, NY

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 23

595 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$20/TON;
 WITHOUT GASIFICATION; \$0/TON LIGNIN

Stone & Webster Development Corporation

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	2006	2009	2010	2011	2012	2013	2014	2015	2016	2017
End of Year	15	16	17	18	19	20	21	22	23	24
Years from P.O.	11	12	13	14	15	16	17	18	19	20
Operating Year										
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol	\$1.82 /gallon	\$40,751	\$50,701	\$52,729	\$54,838	\$57,032	\$59,313	\$61,686	\$64,153	\$66,719
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$48,751	\$50,701	\$52,729	\$54,838	\$57,032	\$59,313	\$61,686	\$64,153	\$66,719
LESS O&M EXPENSES										
Labor - Supervisory		\$4,180	\$4,327	\$4,509	\$4,680	\$4,867	\$5,061	\$5,264	\$5,475	\$5,693
Fixed Maintenance Materials		1,387	1,442	1,500	1,560	1,622	1,687	1,755	1,825	1,896
Insurance		1,819	1,892	1,967	2,046	2,128	2,213	2,302	2,394	2,489
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0
Chemicals		4,277	4,448	4,627	4,812	5,004	5,204	5,412	5,629	5,854
Power		3,771	3,922	4,079	4,242	4,412	4,588	4,772	4,963	5,161
Water		97	101	105	109	113	118	122	127	132
Waste Water		31	32	33	34	36	37	39	40	44
Steam		0	0	0	0	0	0	0	0	0
Natural Gas		3,269	3,449	3,639	3,839	4,050	4,273	4,508	4,755	5,017
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0
- Mixed Stock		6,493	6,762	7,022	7,303	7,595	7,899	8,215	8,544	8,886
Gross Receipts Tax (Income Tax Deductible)		4,022	4,183	4,350	4,524	4,705	4,893	5,089	5,293	5,504
Total O&M Expenses		\$29,926	\$30,545	\$31,621	\$33,149	\$34,332	\$35,974	\$37,477	\$39,044	\$40,677
GROSS MARGIN		\$18,825	\$20,153	\$20,908	\$21,690	\$22,500	\$23,339	\$24,209	\$25,109	\$26,042
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)
TAXABLE INCOME		\$18,311	\$19,039	\$19,793	\$20,575	\$21,385	\$22,224	\$23,094	\$24,005	\$24,928
TAXES: Income		(7,480)	(7,777)	(8,088)	(8,405)	(8,736)	(9,079)	(9,434)	(9,802)	(10,183)
Tax Credits		0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$10,831	\$11,262	\$11,705	\$12,170	\$12,649	\$13,145	\$13,660	\$14,183	\$14,745
TAX DEPRECIATION		1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$11,945	\$12,376	\$12,822	\$13,284	\$13,763	\$14,260	\$14,774	\$15,307	\$15,859
CUMULATIVE CASH FLOW		\$6,216	\$18,592	\$31,414	\$44,699	\$58,463	\$72,723	\$87,487	\$102,804	\$118,664
CUMULATIVE IRR		5.60%	10.80%	13.67%	15.35%	16.87%	17.85%	18.58%	19.18%	19.60%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$7,001)	(\$8,113)	(\$4,914)	(\$3,800)	(\$2,968)	(\$2,215)	(\$1,549)	(\$874)	(\$478)

03/28/05

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is treated as revenue. If negative, tipping fee becomes the dislock charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER
SITE LOCATION - SYRACUSE, NY

TABLE 3: REQUIRED ETHANOL PRICE

OPTION NO.: 24

586 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$40/TON;
WITHOUT GASIFICATION; \$20/TON LIGNIN

Stone & Webster Development Corporation

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	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
End of Year	16	16	17	18	19	20	21	22	23	24
Years from P.D.	11	12	13	14	15	16	17	18	19	20
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$1000's)										
REVENUE										
Ethanol	\$2.09/gallon	\$65,827	\$58,060	\$60,383	\$62,798	\$65,310	\$67,823	\$70,639	\$73,465	\$76,404
CO2		0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0
Total Revenue		\$65,827	\$58,060	\$60,383	\$62,798	\$65,310	\$67,823	\$70,639	\$73,465	\$76,404
LESS O&M EXPENSES										
Labor - Supervisory		\$4,980	\$4,327	\$4,500	\$4,680	\$4,867	\$5,061	\$5,264	\$5,475	\$5,693
Fixed Maintenance Materials		1,387	1,442	1,500	1,560	1,622	1,687	1,755	1,825	1,899
Insurance		1,819	1,882	1,987	2,048	2,128	2,213	2,302	2,394	2,489
Property Taxes		0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0
Chemicals		4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854
Power	Economic Incentive Reduction:	3,771	3,922	4,079	4,242	4,412	4,588	4,772	4,963	5,161
Water		97	101	105	109	113	118	122	127	132
Waste Water		31	32	33	34	36	37	39	40	42
Steam		0	0	0	0	0	0	0	0	0
Natural Gas	Economic Incentive Reduction:	3,299	3,449	3,630	3,838	4,060	4,273	4,506	4,756	5,017
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0
- Mixed Stock	\$40.00	12,985	13,505	14,045	14,607	15,191	15,798	16,430	17,088	17,771
Gross Receipts Tax (Income Tax Deductible)		4,906	4,790	4,982	5,181	5,388	5,604	5,828	6,061	6,303
Total O&M Expenses		\$38,402	\$37,907	\$39,475	\$41,109	\$42,811	\$44,584	\$46,431	\$48,356	\$50,382
GROSS MARGIN		\$10,425	\$20,153	\$20,908	\$21,689	\$22,500	\$23,239	\$24,208	\$25,109	\$26,022
INTEREST		(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION		(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)
TAXABLE INCOME		\$10,311	\$19,039	\$19,793	\$20,575	\$21,385	\$22,224	\$23,094	\$23,995	\$24,908
TAXES: Income		(7,480)	(7,777)	(8,088)	(8,405)	(8,736)	(9,079)	(9,434)	(9,802)	(10,183)
Tax Credits	\$0 Investment \$0 Wages	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		\$10,831	\$11,262	\$11,705	\$12,170	\$12,649	\$13,145	\$13,660	\$14,193	\$14,725
TAX DEPRECIATION		1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114
PLANT COST		0	0	0	0	0	0	0	0	0
LOAN		0	0	0	0	0	0	0	0	0
PRINCIPAL PAYMENTS		0	0	0	0	0	0	0	0	0
NET CASH FLOW		\$11,945	\$12,376	\$12,822	\$13,285	\$13,764	\$14,260	\$14,774	\$15,307	\$15,859
CUMULATIVE CASH FLOW		\$6,216	\$18,592	\$31,414	\$44,699	\$58,463	\$72,723	\$87,497	\$102,804	\$118,664
CUMULATIVE IRR		5.80%	10.80%	13.87%	15.55%	16.87%	17.85%	18.58%	19.18%	20.00%
DEBT COVERAGE RATIO		NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$7,501)	(\$6,113)	(\$4,914)	(\$3,890)	(\$2,958)	(\$2,213)	(\$1,549)	(\$974)	(\$478)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - SYRACUSE, NY

TABLE 3: REQUIRED ETHANOL PRICE
OPTION NO.: 24

Stone & Webster Development Corporation

595 TPD (wet) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER) @ \$40/TON;
WITHOUT GASIFICATION; \$0/TON LIGNIN

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY (Tons per Year)		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
ANNUAL ETHANOL PRODUCTION (Gallons per Year)		14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550	14,844,550
CASH FLOW STATEMENT (\$'000's)											
REVENUE											
Ethanol	\$2.09 /gal	\$37,715	\$39,224	\$40,793	\$42,424	\$44,121	\$45,886	\$47,721	\$49,630	\$51,615	\$53,680
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee- Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0	0
Total Revenue		\$37,715	\$39,224	\$40,793	\$42,424	\$44,121	\$45,886	\$47,721	\$49,630	\$51,615	\$53,680
LESS O&M EXPENSES											
Labor - Supervisory		\$2,810	\$2,823	\$3,040	\$3,151	\$3,288	\$3,419	\$3,556	\$3,698	\$3,846	\$4,000
Fixed Maintenance Materials		937	974	1,013	1,054	1,095	1,140	1,185	1,233	1,282	1,333
Insurance		1,229	1,278	1,329	1,382	1,436	1,495	1,555	1,617	1,682	1,749
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0	0
Chemicals		2,590	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power	Economic Incentives Reduction: 0%	2,548	2,650	2,756	2,866	2,980	3,100	3,224	3,353	3,487	3,626
Water		65	68	71	74	76	80	83	86	89	93
Waste Water		21	22	22	23	24	26	26	27	28	29
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas	Economic Incentives Reduction: 0%	1,914	2,018	2,130	2,247	2,371	2,501	2,639	2,784	2,937	3,099
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$40.00	8,772	9,123	9,499	9,899	10,292	10,673	11,050	11,544	12,006	12,485
Gross Receipts Tax (Income Tax Deductible)		3,111	3,236	3,365	3,500	3,640	3,780	3,937	4,095	4,258	4,429
Total O&M Expenses		\$24,297	\$25,298	\$26,340	\$27,429	\$28,555	\$29,734	\$30,951	\$32,209	\$33,570	\$34,957
GROSS MARGIN		\$13,418	\$13,926	\$14,453	\$14,995	\$15,565	\$16,152	\$16,761	\$17,391	\$18,045	\$18,723
INTEREST		(8,097)	(7,589)	(7,030)	(6,415)	(5,739)	(4,995)	(4,177)	(3,277)	(2,287)	(1,199)
TAX DEPRECIATION		(13,620)	(22,071)	(13,784)	(8,782)	(8,703)	(4,942)	(1,987)	(1,125)	(1,114)	(1,114)
TAXABLE INCOME		(\$8,299)	(\$15,734)	(\$6,362)	(\$189)	\$1,123	\$8,214	\$11,306	\$12,989	\$14,644	\$16,411
TAXES: Income		3,390	8,427	2,599	81	(459)	(2,339)	(4,655)	(5,306)	(5,882)	(6,704)
Tax Credits	\$0 Investment \$0 Wages	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$4,909)	(\$9,306)	(\$3,763)	(\$189)	\$664	\$3,075	\$6,741	\$7,683	\$8,662	\$9,707
TAX DEPRECIATION		13,620	22,071	13,784	8,782	8,703	4,942	1,987	1,125	1,114	1,114
PLANT COST	(\$101,210)										
LOAN	\$90,900										
PRINCIPAL PAYMENTS		(\$1,000)	(\$1,588)	(\$1,147)	(\$1,782)	(\$1,438)	(\$1,152)	(\$900)	(\$900)	(\$1,090)	(\$1,070)
NET CASH FLOW		(\$20,242)	(\$3,631)	\$7,176	\$3,674	\$1,903	\$1,929	\$438	(\$1,072)	(\$1,092)	(\$1,158)
CUMULATIVE CASH FLOW		(\$20,242)	(\$16,611)	(\$9,435)	(\$5,761)	(\$3,858)	(\$1,730)	(\$1,293)	(\$2,365)	(\$3,457)	(\$4,615)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.018	1.057	1.097	1.138	1.181	1.226	1.272	1.320	1.369	1.421
CUM NPV	20.0%	(\$20,242)	(\$17,215)	(\$12,233)	(\$8,991)	(\$6,074)	(\$3,286)	(\$8,152)	(\$8,705)	(\$8,921)	(\$9,108)

MOMC:	
Inflation Rate (PI)	4.0%
Escalation Rates (Nominal)	
Capital Cost	4.0%
O&M Costs:	
Labor	4.0%
Maintenance Materials	4.0%
Insurance	4.0%
Waste Disposed - Pretreatment	6.0%
-- Fermentation	4.0%
-- Solids Separation	4.0%
Chemicals	4.0%
Utilities	
Power	4.0%
Water	4.0%
Natural Gas	6.0%
Steam	4.0%
Waste Water	4.0%
Feedstock:	4.0%
Output:	
Ethanol	4.0%
CO ₂	4.0%
Lime	4.0%

Tax Data:	
Federal income tax rate	35.0%
State income tax rate	9.0%
Effective rate	40.6%
Local tax rate (Gross Receipts Tax)	0.25%
Property Tax Rate	0.0%
Estimated Annual Expense	\$/100
Ethanol Production Tax Credit	\$/yr
Last year credit applies	April for next 15,000,000 gal/yr
Power from Danish Renew. Tax Credit	0/yr
Economic Development Incentives Apply?	Yes (0 = No, 1 = Yes; See Table 2)
Tax Depreciation	Life
Buildings	31.8 100% dec. bal.
Development Costs	at close to Blomberg Corner
Plant:	
Business Conversion	0 100% dec. bal.
Balance of Plant	20 100% dec. bal.
Book Depreciation	20 years

FINANCIAL:

Debt Fraction	0.0%	
Financing Term	10	(Units: Must be <= Economic Life)
Interest Rate	10.0%	
Amortization of Loan	Linear	
Short Term Construction Interest	0.0%	
Target Return on Equity	0.0%	

Feedstock:		Blend	Tipping Fee (\$/ton)		Maximum Tipping Fee	Annual Quantities
Waste Paper	0.0%	0.0	\$/ton Ethanol	\$0.00	\$/ton	0 wet tons / year
Wood Waste	0.0%	0.0	\$/ton	\$0.00	\$/ton	0
Mixed Stock	100.0%	84.3	\$/ton	\$80.83	\$/ton	180,255
	100.0%	26.3	\$/ton Average	\$80.83	\$/ton Average	180,255 wet tons / year

Output:	(per ton of feedstock)	Unit Price	18,844,850	\$/ton
Ethanol	62.33 gal/wet ton	\$/gal	18,844,850	\$/ton Ethanol / year
CO2	0.00 CF/wet ton	\$/CF	0	\$/ton CO2 / year
Lignin	0.35 tons/wet ton	\$/ton	6,595	\$/ton Lignin / year
Powr	0.00 tons/wet ton	\$/ton	0	\$/ton / year

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, that is, the fee is treated as revenue. If negative, tipping fee becomes feedstock charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - SYRACUSE, N.Y.

TABLE 3: REQUIRED TIPPING FEE
OPTION NO.: 26
800 TPD (Dry) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITHOUT GASSIFICATION;
ETHANOL @ \$1.20/GAL; \$50/TON LIGNIN DISPOSAL COST

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT											
REVENUE											
Ethanol		\$21,673	\$22,540	\$23,441	\$24,379	\$25,354	\$26,368	\$27,423	\$28,520	\$29,661	\$30,847
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock		0	0	0	0	0	0	0	0	0	0
		\$0.00									
		\$0.00									
		\$50.00									
		13,341	13,875	14,430	15,007	15,607	16,232	16,881	17,556	18,258	18,989
Total Revenue		\$35,014	\$36,414	\$37,871	\$39,386	\$40,961	\$42,600	\$44,304	\$46,076	\$47,919	\$49,836
LESS O&M EXPENSES											
Labor - Supervisory		\$2,510	\$2,623	\$3,040	\$3,161	\$3,286	\$3,418	\$3,558	\$3,698	\$3,846	\$4,000
Fixed Maintenance Materials		937	974	1,013	1,054	1,098	1,140	1,185	1,233	1,282	1,333
Insurance		1,229	1,278	1,329	1,382	1,438	1,495	1,555	1,617	1,682	1,749
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pre-treatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		8,135	8,411	8,699	7,001	7,315	7,645	7,989	8,349	8,724	9,117
Chemicals		2,890	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power		2,548	2,650	2,758	2,869	2,980	3,100	3,224	3,353	3,487	3,626
Water		65	65	71	74	76	80	83	86	89	93
Waste Water		21	22	22	23	24	25	26	27	28	29
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		1,914	2,019	2,130	2,247	2,371	2,501	2,639	2,784	2,937	3,099
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock		0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		2,569	3,004	3,124	3,249	3,378	3,514	3,655	3,801	3,953	4,111
Total O&M Expenses		\$21,437	\$22,354	\$23,310	\$24,308	\$25,348	\$26,435	\$27,568	\$28,751	\$29,984	\$31,271
GROSS MARGIN		\$13,577	\$14,061	\$14,561	\$15,078	\$15,612	\$16,165	\$16,736	\$17,325	\$17,935	\$18,565
INTEREST		(5,097)	(7,689)	(7,030)	(5,415)	(6,739)	(4,965)	(4,177)	(3,277)	(2,267)	(1,188)
TAX DEPRECIATION		(13,820)	(22,071)	(13,784)	(5,782)	(5,703)	(4,942)	(1,187)	(1,125)	(1,114)	(1,114)
TAXABLE INCOME		(\$5,340)	(\$15,699)	(\$5,253)	(\$129)	\$1,170	\$5,227	\$11,371	\$12,924	\$14,533	\$16,252
TAXES: Income		3,326	5,372	2,564	49	(478)	(2,544)	(4,945)	(5,278)	(5,037)	(5,639)
Tax Credits		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$4,815)	(\$9,227)	(\$3,090)	(\$71)	\$692	\$3,683	\$6,726	\$7,644	\$9,507	\$9,813
TAX DEPRECIATION		13,820	22,071	13,784	5,782	5,703	4,942	1,187	1,125	1,114	1,114
PLANT COST											
LOAN											
PRINCIPAL PAYMENTS											
NET CASH FLOW		(\$20,242)	\$3,725	\$7,258	\$3,038	\$1,050	\$1,957	\$444	(\$1,067)	(\$1,131)	(\$1,170)
CUMULATIVE CASH FLOW		(\$20,242)	(\$16,517)	(\$9,261)	(\$5,323)	(\$3,374)	(\$1,417)	(\$973)	(\$2,060)	(\$3,191)	(\$4,370)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.030	1.067	1.105	1.144	1.185	1.227	1.270	1.315	1.361	1.409
CUM NPV		20.0%	(\$20,242)	(\$17,138)	(\$12,099)	(\$8,820)	(\$6,060)	(\$3,094)	(\$7,945)	(\$8,248)	(\$6,942)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - SYRACUSE, N.Y.

TABLE 3: REQUIRED TIPPING FEE
OPTION NO.: 26
500 TPD (Dry) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITHOUT GASIFICATION;
ETHANOL @ \$1.28/GAL; \$50/TON LIGNIN DISPOSAL COST

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT (\$'000's)										
REVENUE										
Ethanol	\$32,081	\$33,364	\$34,690	\$36,067	\$37,530	\$39,031	\$40,583	\$42,216	\$43,905	\$45,661
CO2	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$60.83	18,748	20,538	21,360	22,214	23,103	24,027	24,988	25,987	26,108
Total Revenue	\$51,829	\$53,902	\$56,058	\$58,301	\$60,633	\$63,058	\$65,580	\$68,204	\$70,932	\$73,769
LESS O&M EXPENSES										
Labor - Supervisory	\$4,180	\$4,327	\$4,500	\$4,680	\$4,867	\$5,061	\$5,264	\$5,475	\$5,693	\$5,921
Fixed Maintenance Materials	1,367	1,442	1,500	1,580	1,622	1,667	1,755	1,825	1,898	1,974
Insurance	1,819	1,892	1,967	2,046	2,126	2,213	2,302	2,394	2,489	2,589
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	9,527	9,956	10,404	10,872	11,361	11,873	12,407	12,965	13,549	14,158
Chemicals	4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854	6,088
Power	3,771	3,922	4,079	4,242	4,412	4,588	4,772	4,963	5,161	5,366
Water	97	101	105	109	113	118	122	127	132	138
Waste Water	31	32	33	34	36	37	39	40	42	44
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	3,289	3,449	3,639	3,839	4,050	4,273	4,506	4,755	5,017	5,293
Feedstock - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)	4,278	4,447	4,625	4,810	5,002	5,202	5,410	5,627	5,852	6,086
Total O&M Expenses	\$32,614	\$34,015	\$35,478	\$37,003	\$38,585	\$40,257	\$41,980	\$43,750	\$45,568	\$47,438
GROSS MARGIN	\$19,215	\$19,887	\$20,581	\$21,298	\$22,038	\$22,801	\$23,590	\$24,454	\$25,364	\$26,331
INTEREST	0	0	0	0	0	0	0	0	0	0
TAX DEPRECIATION	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)
TAXABLE INCOME	\$18,101	\$18,773	\$19,467	\$20,183	\$20,923	\$21,687	\$22,476	\$23,280	\$24,130	\$24,996
TAXES: Income	(7,394)	(7,689)	(7,982)	(8,248)	(8,547)	(8,859)	(9,181)	(9,514)	(9,857)	(10,203)
Tax Credits	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX	\$10,707	\$11,104	\$11,514	\$11,938	\$12,376	\$12,828	\$13,294	\$13,776	\$14,273	\$14,793
TAX DEPRECIATION	1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$11,821	\$12,218	\$12,629	\$13,053	\$13,490	\$13,942	\$14,409	\$14,890	\$15,387	\$15,897
CUMULATIVE CASH FLOW	\$8,198	\$18,417	\$31,046	\$44,099	\$57,589	\$71,532	\$85,940	\$100,831	\$116,218	\$132,115
CUMULATIVE IRR	5.70%	10.88%	13.74%	15.00%	16.01%	17.07%	18.00%	19.17%	19.81%	20.00%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	\$7,351	\$5,961	\$4,800	\$3,784	\$2,908	\$2,154	\$1,505	\$848	\$0

Note: The average stock price is calculated so that the stock yields the Target Return on Equity. If value is positive, Stock fee is treated as revenue. If negative, Stock fee becomes freestock charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY PROFORMA FINANCIAL STATEMENT THIRD PARTY CONTRACTOR / DEVELOPER SITE LOCATION - SYRACUSE, N.Y.		TABLE 3: REQUIRED TIPPING FEE OPTION NO.: 27 500 TPD (Dry) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITH GASIFICATION; ETHANOL @ \$1.50/GAL		Stone & Webster Development Corporation								Page 1 of 2
End of Year		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.		4	5	6	7	8	9	10	11	12	13	14
Operating Year		0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR			83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY			180,233	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT												
REVENUE												
Ethanol			\$27,091	\$28,175	\$29,302	\$30,474	\$31,683	\$32,930	\$34,219	\$35,550	\$37,076	\$38,559
CO2			0	0	0	0	0	0	0	0	0	0
Lignin			0	0	0	0	0	0	0	0	0	0
Power			1,460	1,518	1,579	1,642	1,708	1,776	1,847	1,921	1,998	2,077
Tipping Fee - Waste Paper	\$0.00		0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00		0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$14.89		3,265	3,395	3,531	3,672	3,819	3,972	4,131	4,296	4,468	4,647
Total Revenue			\$31,615	\$33,088	\$34,412	\$35,788	\$37,219	\$38,708	\$40,257	\$41,857	\$43,542	\$45,283
LESS O&M EXPENSES												
Labor - Supervisory			\$3,662	\$3,809	\$3,961	\$4,118	\$4,284	\$4,456	\$4,634	\$4,819	\$5,012	\$5,212
Fixed Maintenance Materials			1,277	1,329	1,382	1,437	1,494	1,554	1,616	1,681	1,748	1,816
Insurance			1,655	1,721	1,790	1,861	1,936	2,013	2,094	2,177	2,264	2,355
Property Taxes			0	0	0	0	0	0	0	0	0	0
Variable Maintenance			0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment			0	0	0	0	0	0	0	0	0	0
- Fermentation			0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)			1,001	1,048	1,093	1,143	1,194	1,248	1,304	1,363	1,424	1,486
Chemicals			2,890	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power	Economic Incentive Reduction: 0%		0	0	0	0	0	0	0	0	0	0
Water			29	30	32	33	34	36	37	38	40	42
Waste Water			21	22	22	23	24	25	26	27	28	29
Steam			0	0	0	0	0	0	0	0	0	0
Natural Gas	Economic Incentive Reduction: 0%		0	0	0	0	0	0	0	0	0	0
Feedstock - Waste Paper	\$0.00		0	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00		0	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00		0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)			2,625	2,730	2,839	2,953	3,071	3,193	3,321	3,454	3,592	3,736
Total O&M Expenses			\$13,160	\$13,691	\$14,244	\$14,818	\$15,415	\$16,041	\$16,698	\$17,362	\$18,064	\$18,793
GROSS MARGIN			\$18,655	\$19,397	\$20,167	\$20,969	\$21,802	\$22,669	\$23,559	\$24,504	\$25,478	\$26,490
INTEREST			(9,896)	(10,212)	(9,480)	(8,533)	(7,723)	(6,722)	(5,621)	(4,410)	(3,078)	(1,612)
TAX DEPRECIATION			(14,957)	(24,834)	(16,138)	(10,960)	(10,709)	(6,790)	(2,989)	(2,699)	(2,667)	(2,667)
TAXABLE INCOME			\$3,802	\$1,973	\$5,549	\$11,466	\$13,359	\$19,157	\$15,258	\$17,387	\$19,734	\$22,211
TAXES: Income			2,840	6,311	2,219	(568)	(1,376)	(3,740)	(5,152)	(7,107)	(8,061)	(9,073)
Tax Credits	50 Investment 50 Wages		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX			\$1,962	(4,338)	\$3,330	\$12,034	\$14,735	\$15,417	\$10,106	\$10,280	\$11,673	\$13,138
TAX DEPRECIATION			14,957	24,834	16,138	10,960	10,709	6,790	2,989	2,699	2,667	2,667
PLANT COST												
LOAN												
PRINCIPAL PAYMENTS			(8,037)	(7,520)	(6,272)	(9,099)	(10,099)	(11,010)	(12,111)	(13,323)	(14,655)	(16,120)
NET CASH FLOW			\$13,882	\$11,847	\$13,196	\$2,935	\$4,636	\$4,407	(2,005)	(2,993)	(2,982)	(2,982)
CUMULATIVE CASH FLOW			\$13,882	\$23,694	\$36,890	\$39,825	\$44,461	\$48,868	\$46,863	\$43,870	\$40,888	\$37,906
CUMULATIVE IRR			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO			1.032	1.094	1.137	1.183	1.229	1.276	1.323	1.362	1.407	1.454
CUM NPV	20.0%		\$27,239	\$24,020	\$18,482	\$15,788	\$14,501	\$13,419	\$13,018	\$13,184	\$13,245	\$13,289

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - SYRACUSE, N.Y.

TABLE 3: REQUIRED TIPPING FEE
OPTION NO.: 27
500 TPD (Dry) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITH GASIFICATION;
ETHANOL @ \$1.50/GAL

Stone & Webster Development Corporation

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	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
End of Year	15	16	17	18	19	20	21	22	23	24
Years from P.O.	11	12	13	14	15	16	17	18	19	20
Operating Year										
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY	190,255	190,255	190,255	190,255	190,255	190,255	190,255	190,255	190,255	190,255
CASH FLOW STATEMENT										
REVENUE										
Ethanol	\$40,101	\$41,705	\$43,374	\$45,109	\$46,913	\$48,789	\$50,741	\$52,771	\$54,881	\$57,077
CO ₂	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	2,161	2,247	2,337	2,430	2,528	2,629	2,734	2,843	2,957	3,075
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$14.89	4,833	5,026	5,227	5,436	5,654	5,880	6,115	6,359	6,616
Total Revenue	\$47,095	\$48,978	\$50,937	\$52,975	\$55,094	\$57,298	\$59,580	\$61,973	\$64,452	\$67,030
LESS O&M EXPENSES										
Labor - Supervisory	\$5,421	\$5,638	\$5,863	\$6,098	\$6,342	\$6,596	\$6,859	\$7,133	\$7,419	\$7,716
Fixed Maintenance Materials	1,891	1,987	2,045	2,127	2,212	2,301	2,393	2,486	2,588	2,691
Insurance	2,449	2,547	2,649	2,755	2,865	2,980	3,099	3,223	3,352	3,486
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Ugnin)	1,555	1,625	1,686	1,774	1,854	1,938	2,028	2,116	2,211	2,311
Chemicals	4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854	6,088
Power	0	0	0	0	0	0	0	0	0	0
Water	43	45	47	49	51	53	55	57	59	62
Waste Water	31	32	33	34	36	37	39	40	42	44
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	0	0	0	0	0	0	0	0	0	0
Feedstock - Economic Incentive Reduction:	0	0	0	0	0	0	0	0	0	0
- Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)	3,885	4,041	4,202	4,370	4,545	4,727	4,916	5,113	5,317	5,530
Total O&M Expenses	\$19,563	\$20,343	\$21,164	\$22,019	\$22,909	\$23,835	\$24,798	\$25,800	\$26,842	\$27,927
GROSS MARGIN	\$27,542	\$28,636	\$29,773	\$30,956	\$32,185	\$33,463	\$34,782	\$36,173	\$37,610	\$39,103
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(2,667)	(2,667)	(2,667)	(2,667)	(2,667)	(2,667)	(2,667)	(2,667)	(2,667)	(2,667)
TAXABLE INCOME	\$24,875	\$25,969	\$27,106	\$28,289	\$29,516	\$30,796	\$32,115	\$33,507	\$34,943	\$36,436
TAXES: Income	(10,182)	(10,608)	(11,073)	(11,556)	(12,058)	(12,580)	(13,123)	(13,687)	(14,274)	(14,885)
Tax Credits	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX	\$14,714	\$15,361	\$16,033	\$16,733	\$17,460	\$18,216	\$18,992	\$19,820	\$20,669	\$21,551
TAX DEPRECIATION	2,667	2,667	2,667	2,667	2,667	2,667	2,667	2,667	2,667	2,667
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$17,380	\$18,027	\$18,700	\$19,400	\$20,127	\$20,883	\$21,659	\$22,458	\$23,285	\$24,118
CUMULATIVE CASH FLOW	\$11,010	\$29,937	\$48,637	\$66,037	\$82,163	\$97,046	\$110,715	\$123,200	\$134,506	\$144,624
CUMULATIVE IRR	8.58%	11.17%	13.66%	15.85%	17.94%	19.89%	21.61%	23.17%	24.58%	25.85%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	\$10,057	\$8,935	\$7,188	\$5,677	\$4,370	\$3,241	\$2,264	\$1,420	\$689	\$0

INPUT:		ECONOMIC:	
CASE: Option Number: 28 (Enter an integer based on Table 1, Master Input Table) Plant Size (feedstock rate): 505 TPD wet, as-tipped Ethanol Production: 48,000 GPD Plant ID #: 1 Additional byproducts? CO2: 0 (0 = No, 1 = Yes) Lignin: 1 Power: 0		ECONOMIC: Inflation Rate (PP): 4.0% Escalation Rates (Nominal): Capital Cost: 4.0% O&M Costs: Labor: 4.0% Maintenance/Materials: 4.0% Insurance: 4.0% Waste Disposal - Pretreatment: 4.0% - Fermentation: 4.0% - Solids Separation: 4.0% Chemicals: 4.0% Utilities: Power: 4.0% Water: 4.0% Natural Gas: 8.0% Steam: 4.0% Waste Water: 4.0% Feedstock: Output: Ethanol: 4.0% CO2: 4.0% Lignin: 4.0%	
SCHEDULE: (Beginning of Year) Present Day: 1994 Start Construction: 1998 Control of Capital Expenditure: 1997 First Year of Operation: 1998 Economic Life: 20 years Annual Operating Schedule: 300 days/yr Moisture Capacity Factor: 83.0% First Year Capacity Factor: 83.0%		Tax Data: Federal Income Tax Rate: 35.0% State Income Tax Rate: 6.0% Effective Rate: 40.0% Local Tax Rate (if one Receipts Tax): 8.0% Property Tax Rate: 0.0% \$/100 Estimated Annual Expense: \$0 k/yr Ethanol Production Tax Credit: \$0.00 /gal for max. 15,000,000 gal/yr Last year credit applies: 2000 Power from Certain Renew. Tax Credit: \$0 /ton Economic Development Incentives Apply? 0 (0 = No, 1 = Yes; See Table 2) Tax Depreciation: Buildings: 31.5% 100% decl. bal. Development Costs: -- Include in Biomass Conv. Plant: Biomass Conversion: 5% 200% decl. bal. Balance of Plant: 20 100% decl. bal. Book Depreciation: 20 years	
TECHNICAL: Capital Cost of Facility: 100% Sensitivity Index Land: \$7,500 k Buildings: \$8,188 k Development Costs: \$0 k Plant: Biomass Conversion: \$53,199 k Balance of Plant: \$14,213 k Total Present Day Capital Cost: \$84,110 k Escalation to Control of Expenditure: \$8,820 k (Note: Ind not escalated) Interest During Construction: \$2,500 k Total Capital Cost at C.O.D. Date: \$101,210 k or \$170,101 per TPD Annual Operating Costs: 100% Sensitivity Index Fixed: Labor: 100% Sensitivity Index \$0.158 /gal Ethanol \$2,310 k/yr Fixed Maintenance/Materials: \$0.052 \$770 k/yr Insurance: 1.0% of Capital Cost \$0.059 \$1,010 k/yr Total Fixed O&M Cost: \$0.278 /gal Ethanol \$4,090 k/yr Variable: Variable Maintenance: \$0.000 /gal Ethanol \$0 k/yr Waste Disposal - Pretreatment: \$0.000 \$0 - Fermentation: \$0.000 \$0 - Solids Separation: \$0.032 \$4,820 Chemicals: \$0.190 \$2,375 Utilities: Power: \$0.141 \$2,094 Water: \$0.004 \$54 Natural Gas: \$0.089 \$1,164 Steam: \$0.000 \$0 Waste Water: \$0.021 \$17 Total Variable O&M Cost: \$0.298 /gal Ethanol \$10,827 k/yr Total Fixed & Variable O&M: \$1.012 /gal Ethanol \$15,017 k/yr		FINANCIAL: Debt Structure: Debt Fraction: 80% (Note: Must be <= Economic Life) Financing Term: 10 Interest Rate: 10.0% Amortization of Loan: Level pm Short Term Construction Interest: 6.0% Target Return on Equity: 30%	
Feedstock: Waste Paper: 0.0% 0.0 /gal Ethanol \$0.00 /wet ton Wood Waste: 0.0% 0.0 \$0.00 Mixed Stock: 100.0% 24.3 \$35.13 /wet ton Average 100.0% 24.3 /gal Average		Annual Quantities: 0 wet tons / year 0 180,235 180,235 wet tons / year	
Output: Ethanol: 82.35 /gal/wet ton \$1.50 /gal \$14,844,850 gallons Ethanol / year CO2: 0.00 CF/wet ton \$0.00 /CF 0 CF CO2 / year Lignin: 0.55 tons/wet ton \$0.00 /ton 88,458 tons /year Power: 0.00 kwh/wet ton \$0.03 /kwh 0 kwh / year		Tipping Fee (Risk): \$0.00 /wet ton \$0.00 \$35.13 /wet ton Average \$35.13	

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If this is a positive, tipping fee is treated as revenue. If negative, tipping fee becomes feedstock charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/DEVELOPER
SITE LOCATION - SYRACUSE, N.Y.

TABLE 3:
OPTION NO.:

REQUIRED TIPPING FEE

28

Stone & Webster Development Corporation

500 TPD (Dry) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITHOUT GASIFICATION;
ETHANOL @ \$1.50/GAL; \$50/TON LIGNIN DISPOSAL COST

Page 1 of 2

End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT (\$1000's)											
REVENUE											
Ethanol		\$27,091	\$28,175	\$29,302	\$30,474	\$31,693	\$32,960	\$34,279	\$35,650	\$37,078	\$38,559
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock		7,923	8,240	8,569	8,912	9,269	9,639	10,025	10,426	10,843	11,277
Total Revenue		\$35,014	\$36,414	\$37,871	\$39,386	\$40,961	\$42,600	\$44,304	\$46,076	\$47,919	\$49,836
LESS O&M EXPENSES											
Labor - Supervisory		\$2,810	\$2,823	\$3,040	\$3,161	\$3,284	\$3,419	\$3,556	\$3,698	\$3,846	\$4,000
Fixed Maintenance Materials		937	974	1,013	1,054	1,096	1,140	1,185	1,233	1,282	1,333
Insurance		1,229	1,278	1,329	1,382	1,438	1,495	1,555	1,617	1,682	1,749
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
- Fermentation		0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)		6,135	6,411	6,699	7,001	7,310	7,645	7,999	8,349	8,724	9,117
Chemicals		2,890	3,005	3,126	3,251	3,381	3,518	3,659	3,803	3,955	4,113
Power		2,548	2,650	2,758	2,886	2,999	3,100	3,224	3,353	3,487	3,628
Water		65	69	71	74	76	80	83	86	89	93
Waste Water		21	22	22	23	24	25	26	27	28	29
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas		1,914	2,019	2,130	2,247	2,371	2,501	2,639	2,784	2,937	3,099
Feedstock - Waste Paper		0	0	0	0	0	0	0	0	0	0
- Waste Wood		0	0	0	0	0	0	0	0	0	0
- Mixed Stock		0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		2,859	3,004	3,124	3,249	3,379	3,514	3,656	3,801	3,953	4,111
Total O&M Expenses		\$21,437	\$22,354	\$23,310	\$24,308	\$25,349	\$26,435	\$27,568	\$28,751	\$29,984	\$31,271
GROSS MARGIN		\$13,577	\$14,061	\$14,561	\$15,078	\$15,612	\$16,165	\$16,735	\$17,325	\$17,935	\$18,565
INTEREST		(8,097)	(7,569)	(7,030)	(6,415)	(5,739)	(5,095)	(4,177)	(3,277)	(2,267)	(1,196)
TAX DEPRECIATION		(13,620)	(22,071)	(13,784)	(8,782)	(8,793)	(4,842)	(1,187)	(1,125)	(1,114)	(1,114)
TAXABLE INCOME		(\$8,140)	(\$5,569)	(\$6,253)	(\$120)	\$1,170	\$6,227	\$11,371	\$12,924	\$14,533	\$16,252
TAXES: Income		3,325	6,372	2,554	49	(478)	(2,544)	(1,645)	(5,279)	(5,037)	(5,639)
Tax Credits		0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$4,815)	(\$9,227)	(\$3,699)	(\$71)	\$692	\$3,683	\$6,726	\$7,644	\$8,597	\$9,613
TAX DEPRECIATION		13,620	22,071	13,784	8,782	8,793	4,842	1,187	1,125	1,114	1,114
PLANT COST		\$101,210									
LOAN		\$80,968									
PRINCIPAL PAYMENTS		(5,060)	(5,588)	(6,147)	(6,782)	(7,438)	(8,182)	(9,000)	(9,900)	(10,890)	(11,979)
NET CASH FLOW		(\$20,242)	\$3,725	\$7,256	\$3,938	\$1,950	\$1,997	\$444	(\$1,087)	(\$1,131)	(\$1,179)
CUMULATIVE CASH FLOW		(\$20,242)	(\$16,517)	(\$8,261)	(\$5,323)	(\$3,374)	(\$1,417)	(\$973)	(\$2,060)	(\$3,191)	(\$4,370)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.030	1.087	1.105	1.144	1.185	1.227	1.270	1.315	1.361	1.408
CUM NPV	20.0%	(\$20,242)	(\$17,138)	(\$12,069)	(\$8,820)	(\$6,860)	(\$5,004)	(\$7,945)	(\$8,248)	(\$8,511)	(\$8,942)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR / DEVELOPER
SITE LOCATION - SYRACUSE, N.Y.

TABLE 3: REQUIRED TIPPING FEE
OPTION NO.: 28
500 TPD (Dry) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITHOUT GASIFICATION;
ETHANOL @ \$1.30/GAL.; \$50/TON MINIMUM DISPOSAL COST

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Operating Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT										
REVENUE										
Ethanol	\$40,101	\$41,705	\$43,374	\$45,100	\$46,813	\$48,789	\$50,741	\$52,771	\$54,881	\$57,077
CO2	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	0	0	0	0	0	0	0	0	0	0
Tipping Fee- Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$36.13	11,728	12,197	12,885	13,192	13,720	14,289	14,840	15,433	16,092
Total Revenue	\$51,829	\$53,602	\$56,058	\$58,301	\$60,533	\$63,058	\$65,560	\$68,204	\$70,932	\$73,789
LESS O&M EXPENSES										
Labor - Supervisory	\$4,180	\$4,327	\$4,500	\$4,680	\$4,867	\$5,061	\$5,264	\$5,475	\$5,693	\$5,921
Fixed Maintenance Materials	1,387	1,442	1,500	1,560	1,622	1,687	1,755	1,826	1,898	1,974
Insurance	1,819	1,892	1,967	2,048	2,128	2,210	2,302	2,394	2,489	2,589
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	9,527	9,858	10,404	10,872	11,381	11,873	12,407	12,965	13,549	14,158
Chemicals	4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854	6,086
Power	3,771	3,822	4,078	4,242	4,412	4,588	4,772	4,963	5,161	5,368
Water	97	101	105	109	113	116	122	127	132	138
Waste Water	31	32	33	34	36	37	38	40	42	44
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	3,288	3,448	3,638	3,839	4,050	4,273	4,508	4,755	5,017	5,293
Feedstock - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)	4,278	4,447	4,625	4,810	5,002	5,202	5,410	5,627	5,852	6,086
Total O&M Expenses	\$32,814	\$34,015	\$35,478	\$37,003	\$38,595	\$40,257	\$41,990	\$43,800	\$45,688	\$47,658
GROSS MARGIN	\$19,015	\$19,587	\$20,580	\$21,298	\$22,038	\$22,801	\$23,570	\$24,404	\$25,244	\$26,131
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(5,712)
TAXABLE INCOME	\$18,101	\$18,773	\$19,467	\$20,183	\$20,923	\$21,687	\$22,478	\$23,290	\$24,130	\$20,396
TAXES: Income	(7,394)	(7,689)	(7,952)	(8,245)	(8,547)	(8,859)	(9,181)	(9,514)	(9,857)	(10,233)
Tax Credits	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX	\$10,707	\$11,104	\$11,515	\$11,938	\$12,376	\$12,828	\$13,294	\$13,776	\$14,273	\$12,068
TAX DEPRECIATION	1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114	5,712
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$11,821	\$12,218	\$12,629	\$13,053	\$13,490	\$13,942	\$14,409	\$14,890	\$15,387	\$17,778
CUMULATIVE CASH FLOW	\$8,199	\$19,417	\$31,046	\$44,099	\$57,589	\$71,532	\$85,940	\$100,831	\$116,218	\$133,996
CUMULATIVE IRR	5.70%	10.88%	13.74%	15.00%	15.91%	17.07%	18.60%	19.17%	19.61%	20.00%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$7,351)	(\$5,981)	(\$4,800)	(\$3,784)	(\$2,908)	(\$2,154)	(\$1,500)	(\$945)	(\$484)

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
 PROFORMA FINANCIAL STATEMENT
 THIRD PARTY CONTRACTOR / DEVELOPER
 SITE LOCATION - SYRACUSE, N.Y.

TABLE 3: REQUIRED TIPPING FEE
 OPTION NO.: 29
 500 TPD (Dry) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITHOUT GASIFICATION;
 ETHANOL @ \$1.20/GAL; NO LIGNIN DISPOSAL COST

Stone & Webster Development Corporation

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End of Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Years from P.D.	4	5	6	7	8	9	10	11	12	13	14
Operating Year	0	1	2	3	4	5	6	7	8	9	10
ANNUAL CAPACITY FACTOR		83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY		180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT (\$'000's)											
REVENUE											
Ethanol		\$21,873	\$22,540	\$23,441	\$24,379	\$25,354	\$26,368	\$27,423	\$28,520	\$29,661	\$30,847
CO2		0	0	0	0	0	0	0	0	0	0
Lignin		0	0	0	0	0	0	0	0	0	0
Power		0	0	0	0	0	0	0	0	0	0
Tipping Fee— Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
— Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
— Mixed Stock	\$28.95	6,481	6,740	7,010	7,290	7,582	7,885	8,201	8,529	8,870	9,225
Total Revenue		\$28,154	\$29,280	\$30,451	\$31,669	\$32,936	\$34,253	\$35,624	\$37,049	\$38,530	\$40,072
LESS O&M EXPENSES											
Labor - Supervisory		\$2,810	\$2,923	\$3,040	\$3,161	\$3,286	\$3,419	\$3,556	\$3,698	\$3,846	\$4,000
Fixed Maintenance Materials		937	974	1,013	1,054	1,098	1,140	1,185	1,233	1,282	1,333
Insurance		1,229	1,275	1,329	1,382	1,438	1,495	1,555	1,617	1,682	1,749
Property Taxes		0	0	0	0	0	0	0	0	0	0
Variable Maintenance		0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment		0	0	0	0	0	0	0	0	0	0
— Fermentation		0	0	0	0	0	0	0	0	0	0
— Solids Separation (Ash or Lignin)		0	0	0	0	0	0	0	0	0	0
Chemicals		2,890	3,005	3,126	3,251	3,381	3,516	3,656	3,803	3,955	4,113
Power	Economic Incentive Reduction: 0%	2,548	2,650	2,755	2,865	2,980	3,100	3,224	3,353	3,487	3,626
Water		65	68	71	74	78	80	83	86	89	93
Waste Water		21	22	22	23	24	25	26	27	29	29
Steam		0	0	0	0	0	0	0	0	0	0
Natural Gas	Economic Incentive Reduction: 0%	1,814	2,018	2,130	2,247	2,371	2,501	2,639	2,784	2,937	3,099
Feedstock - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0	0
— Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0	0
— Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)		2,323	2,418	2,512	2,613	2,717	2,826	2,939	3,057	3,179	3,308
Total O&M Expenses		\$14,738	\$15,354	\$15,990	\$16,671	\$17,371	\$18,101	\$18,863	\$19,657	\$20,485	\$21,349
GROSS MARGIN		\$13,416	\$13,926	\$14,461	\$14,998	\$15,565	\$16,152	\$16,761	\$17,391	\$18,045	\$18,723
INTEREST		(5,087)	(7,588)	(7,030)	(6,415)	(5,738)	(4,995)	(4,177)	(3,277)	(2,287)	(1,198)
TAX DEPRECIATION		(13,820)	(22,071)	(13,784)	(8,782)	(6,703)	(4,942)	(3,987)	(3,125)	(2,114)	(1,114)
TAXABLE INCOME		(\$5,299)	(\$15,734)	(\$8,352)	(\$699)	\$1,123	\$8,214	\$11,308	\$12,890	\$14,644	\$18,411
TAXES: Income		3,390	6,427	2,589	81	(459)	(2,339)	(4,059)	(5,308)	(5,902)	(6,704)
Tax Credits	\$0 Investment \$0 Values	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX		(\$4,909)	(\$16,361)	(\$10,941)	(\$718)	\$664	\$5,875	\$7,249	\$7,582	\$8,742	\$11,707
TAX DEPRECIATION		13,820	22,071	13,784	8,782	6,703	4,942	3,987	3,125	2,114	1,114
PLANT COST	(\$101,210)										
LOAN	\$80,968										
PRINCIPAL PAYMENTS		(5,080)	(5,588)	(6,147)	(6,762)	(7,438)	(8,182)	(9,000)	(9,900)	(10,890)	(11,979)
NET CASH FLOW		(\$20,242)	\$3,631	\$7,176	\$3,674	\$1,903	\$1,929	\$438	(\$1,072)	(\$1,092)	(\$1,158)
CUMULATIVE CASH FLOW		(\$20,242)	(\$16,611)	(\$9,435)	(\$5,761)	(\$3,858)	(\$1,930)	(\$1,293)	(\$2,365)	(\$3,457)	(\$4,615)
CUMULATIVE IRR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEBT COVERAGE RATIO		1.018	1.057	1.097	1.138	1.181	1.226	1.272	1.320	1.369	1.421
CUM NPV	20.0%	(\$20,242)	(\$17,210)	(\$12,233)	(\$8,991)	(\$6,074)	(\$3,298)	(\$8,152)	(\$8,705)	(\$9,921)	(\$9,108)

INPUT:		ECONOMIC:	
CASE: Option Number: 23 (Enter an integer based on Table 1, Master Input Table) Plant Size (feedstock rate): 800 TPD wet, as-shipped Ethanol Production: 49,000 GPD Plant Size: 1 Additional byproducts?: CO2: 0 (0 = No, 1 = Yes) Lignin: 1 Power: 0		ECONOMIC: Inflation Rate (FP): 4.0% Escalation Rate (Monthly): 3.0% Capital Cost: 4.0% O&M Costs: Labor: 4.0% Maintenance Materials: 4.0% Insurance: 4.0% Waste Disposal - Pretreatment: 4.0% - Fermentation: 4.0% - Solids Separation: 4.0% Chemicals: 4.0% Utilities: Power: 4.0% Water: 4.0% Natural Gas: 5.0% Steam: 4.0% Waste Water: 4.0% Feedstock Output: Ethanol: 4.0% CO2: 4.0% Lignin: 4.0%	
SCHEDULE: (Beginning of Year) Present Day: 1994 Start Construction: 1995 Centroid of Capital Expenditure: 1997 First Year of Operation: 1998 Economic Life: 20 years Annual Operating Schedule: 303 days/yr Mature Capacity Factor: 93.0% First Year Capacity Factor: 93.0%		Tax Data: Federal Income Tax Rate: 35.0% State Income Tax Rate: 6.0% Effective Rate: 49.0% Local Tax Rate (Gross Receipts Tax): 6.0% Property Tax Rate: 0.0% \$/100 Estimated Annual Expense: \$0 Ethanol Production Tax Credit: \$0.00 gal for max. 16,000,000 gal/yr Last year credit applies: 0 Power from Capital Renewal Tax Credit: 0 Economic Development Incentives Apply?: 0 (0 = No, 1 = Yes; See Table 2) Tax Depreciation: Buildings: 21.9 100% dec. bal. Development Costs: 100% holds in Biomass Corp. Plant: Biomass Conversion: 5 300% dec. bal. Balance of Plant: 20 180% dec. bal. Book Depreciation: 20 years	
TECHNICAL: Capital Cost of Facility: 100% Sensitivity Index Land: \$7,500 k Buildings: \$8,196 k Development Costs: \$0 k Plant: Biomass Conversion: \$53,199 k Balance of Plant: \$14,213 k Total Present Day Capital Cost: \$75,408 k Escalation to Centroid of Expenditure: \$80,800 k (Note: End of escalation) Interest During Construction: \$7,500 k Total Capital Cost at C.O.D.: \$101,210 k or \$170,101 per TPD Annual Operating Costs: 100% Sensitivity Index Fixed: Labor: 100% Sensitivity Index \$2,158 /gal Ethanol \$3,310 k/yr Fixed Maintenance Materials: \$0.002 \$775 k/yr Insurance: 1.0% of Capital Cost \$0.089 \$1,010 k/yr Total Fixed O&M Cost: \$2,276 /gal Ethanol \$4,095 k/yr Variable: Variable Maintenance: \$0.000 /gal Ethanol \$0 k/yr Waste Disposal - Pretreatment: \$0.000 \$0 k/yr - Fermentation: \$0.000 \$0 k/yr - Solids Separation: \$0.000 \$0 k/yr Chemicals: \$1,190 \$2,378 k/yr Utilities: Power: \$0.141 \$2,094 k/yr Water: \$0.004 \$54 k/yr Natural Gas: \$0.068 \$1,484 k/yr Steam: \$0.000 \$0 k/yr Waste Water: \$0.001 \$17 k/yr Total Variable O&M Cost: \$0.404 /gal Ethanol \$5,004 k/yr Total Fixed & Variable O&M: \$2,680 /gal Ethanol \$9,099 k/yr		FINANCIAL: Debt Structure: Debt Fraction: 80% Financing Term: 10 (Note: Must be <= Economic Life) Interest Rate: 10.0% Amortization of Loan: Level pay Short Term Construction Interest: 8.0% Target Return on Equity: 20%	
Feedstock: Waste Paper: 0.0% 0.0 lb/gal Ethanol \$0.00 /wet ton Wood Waste: 0.0% 0.0 lb/gal Ethanol \$0.00 /wet ton Mixed Stock: 100.0% 24.3 lb/gal Average \$24.30 /wet ton Average 100.0% 24.3 lb/gal Average \$24.30 /wet ton Average		Annual Quantities: 0 wet tons / year 0 wet tons / year 160,255 wet tons / year 160,255 wet tons / year	
Output: Ethanol: \$2.35 /gal/wet ton \$1.20 /gal CO2: 0.00 CF/wet ton \$0.00 /CF Lignin: 0.05 tons/wet ton \$0.00 /ton Power: 0.00 kwh/wet ton \$0.03 /kwh 14,644,550 gallons Ethanol / year 0 CF CO2 / year 68,450 tons Lignin / year 0 kwh / year			

Note: The average tipping fee is calculated so that the project yields the Target Return on Equity. If value is positive, tipping fee is treated as revenue. If negative, tipping fee becomes feedstock charge and is an expense.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/DEVELOPER
SITE LOCATION - SYRACUSE, N.Y.

TABLE 3: REQUIRED TIPPING FEE
OPTION NO.: 29
500 TPD (Dry) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITHOUT GASIFICATION;
ETHANOL @ \$1.20/GAL; NO LIGNIN DISPOSAL COST

Stone & Webster Development Corporation

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End of Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Years from P.D.	15	16	17	18	19	20	21	22	23	24
Opening Year	11	12	13	14	15	16	17	18	19	20
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT										
REVENUE										
Ethanol	\$32,081	\$33,364	\$34,688	\$36,007	\$37,530	\$39,031	\$40,593	\$42,218	\$43,905	\$45,661
CO2	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	0	0	0	0	0	0	0	0	0	0
Tipping Fee- Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$20.55	9,384	9,877	10,378	10,794	11,223	11,672	12,139	12,624	13,129
Total Revenue	\$41,075	\$43,342	\$45,075	\$46,878	\$48,753	\$50,703	\$52,732	\$54,841	\$57,035	\$59,318
LESS O&M EXPENSES										
Labor - Supervisory	\$4,180	\$4,327	\$4,500	\$4,680	\$4,867	\$5,061	\$5,264	\$5,475	\$5,693	\$5,921
Fixed Maintenance Materials	1,387	1,442	1,500	1,560	1,622	1,687	1,755	1,825	1,896	1,974
Insurance	1,819	1,892	1,967	2,046	2,128	2,213	2,302	2,394	2,489	2,589
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Fermentation	0	0	0	0	0	0	0	0	0	0
- Solid Separation (Ash or Lignin)	0	0	0	0	0	0	0	0	0	0
Chemicals	4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854	6,088
Power	3,771	3,922	4,078	4,242	4,412	4,588	4,772	4,963	5,161	5,368
Water	97	101	105	109	113	118	122	127	132	138
Waste Water	31	32	33	34	36	37	39	40	42	44
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	3,269	3,448	3,630	3,816	4,005	4,203	4,408	4,625	4,854	5,093
Feedstock - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)	3,435	3,578	3,719	3,867	4,022	4,183	4,350	4,524	4,705	4,894
Total O&M Expenses	\$22,248	\$23,188	\$24,187	\$25,189	\$26,254	\$27,385	\$28,523	\$29,732	\$30,983	\$32,307
GROSS MARGIN	\$18,825	\$20,153	\$20,888	\$21,689	\$22,500	\$23,319	\$24,208	\$25,109	\$26,042	\$27,008
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(5,712)
TAXABLE INCOME	\$17,711	\$19,039	\$19,773	\$20,575	\$21,385	\$22,224	\$23,094	\$23,995	\$24,928	\$21,296
TAXES: Income	(7,480)	(7,777)	(8,068)	(8,408)	(8,736)	(9,079)	(9,434)	(9,802)	(10,183)	(9,999)
Tax Credits	\$0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX	\$10,231	\$11,262	\$11,705	\$12,167	\$12,649	\$13,145	\$13,660	\$14,193	\$14,745	\$11,297
TAX DEPRECIATION	1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114	5,712
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$11,945	\$12,376	\$12,822	\$13,281	\$13,764	\$14,260	\$14,774	\$15,307	\$15,859	\$16,309
CUMULATIVE CASH FLOW	\$6,216	\$19,592	\$31,414	\$44,695	\$59,459	\$75,720	\$93,494	\$112,801	\$133,660	\$156,072
CUMULATIVE IRR	5.60%	10.80%	13.67%	15.55%	16.87%	17.85%	18.58%	19.16%	19.60%	20.00%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$7,501)	(\$6,113)	(\$4,914)	(\$3,850)	(\$2,908)	(\$2,215)	(\$1,549)	(\$874)	50

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
 FORMER FINANCIAL STATEMENT
 THIRD PARTY CONTRACTOR / DEVELOPER
 SITE LOCATION - SYRACUSE, NY

TABLE 2:
CASE INPUT
CASE: 300 TPD (dry) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITHOUT GASIFICATION;
ETHANOL @ \$3.20/GAL; NO LIQUID DISPOSAL COST

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10-27-84

INPUT									
CASE:									
Option Number	:	:30	(Enter an integer based on Table 1, Master Input Table)						
Plant Site (feedstock rate)	:	:595 TPD wet, ss-lipped	GPO						
Ethanol Production	:	:49,000							
Plant Size	:	:1	(0 = No, 1 = Yes)						
Additional byproducts?	:	:CO ₂ : 1 Ugin: 1 Power: 0							
SCHEDULE: (Beginning of Year)									
Present Day	:	:1994							
Start Construction	:	:1998							
Control of Capital Expenditure	:	:1997							
First Year of Operation	:	:1999							
Economic Life	:	:20 years							
Annual Operating Schedule	:	:303 days/yr	Mature Capacity Factor	:	:	:	:	:	:
	:	:83.0%	First Year Capacity Factor	:	:	:	:	:	:
	:	:83.0%							
TECHNICAL:									
Capital Cost of Facility	:	:100% Sensitivity Index							
Land	:	\$7,500 k							
Buildings	:	\$9,195 k							
Development Costs	:	\$0 k							
Plant:	:								
Biomass Conversion	:	\$53,189 k							
Balance of Plant	:	\$14,213 k							
Total Present Day Capital Cost	:	\$94,110 k							
Escalation to Control of Expenditure	:	\$9,800 k (Note; land not escalated)							
Interest During Construction	:	\$7,500 k							
Total Capital Cost at C.O.C.	:	\$101,210 k or \$170,101 per TPD							
Annual Operating Costs	:	:100% Sensitivity Index							
Flood:	:								
Labor	:	\$0.198 /gal Ethanol	\$2,310 M/y						
Fixed Maintenance Materials	:	\$0.052 "	\$770 M/y						
Inventories	:	\$0.066 "of Capital Cost	\$1,810 M/y						
Total Fixed O&M Cost	:	\$0.276 "/gal Ethanol	\$4,080 M/y						
Variable:	:								
Variable Maintenance	:	\$0.000 "/gal Ethanol	\$0 M/y						
Waste Disposal - Pretreatment	:	\$0.000 "	\$0 "						
- Fermentation	:	\$0.000 "	\$0 "						
- Solids Separation	:	\$0.000 "	\$0 "						
Chemicals	:	\$0.180 "	\$2,379 "						
Utilities:	:								
Power	:	\$0.141 "	\$2,094 "						
Water	:	\$5.004 "	\$54 "						
Natural Gas	:	\$0.088 "	\$1,454 "						
Steam	:	\$0.000 "	\$0 "						
Waste Water	:	\$0.001 "	\$17 "						
Total Variable O&M Cost	:	\$0.404 "/gal Ethanol	\$5,004 M/y						
Total Fixed & Variable O&M	:	\$0.680 "/gal Ethanol	\$10,084 M/y						
ECONOMIC:									
Inflation Rate (PI)	:	:4.0%							
Escalation Rates (Nominal)	:	:4.0%							
Capital Cost	:	:4.0%							
O&M Costs:	:								
Labor	:	:4.0%							
Maintenance Materials	:	:4.0%							
Inventories	:	:4.0%							
Waste Disposal - Pretreatment	:	:4.0%							
- Fermentation	:	:4.0%							
- Solids Separation	:	:4.0%							
Overhead	:	:4.0%							
Utilities:	:								
Power	:	:4.0%							
Water	:	:4.0%							
Natural Gas	:	:4.0%							
Steam	:	:4.0%							
Waste Water	:	:4.0%							
Feedstock:	:								
Output:	:								
Ethanol	:	:4.0%							
CO ₂	:	:4.0%							
Ugin	:	:4.0%							
Tax Data:	:								
Federal Income Tax Rate	:	:35.0%							
State Income Tax Rate	:	:3.0%							
Effective Rate	:	:40.0%							
Local Tax Rate (Gross Receipts Tax)	:	:6.25%							
Property Tax Rate	:	:0.0%	\$/100						
Estimated Annual Expense	:	\$0 M/y	Apt for max. 15,000,000 gal/yr						
Ethanol Production Tax Credit	:	\$0.00	Last year credit applies						
Power from Certain Renewables Tax Credit	:	0 Awn							
Economic Development Incentives Apply To	:	0 (0 = No, 1 = Yes; See Table 2)							
Tax Depreciation	:								
Buildings	:	:11.8 %	% decd bet						
Development Costs	:	--	Include in Biomass Conv.						
Plant:	:								
Biomass Conversion	:	:61 %	% decd bet						
Balance of Plant	:	:20 %	% decd bet						
Bank Depreciation	:	:20 years							
FINANCIAL:									
Debt Structure:	:								
Debt Fraction	:	:50%							
Financing Term	:	:10 (Notes must be ≤ Economic Life)							
Interest Rate	:	:10.0%							
Amortization of Loan	:	:Lend am							
Short-Term Construction Interest	:	:6.0%							
Target Return on Equity	:	:20%							
FEEDSTOCK:									
Waste Paper	:	:0.0%	:0.0 lb/gal Ethanol	:\$0.00 Avot ton					
Wood Waste	:	:0.0%	:0.0 "	:\$0.00 "					
Mixed Stock	:	:100.0%	:24.3 "	:\$4.65 Avot ton Average					
	:	:100.0%	:24.3 lb/gal Average						
Tipping Fee									
Note:	:								
Maximum Tipping Fee	:								
Annual Quantities	:								

Note: The margin holding for is calculated as: $\text{margin holding for} = \text{total assets} - \text{total debt}$.

BIOMASS-TO-ETHANOL PRODUCTION FACILITY
PROFORMA FINANCIAL STATEMENT
THIRD PARTY CONTRACTOR/ DEVELOPER
SITE LOCATION - SYRACUSE, N.Y.

TABLE 3: REQUIRED TIPPING FEE
OPTION NO.: 30
500 TPD (Dry) of 100.0% MIXED STOCK (50% WASTE WOOD & 50% WASTE PAPER), WITHOUT GABIFICATION;
ETHANOL @ \$120/GAL; NO LIGNIN DISPOSAL COST

Stone & Webster Development Corporation

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	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
End of Year	15	16	17	18	19	20	21	22	23	24
Years from P. D.	11	12	13	14	15	16	17	18	19	20
Operating Year										
ANNUAL CAPACITY FACTOR	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%	83.0%
ANNUAL FEEDSTOCK QUANTITY	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255	180,255
CASH FLOW STATEMENT										
REVENUE										
Ethanol	\$40,101	\$41,705	\$43,374	\$45,108	\$46,913	\$48,789	\$50,741	\$52,771	\$54,881	\$57,077
CO2	0	0	0	0	0	0	0	0	0	0
Lignin	0	0	0	0	0	0	0	0	0	0
Power	0	0	0	0	0	0	0	0	0	0
Tipping Fee - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$4.85	1,573	1,636	1,702	1,770	1,841	1,914	1,991	2,070	2,153
Total Revenue	\$41,675	\$43,342	\$45,075	\$46,878	\$48,753	\$50,703	\$52,732	\$54,841	\$57,035	\$59,318
LESS O&M EXPENSES										
Labor - Supervisory	\$4,160	\$4,327	\$4,500	\$4,680	\$4,867	\$5,061	\$5,264	\$5,475	\$5,693	\$5,921
Fixed Maintenance Materials	1,387	1,442	1,500	1,560	1,622	1,687	1,755	1,825	1,898	1,974
Insurance	1,818	1,892	1,967	2,046	2,128	2,213	2,302	2,394	2,488	2,589
Property Taxes	0	0	0	0	0	0	0	0	0	0
Variable Maintenance	0	0	0	0	0	0	0	0	0	0
Waste Disposal - Pretreatment	0	0	0	0	0	0	0	0	0	0
- Fermentation	0	0	0	0	0	0	0	0	0	0
- Solids Separation (Ash or Lignin)	0	0	0	0	0	0	0	0	0	0
Chemicals	4,277	4,449	4,627	4,812	5,004	5,204	5,412	5,629	5,854	6,086
Power	3,771	3,922	4,079	4,242	4,412	4,588	4,772	4,963	5,161	5,366
Economic Incentive Reduction:										
Water	87	101	105	109	113	118	122	127	132	138
Waste Water	31	32	33	34	36	37	39	40	42	44
Steam	0	0	0	0	0	0	0	0	0	0
Natural Gas	3,269	3,449	3,639	3,839	4,050	4,273	4,506	4,755	5,017	5,293
Economic Incentive Reduction:										
Feedstock - Waste Paper	\$0.00	0	0	0	0	0	0	0	0	0
- Waste Wood	\$0.00	0	0	0	0	0	0	0	0	0
- Mixed Stock	\$0.00	0	0	0	0	0	0	0	0	0
Gross Receipts Tax (Income Tax Deductible)	3,436	3,576	3,719	3,867	4,022	4,183	4,350	4,524	4,705	4,884
Total O&M Expenses	\$22,249	\$23,189	\$24,167	\$25,180	\$26,254	\$27,385	\$28,523	\$29,732	\$30,993	\$32,307
GROSS MARGIN	\$19,425	\$20,153	\$20,908	\$21,698	\$22,500	\$23,318	\$24,208	\$25,109	\$26,042	\$27,011
INTEREST	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TAX DEPRECIATION	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(1,114)	(5,712)
TAXABLE INCOME	\$18,311	\$19,039	\$19,793	\$20,578	\$21,386	\$22,224	\$23,094	\$23,995	\$24,928	\$21,299
TAXES: Income	(7,490)	(7,777)	(8,068)	(8,405)	(8,736)	(9,079)	(9,434)	(9,802)	(10,183)	(8,999)
Tax Credits	0	0	0	0	0	0	0	0	0	0
INCOME AFTER TAX	\$10,821	\$11,262	\$11,725	\$12,173	\$12,650	\$13,145	\$13,660	\$14,193	\$14,745	\$12,299
TAX DEPRECIATION	1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114	5,712
PLANT COST										
LOAN										
PRINCIPAL PAYMENTS	0	0	0	0	0	0	0	0	0	0
NET CASH FLOW	\$11,935	\$12,376	\$12,839	\$13,287	\$13,764	\$14,260	\$14,774	\$15,307	\$15,859	\$18,309
CUMULATIVE CASH FLOW	\$5,216	\$16,592	\$31,414	\$44,699	\$58,463	\$72,723	\$87,487	\$102,804	\$118,664	\$139,972
CUMULATIVE IRR	5.80%	10.80%	13.67%	15.53%	16.87%	17.85%	18.58%	19.15%	19.60%	20.00%
DEBT COVERAGE RATIO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CUM NPV	20.0%	(\$7,501)	(\$8,113)	(\$4,814)	(\$3,680)	(\$2,988)	(\$2,215)	(\$1,549)	(\$874)	(\$478)

REQUIRED ETHANOL PRICE vs. CAPITAL COST AS A PERCENTAGE OF ESTIMATED COST
100% MIXED STOCK @ \$20/TON
SITE LOCATION - ALBANY, NY

CAPITAL COST FOR OPT.1 = \$113,683,000
 CAPITAL COST FOR OPT.2 & 5 = \$84,720,000

STONE & WEBSTER DEVELOPMENT CORPORATION

Figure 8-1

REQUIRED ETHANOL PRICE vs. CAPITAL COST AS A PERCENTAGE OF ESTIMATED COST
100% MIXED STOCK @ \$40/TON
SITE LOCATION - ALBANY, NY

CAPITAL COST FOR OPT.3 = \$113,683,000

CAPITAL COST FOR OPT.4 & 6 = \$84,720,000

STONE & WEBSTER DEVELOPMENT CORPORATION

Figure 8-2

REQUIRED ETHANOL PRICE vs. O&M COST AS A PERCENTAGE OF ESTIMATED COST
 100% MIXED STOCK @ \$20/TON
 SITE LOCATION - ALBANY, NY

ESTIMATED O&M COSTS:

OPT.1 = \$3,239 K/YR

OPT.2 = \$11,072 K/YR

OPT.5 = \$6,149 K/YR

—■— OPT.1: 300 DRY TPD WITH GASIFICATION

—●— OPT.2: 300 DRY TPD WITHOUT GASIFICATION, \$30/TON LIGNIN

—▲— OPT.5: 300 DRY TPD WITHOUT GASIFICATION, \$10/TON LIGNIN

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 8-3

REQUIRED ETHANOL PRICE vs. O&M COST AS A PERCENTAGE OF ESTIMATED COST
100% MIXED STOCK @ \$40/TON
SITE LOCATION - ALBANY, NY

ESTIMATED CAPITAL COSTS:

OPT.3 = \$3,239 K/YR

OPT.4 = \$11,072 K/YR

OPT.6 = \$6,149 K/YR

—■— OPT.3: 500 DRY TPD WITH GASIFICATION

—●— OPT.4: 500 DRY TPD WITHOUT GASIFICATION, \$50/TON LIGNIN

—▲— OPT.6: 500 DRY TPD WITHOUT GASIFICATION

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 8-4

REQUIRED ETHANOL PRICE vs. CAPITAL COST AS A PERCENTAGE OF ESTIMATED COST
 100% MIXED STOCK @ \$20/TON
 SITE LOCATION - BUFFALO, NY

CAPITAL COST FOR OPT.7 = \$117,172,000
 CAPITAL COST FOR OPT.8 & 11 = \$87,535,000

STONE & WEBSTER DEVELOPMENT CORPORATION

Figure 8-5

REQUIRED ETHANOL PRICE vs. CAPITAL COST AS A PERCENTAGE OF ESTIMATED COST
100% MIXED STOCK @ \$40/TON
SITE LOCATION - BUFFALO, NY

CAPITAL COST FOR OPT. 9 = \$172,117,000

CAPITAL COST FOR OPT. 10 & 12 = \$87,535,000

STONE & WEBSTER DEVELOPMENT CORPORATION

Figure 8-6

**REQUIRED ETHANOL PRICE vs. O&M COST AS A PERCENTAGE OF ESTIMATED COST
100% MIXED STOCK @ \$20/TON
SITE LOCATION - BUFFALO, NY**

ESTIMATED O&M COSTS:

OPT.7 = \$3,144 K/YR

OPT.8 = \$10,924 K/YR

OPT.11 = \$6,001 K/YR

- OPT.7: 300 DRY TPD WITH GASIFICATION
- OPT.8: 300 DRY TPD WITHOUT GASIFICATION, \$50/TON LIGNIN
- ▲— OPT.11: 300 DRY TPD WITHOUT GASIFICATION, \$0/TON LIGNIN

STONE & WEBSTER DEVELOPMENT CORPORATION

Figure 8-7

REQUIRED ETHANOL PRICE vs. O&M COST AS A PERCENTAGE OF ESTIMATED COST
100% MIXED STOCK @ \$40/TON
SFIB LOCATION - BUFFALO, NY

ESTIMATED O&M COSTS:

OPT.9 = \$3,144 K/YR

OPT.10 = \$10,924 K/YR

OPT.12 = \$6,001 K/YR

- OPT.9: 300 DRY TPD WITH GASIFICATION
- OPT.10: 300 DRY TPD WITHOUT GASIFICATION, \$50/TON LIGNIN
- ▲ OPT.12: 300 DRY TPD WITHOUT GASIFICATION, \$9/TON LIGNIN

STONE & WEBSTER DEVELOPMENT CORPORATION

Figure 8-8

REQUIRED ETHANOL PRICE vs. CAPITAL COST AS A PERCENTAGE OF ESTIMATED COST
 100% MIXED STOCK @ \$20/TON
 SITE LOCATION - ROCHESTER, NY

CAPITAL COST FOR OPT.13 = \$113,679,600

CAPITAL COST FOR OPT.14 & 17 = \$86,333,200

STONE & WEBSTER DEVELOPMENT CORPORATION

Figure 8-9

REQUIRED ETHANOL PRICE vs. CAPITAL COST AS A PERCENTAGE OF ESTIMATED COST
 100% MIXED STOCK @ \$40/TON-
 SITE LOCATION - ROCHESTER, NY

CAPITAL COST FOR OPT.15 = \$115,679,600

CAPITAL COST FOR OPT.16 & 18 = \$96,353,200

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 8-10

REQUIRED ETHANOL PRICE vs. O&M COST AS A PERCENTAGE OF ESTIMATED COST
100% MIXED STOCK @ \$20/TON
SITE LOCATION - ROCHESTER, NY

ESTIMATED CAPITAL COST

OPT.13 = \$3,171 K/YR

OPT.14 = \$10,970 K/YR

OPT.17 = \$6,047 K/YR

- OPT.13: 500 DRY TPD WITH GASIFICATION
- OPT.14: 500 DRY TPD WITHOUT GASIFICATION, \$50/TON LIGNIN
- ▲— OPT.17: 500 DRY TPD WITHOUT GASIFICATION, \$0/TON LIGNIN

STONE & WEBSTER DEVELOPMENT CORPORATION

Figure 8-11

**REQUIRED ETHANOL PRICE vs. O&M COST AS A PERCENTAGE OF ESTIMATED COST
100% MIXED STOCK @ \$40/TON**

SITE LOCATION - ROCHESTER, NY

ESTIMATED O&M COSTS:

OPT.15 = \$3,171 K/YR

OPT.16 = \$10,970 K/YR

OPT.18 = \$6,047 K/YR

—■— OPT.15: 300 DRY TPD WITH GASIFICATION

—●— OPT.16: 300 DRY TPD WITHOUT GASIFICATION, \$30/TON LIGNIN

—▲— OPT.18: 300 DRY TPD WITHOUT GASIFICATION, \$0/TON LIGNIN

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 8-12

REQUIRED ETHANOL PRICE vs. CAPITAL COST AS A PERCENTAGE OF ESTIMATED COST
 100% MIXED STOCK @ \$20/TON
 SITE LOCATION - SYRACUSE, NY

CAPITAL COST FOR OPT.19 = \$112,897,300

CAPITAL COST FOR OPT.20 & 23 = \$84,110,300

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 8-13

REQUIRED ETHANOL PRICE vs. CAPITAL COST AS A PERCENTAGE OF ESTIMATED COST
 100% MIXED STOCK @ \$40/TON
 SITE LOCATION - SYRACUSE, NY

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 8-14

**REQUIRED ETHANOL PRICE vs. O&M COST AS A PERCENTAGE OF ESTIMATED COST
100% MIXED STOCK @ \$20/TON
SITE LOCATION - SYRACUSE, NY**

ESTIMATED O&M COSTS:

OPT.19 = \$3,137 K/YR

OPT.20 = \$10,927 K/YR

OPT.23 = \$6,004 K/YR

—■— OPT.19: 300 DRY TPD WITH GASIFICATION

—●— OPT.20: 300 DRY TPD WITHOUT GASIFICATION, \$5/TON LIGNIN

—▲— OPT.23: 300 DRY TPD WITHOUT GASIFICATION, \$2/TON LIGNIN

STONE & WEBSTER DEVELOPMENT CORPORATION

Figure 8-15

REQUIRED ETHANOL PRICE vs. O&M COST AS A PERCENTAGE OF ESTIMATED COST
100% MIXED STOCK @ \$40/TON
SITE LOCATION - SYRACUSE, NY

ESTIMATED O&M COSTS:

OPT.21 = \$3,137 K/YR

OPT.22 = \$10,927 K/YR

OPT.24 = \$5,001 K/YR

—■— OPT.21: 300 DRY TPD WITH GASIFICATION

—●— OPT.22: 300 DRY TPD WITHOUT GASIFICATION, \$50/TON LIGNIN

—▲— OPT.24: 300 DRY TPD WITHOUT GASIFICATION, \$0/TON LIGNIN

STONE & WEBSTER DEVELOPMENT CORPORATION

Figure 8-16

REQUIRED TIPPING FEE vs. CAPITAL COST
ETHANOL SALES PRICE: \$1.20/GAL
SITE LOCATION - SYRACUSE

- OPT.19: 300 DRY TPD, WITH GASIFICATION
- ▲— OPT.23: 300 DRY TPD, WITHOUT GASIFICATION, 10%TON LIGNIN
- OPT.26: 300 DRY TPD WITHOUT GASIFICATION, 15%TON LIGNIN

CAPITAL COST FOR OPT.25 = \$112,897,300

CAPITAL COST FOR OPT.26 & 29 = \$84,110,300

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 8-17

REQUIRED TIPPING FEE (\$/WET TON, AVG.)

REQUIRED TIPPING FEE vs. CAPITAL COST ETHANOL SALES PRICE: \$1.50/GAL SITE LOCATION - SYRACUSE

- OPT 21: 500 DRY TPD, WITH GASIFICATION
- OPT 22: 500 DRY TPD WITHOUT CLASSIFICATION, \$50/TON LIGNIN
- ▲— OPT 24: 500 DRY TPD, WITHOUT GASIFICATION, \$0/TON LIGNIN

CAPITAL COST FOR OPT. 21 = \$112,897,300
CAPITAL COST FOR OPT. 22 & 24 = \$84,110,300

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 8-18

REQUIRED TIPPING FEE vs. O&M COST
ETHANOL SALES PRICE @ \$1.20/GAL
SITE LOCATION - SYRACUSE, N.Y.

ESTIMATED O&M COSTS:

OPT.25 = \$3,220 K/YR

OPT.26 = \$10,927 K/YR

OPT.29 = \$6,004 K/YR

- OPT.25: 500 DRY TPD, WITH GASIFICATION
- OPT.26: 500 DRY TPD, WITHOUT GASIFICATION, \$30/TON LIGNIN
- ▲ OPT.29: 500 DRY TPD, WITHOUT GASIFICATION, \$0/TON LIGNIN

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 8-19

REQUIRED TIPPING FEE vs. O&M COST

ETHANOL SALES PRICE @ \$1.50/GAL

SITE LOCATION - SYRACUSE, N.Y.

FIGURE 8-20

**REQUIRED TIPPING FEE vs. LABOR COST
ETHANOL SALES PRICE @ \$1.20/GAL
SITE LOCATION - SYRACUSE, N.Y.**

—■— OPT. 23: 300 DRY TPD, WITH GASIFICATION

—●— OPT. 26: 300 DRY TPD, WITHOUT GASIFICATION, \$50/TON LIGNIN

—▲— OPT. 29: 300 DRY TPD, WITHOUT GASIFICATION, \$0/TON LIGNIN

LABOR COST FOR PLANT WITH GASIFICATION IS ESTIMATED @ \$3.01 MILLION PER YEAR

LABOR COST FOR PLANT WITHOUT GASIFICATION IS ESTIMATED @ \$2.31 MILLION PER YEAR

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 8-21

REQUIRED TIPPING FEE (\$/WET TON, AVG.)

REQUIRED TIPPING FEE vs. LABOR COST ETHANOL SALES PRICE @ \$1.50/GAL SITE LOCATION - SYRACUSE, N.Y.

LABOR COST FOR PLANT WITH GASIFICATION ESTIMATED @ \$3.01 MILLION PER YEAR

LABOR COST WITHOUT GASIFICATION IS ESTIMATED @ \$2.31 MILLION PER YEAR

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 8-22

BASE CASE PRICE FOR PURCHASE IS \$0.06/KWH; FOR SALES IS \$0.05/KWH

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 8-23

REQUIRED TIPPING FEE (\$/WET TON, AVG.)

REQUIRED TIPPING FEE vs. POWER PRICE ETHANOL SALES PRICE @ \$1.50/GAL SITE LOCATION - SYRACUSE, N.Y.

BASIS CASE FOR PURCHASE IS \$0.06/KWH; FOR SALES IS \$0.00/KWH

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 8-24

REQUIRED TIPPING FEE vs. LIGNIN DISPOSAL COST ETHANOL SALES PRICE @ \$1.20/GAL SITE LOCATION - SYRACUSE, N.Y.

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 8-25

REQUIRED TIPPING FEE vs. LIGNIN DISPOSAL COST
ETHANOL SALES PRICE @ \$1.50/GAL
SITE LOCATION - SYRACUSE, N.Y.

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 8-26

REQUIRED TIPPING FEE vs. CHEMICAL COST
ETHANOL SALES PRICE @ \$1.20/GAL
SITE LOCATION - SYRACUSE, N.Y.

BASE VALUE FOR OIL OPTIONS IS \$0.16/GAL OF ETHANOL PRODUCED

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 8-27

REQUIRED TIPPING FEE vs. CHEMICAL COST
ETHANOL SALES PRICE @ \$1.50/GAL
SITE LOCATION - SYRACUSE, N.Y.

BASE VALUE FOR ALL OPTIONS IS \$0.16/GAL OF ETHANOL PRODUCED

STONE & WEBSTER DEVELOPMENT CORPORATION

FIGURE 8-28

August 31, 1994

Dixon Brandt
Senior Principal Environmental
Engineer
Stone and Webster
246 Summer Street
Boston, MA 02107

Dear Mr. Brandt:

We invite your attendance and participation at our Wednesday October 12, 1994 forum, "Siting an Ethanol Plant in the Northeast", to be held at New England Air Museum, Bradley Field, Hartford, Connecticut from 9:30 AM to 5 PM. The goal of the forum is the identification of barriers and prospective strategies for the siting of one or more biomass-to-ethanol plants in the region during the next eighteen months. The forum's cosponsors, the National Renewable Energy Laboratory and the Northeast Regional Biomass Program, are committed to bringing together all of the prospective parties which can make the construction of an ethanol plant happen in the Northeast.

The target audience for the forum is developers. However representatives of important stakeholder groups such as: waste haulers, landfill operators, pulp and paper companies, air and solid waste regulators, state economic development and energy officials, researchers, public fleet managers, auto company representatives, oil companies, and investors will be present and provide input to the process. We anticipate between 75 and 85 attendees.

Several factors have prompted the cosponsors to convene the forum at this time: increasing costs associated with the disposal of biomass wastes; environmental and energy regulations encouraging reformulated gasoline, fuel extenders, oxygenated fuels and other alternative transportation fuels; the potential economic benefits for the Northeast arising from the development of indigenous-renewable fuels; and the desirability of providing additional fuel choices for alternatively fueled vehicles.

The Northeast Regional Biomass Program's release of a new report, "A Resource Assessment for Ethanol in the Northeast," provides an initial focus for the forum.

As the attached agenda reflects, the forum considers the following issues:

- * the candidate feedstocks, their short and long term availability and costs—among these include urban woody wastes, waste paper, paper sludge, food wastes, cheese whey, and forest product residues;

* the Clean Air Act Amendments, Energy Policy Act of 1992, and other environmental regulations which provide economic incentives for alternative fuels, including biomass-to-ethanol;

* the salient environmental and energy regulations and their relationship with market development and with the siting of an ethanol plant in the Northeastern states;

* the potential for an economic win win scenario for developers of biomass-to-ethanol facilities and the Northeast states;

* an update on conversion technologies; and

* potential markets for ethanol in the region.

The concluding panel will consider any other issues participants raise which may affect the successful siting of an ethanol plant. The forum will also be charged with generating an agenda for the Northeast Regional Biomass Program and NREL to consider for allocating their resources in the months ahead.

There will be no fees for participants at the Forum and lunch will be provided. Please return the attached reservation by mail or FAX. We look forward to seeing you on October 12th.

Sincerely yours,

A handwritten signature in cursive script that reads "Rick Handley".

Rick Handley
Program Manager, NRBP

Attachment

**Attracting an Ethanol Plant to the Northeast:
A Liquid Fuels Forum**

Bradley Field, Hartford Ct.
Wednesday, October 12, 1994

DRAFT AGENDA

8:30-9:30 Registration and Continental Breakfast

9:30 -9:45 Welcome:

Rick Handley, Northeast Regional Biomass Program
David Lavine, Connecticut Office of Policy and Management
John Ferrell, U.S. Department of Energy

9:45-10:00 The Day's Agenda:

Barry Lawson, Forum Moderator

10:00-10:45 Resource Assessment - Available Feedstock:

Christine Donovan, C. T. Donovan Associates

10:45-11:00 Break

11:00-12:00 Harnessing the Waste Stream - Short and Long-term Availability and Cost:

Urban wood wastes: Richard Wills, Stapleton Recycling (invited)
Wood residues: State Utilization Forester, TBD
Impact of Recycling laws: State Recycling Coordinator, TBD
Paper sludge: AFPA Spokesman, (invited)
Impact on landfills: Landfill Operator, TBD

12:00-1:00 Lunch (provided)

1:00-1:30 Technology Update/Economics of Biomass-to-Ethanol:

Norm Hinman, National Renewable Energy Lab

1:30-2:00 Economic Impacts - The "Win Win" Potential for Development:

Joel Gordes, Connecticut Office of Policy and Management (invited)

2:00-2:45 Markets - The Potential for Ethanol in the Northeast:

A panel discussion of the potential markets for ethanol in the Northeast.

2:45: -3:00 Break

3:45-5:00 Where do we go from here: Facilitated Discussion

Development of an action plan for the Northeast

ATTACHMENT 8-3

September 29, 1994

Mr. Henry Gastwirth
Stone & Webster Engineering Corp.
P. O. Box 2703
New York, NY 10116

Dear Mr. Gastwirth:

Re: AMOCO BIOMASS-TO-ETHANOL SITING STUDY

New York State Electric & Gas Corporation (NYSEG) would like to participate in your efforts to identify and evaluate sites in upstate New York that can accommodate a biomass-to-ethanol facility.

NYSEG is interested in participating for a number of reasons:

- 1) NYSEG is involved in promoting economic development in its service territory. Your ultimate objective of long-term operation of a financially attractive and environmentally sound biomass-to-ethanol facility is certainly in synch with our economic development goals.
- 2) NYSEG has power plants at sites that could be developed to accommodate a biomass-to-ethanol plant. Proximity to an existing power plant offers a number of benefits. For example: nearby electric and steam supply, accessible water and sanitary services, existing landfill facilities, established truck and/or rail access with weighing capabilities, and existing environmental monitoring and control programs. Some of our sites have gas supply available as well. In addition, since our plants are existing industrial sites, licensing new facilities would most likely be easier and less impact than at a "greenfield" site.
- 3) Waste lignin or other waste products from your facility may be acceptable alternative fuel at certain NYSEG power plants. Thus, we may be able to help address your waste handling needs. We would expect to be reimbursed for any processing or drying required to transform waste products to acceptable fuel, but when such costs are compared to disposal costs, a waste-to-fuel partnership could significantly help project economics.

An Equal Opportunity Employer

September 29, 1994

- 4) NYSEG believes biomass-to-energy projects are among the most promising renewable energy options for upstate New York. Consequently, we are interested in advancing economically viable biomass-to-energy initiatives.

I look forward to working with you on this project.

Sincerely,

Wallace H. Benjamin
Technical Specialist

cc: P. G. Carney/M. R. Tesla
M. J. Garner
J. W. Rettberg
T. M. Turner/C. Reilly/M. Richardson
D. E. Wickham/J. C. Kobuskie

ATTACHMENT 8-4

NYSEG SITES

Welcome to KINTIGH station

One of eight
generating
stations
owned or
co-owned by
New York State
Electric
& Gas
Corporation
(NYSEG)

Located on the southern shore of Lake Ontario is NYSEG's newest and largest coal-fired generating station in New York State. Completed in 1984 after more than three years of construction, Kintigh Station generates about 688,000 kilowatts (688 million watts) of electricity. This accounts for about 25 percent of NYSEG's total generating capacity and helps guarantee our customers an adequate supply of electricity well into the 1990s.

In its first years of operation, Kintigh has proved to be one of the most efficient and reliable generating stations in the United States. Moreover, because it was engineered with the environment in mind, it's one of the cleanest. These are some of the reasons why the Electric Power Research Institute (EPRI) chose Kintigh as the site for its High Sulfur Test Center.

For the Niagara region, Kintigh Station means tax revenue, more business and jobs. And because it's a coal-fired plant, Kintigh helps reduce our state's dependence on foreign oil.

At NYSEG, we realize how vital electricity is to our lives and to New York's economy. We also recognize the importance of producing electricity in an efficient and environmentally acceptable manner. We welcome you to Kintigh Station and invite you to learn more about how NYSEG uses coal to produce electricity.

KINTIGH STATION

ATTRIBUTES FOR SITING AN ETHANOL PLANT NEAR A NYSEG GENERATING FACILITY

Land availability	3000 + acres
Town	Somerset
County	Niagara
Zoning	Industrial
Zoning - offsite	Agricultural
Access	Rail, Truck
Weigh facilities	Rail, Truck
Water (100GPM Min)	Potable & Industrial Grade
Steam	Available for all requirements
Gas	Not Available

COAL HANDLING

The huge reclaimer scoops coal from the storage pile onto conveyors leading to the plant.

COAL TO BUNKER	5,400 Tons/Day
COAL IN STORAGE	Up To 500,000 Tons
COAL SUPPLY (APPROX)	90 Days

BOILER

Pulverized coal is blown into the boiler where it burns. Water in tubes lining the boiler is turned into steam.

STEAM TEMPERATURE	1,005°F
STEAM PRESSURE	2,505 PSIG
STEAM/HOUR	4,500,000 Lbs
COAL BURNED/HOUR	225 Tons
TYPE OF BURNER	Pulverized
BOILER BUILDING HEIGHT	256'
CHIMNEY HEIGHT	625'

TURBINE-GENERATOR

The turbine-generator is the heart of the generating station. Energy from the steam spins the turbine which turns the rotor of the generator, producing electricity.

<u>Turbine</u> NO. OF STAGES	4
<u>Generator</u> OUTPUT	688,000 kw
VOLTAGE	24,800
SPEED	3,600 RPM
COOLING	Hydrogen
MANUFACTURER	General Electric

CONDENSER

Lake water is drawn into the condenser to cool steam back into water so that it can be reused in the boiler.

CAPACITY	165,000 Gal/Min
COOLING SURFACE	365,000 Sq. Ft.
TEMP. DIFFERENTIAL	35°F (Max)

PRECIPITATION

Electrostatic precipitators remove fine particles of fly ash from the flue gases.

DAILY ASH LOAD	400 Tons
DAILY ELECTRICAL USE	8,400 kwh
EFFICIENCY	99.86%

DESULFURIZATION

State-of-the-art equipment is used to control the flue gas desulfurization (FGD) process, where a slurry of limestone and water is used to remove sulfur compounds from flue gases.

DAILY SO ₂ REMOVED	230 Tons
DAILY ELECTRICAL USE	144,000 kwh
DAILY LIMESTONE USE	340 Tons
EFFICIENCY	70-90%

GENERAL INFORMATION

Project Name: NYSE2

Project Number: NYSE2

Project Location: ORLEANS COUNTY, NEW YORK

Project Description: GENERAL INFORMATION

Project Status: NYSE2

Project Date: NYSE2

Project Author: NYSE2

Project Reviewer: NYSE2

Project Approval: NYSE2

Project Comments: NYSE2

MILLIKEN STATION

ATTRIBUTES FOR SITING AN ETHANOL PLANT NEAR A NYSEG GENERATING FACILITY

Land availability	50+ acres
Town	Lansing
County	Tompkins
Zoning	Industrial
Zoning - offsite	Agricultural
Access	Rail, Truck
Weigh facilities	Rail Available Now, Truck in 1995
Water (100GPM Min)	Potable & Industrial Grade
Steam	Available for all requirements
Gas	Not Available

Welcome to **MILLIKEN** *station*

One of seven
coal-fired
generating
stations
owned and
operated by
New York State
Electric
& Gas
Corporation

Milliken Generating Station is one of seven coal-fired stations in the NYSEG generating system. It first provided electricity to NYSEG customers in 1955, and a second generating unit was added in 1958 to increase the plant's generating capacity to 320 megawatts.

In part because Milliken continues to be one of the nation's most efficient generators, it has received \$45 million from the U.S. Department of Energy's Clean Coal Technology Program toward the installation of a \$135 million air pollution control system. The system, which will begin operating in early-1995, will demonstrate one way to use coal, an abundant domestic resource, in an environmentally-responsible manner.

Electrostatic precipitators that remove 99 percent of the fly ash from flue gases are also being refurbished as part of the air pollution control project.

Milliken Station burns approximately 800,000 tons of bituminous (soft) coal each year. The fuel is delivered to the plant by train from Pennsylvania, Ohio or Kentucky.

At NYSEG, we realize how vital electricity is to our lives and to New York's economy. We also recognize the importance of producing electricity in an efficient and environmentally-responsible manner.

We welcome you to Milliken Station and invite you to learn more about the Milliken Clean Coal Demonstration Project and how NYSEG uses coal to generate electricity.

MILLIKEN STATION . . . FACTS AND FIGURES

UNIT #1

UNIT #2

COAL HANDLING

Eighty-car trains deliver 8,000 tons of coal three times each week. Coal is one of NYSEG's biggest operating expenses

COAL TO BUNKER	600 tons/hour	
COAL IN STORAGE	170,000 tons	
COAL SUPPLY	Approximately 60 days	

BOILER

Pulverized coal is blown into the boiler where it burns. Water in tubes lining the boiler then turns into steam.

STEAM TEMPERATURE	1,000°F	1,000°F
STEAM PRESSURE	1,800 psig	1,850 psig
STEAM/HOUR	1 million pounds	1 million pounds
COAL BURNED/HOUR	50 tons	50 tons
TYPE OF BURNER	Pulverized Coal, Tangentially Fired	
BOILER BUILDING HEIGHT	140 feet	140 feet
CHIMNEY HEIGHT	250 feet	250 feet

TURBINE GENERATOR

The turbine-generator is the heart of the generating station. Energy from the steam spins the turbine which turns the rotor of the generator, producing electricity.

<i>Turbine</i> NUMBER OF STAGES	45	21
<i>Generator</i> OUTPUT	148,000 kw	148,000 kw
VOLTAGE	13,800	18,000
SPEED	3,600 rpm	3,600 rpm
COOLING	Hydrogen	Hydrogen
MANUFACTURER	Westinghouse	Gen. Electric

CONDENSER

Lake water is drawn into the condenser to cool steam back into water so that it can be reused in the boiler.

CAPACITY	84,500 gpm/hr	84,500 gpm/hr
COOLING SURFACE	70,000 sq. ft.	70,000 sq. ft.
TEMP. DIFFERENTIAL	16°F	16°F

PRECIPITATOR

Electrostatic precipitators remove fine particles of fly ash from the flue gases.

DAILY ASH LOAD	160 tons	
DAILY ELECTRICAL USE	12,200 kwh	12,200 kwh
EFFICIENCY	99%	99%

2000 0 2000 4000
1" = 2000' SCALE FEET

MILLIKEN STATION

TOWNSHIP OF : LANSING
COUNTY OF : TOMPKINS

JUN 20 1979

RWF 1/79

POWER PLANT LOCATION

NYSF & G DWG NO C-7061

GREENIDGE STATION

ATTRIBUTES FOR SITING AN ETHANOL PLANT NEAR A NYSEG GENERATING FACILITY

Land availability	30+ acres on Site, 20 + acres adjoining
Town	Tory
County	Yates
Zoning	Industrial
Zoning - offsite	Agricultural & Industrial
Access	Rail, Truck
Weigh facilities	Rail, Truck
Water (100GPM Min)	Potable & Industrial Grade
Steam	Available for all requirements
Gas	Yes

Welcome to **GREENIDGE** *station*

**One of seven
coal-fired
generating
stations
owned and
operated by
New York State
Electric
& Gas
Corporation**

Located on the western shore of Seneca Lake in Dresden, NY, Greenidge Station's first generator went into service in 1938. Additions in 1942, 1950 and 1953 brought the plant to its present size. The original generating unit and the unit added in 1942 were retired in 1985. The plant's maximum generating capacity is now 163,000 kilowatts (163 million watts).

Greenidge was named in honor of Charles A. Greenidge, an industry pioneer who supervised major construction projects for NYSEG and selected the site for the plant.

Greenidge burns bituminous (soft) coal which is mined in Pennsylvania and delivered to the plant by truck and train. Each year, the plant burns approximately 400,000 tons of low-sulfur coal. The nation's concern for the environment in the early 1970's inspired passage of the Clean Air Act, and in 1975, NYSEG installed a new pollution control system at Greenidge Station to comply with clean air standards.

At NYSEG, we realize how vital electricity is to our lives and to New York's economy. We also recognize the importance of producing electricity in an efficient and environmentally acceptable manner. We welcome you to Greenidge Station and invite you to learn more about how NYSEG uses coal to produce electricity.

GREENIDGE STATION . . . FACTS AND FIGURES

ON
COLD
STAND
BY

COAL HANDLING

Up to 100 trucks, each carrying about 22 tons of coal, arrive daily. The cost of coal represents one of NYSEG's largest operating expenses.

	UNIT #3	UNIT #4
COAL TO BUNKER	1,000 Tons/Hour	
COAL IN STORAGE	70-100,000 Tons	
COAL SUPPLY (APPROX)	60 Days	

BOILER

Pulverized coal is blown into the boiler where it burns. Water in tubes lining the boiler then turns into steam.

STEAM TEMPERATURE	910°F	1005°F
STEAM PRESSURE	875 PSIG	1465 PSIG
STEAM/HOUR	600,000 Lbs	780,000 Lbs
COAL BURNED/HOUR	27,400 Lbs	84,400 Lbs
TYPE OF BURNER	Eroni Eroni	Tangent
BOILER BUILDING HEIGHT	105'	132'
CHIMNEY HEIGHT	230'	227'

TURBINE GENERATOR

The turbine-generator is the heart of the generating station. Energy from the steam spins the turbine which turns the rotor of the generator, producing electricity.

Turbine NO. OF STAGES	20	23
Generator OUTPUT	55,000 KW	108,000 kw
VOLTAGE	13,800	13,800
SPEED	3,600 RPM	3,600 RPM
COOLING	Hydrogen	Hydrogen
MANUFACTURER	General Electric	

CONDENSER

Lake water is drawn into the condenser to cool steam back into water so that it can be reused in the boiler.

CAPACITY	30,000 GPM	58,600 GPM
COOLING SURFACE	22,500 sq ft	50,000 sq ft
TEMP. DIFFERENTIAL	14°F Max	14°F Max.

PRECIPITATOR

Electrostatic precipitators remove fine particles of fly ash from the flue gases.

DAILY ASH LOAD	40 Tons	30 Tons
DAILY ELECTRICAL USE	10,000 kwh	13,000 kwh
EFFICIENCY	97.5%	97.5%

VICINITY MAP

SCALE: 1" = 2000'

JENNISON STATION

ATTRIBUTES FOR SITING AN ETHANOL PLANT NEAR A NYSEG GENERATING FACILITY

Land availability	11 acres on site, Other adjoining land available
Town	Bainbridge
County	Chenango
Zoning	Industrial
Zoning - offsite	Agricultural & Industrial
Access	Rail, Truck
Weigh facilities	Rail, Truck
Water (100GPM Min)	Potable & Industrial Grade
Steam	Available for all requirements
Gas	Not Available

Welcome to **JENNISON** *station*

One of seven
coal-fired
generating
stations
owned and
operated by
New York State
Electric
& Gas
Corporation

Located alongside the Susquehanna River in Bainbridge, NY, Jennison Station began generating electricity in 1945. A second generating unit was added to the plant in 1950. The total maximum generating capacity of the plant is 71,000 kilowatts (71 million watts).

Jennison Station is named in honor of Ralph Jennison, NYSEG president from 1941 to 1949 and board chairman from 1949-1955. It was one of the largest projects, in terms of money and effort, undertaken during the Company's ambitious expansion of its generation, transmission and distribution facilities. In 1975, NYSEG installed a new pollution control system at Jennison to comply with Clean Air Act standards.

Jennison Station burns up to 300,000 tons of low-sulfur, bituminous (soft) coal annually; it is mined in Pennsylvania and delivered to the plant by truck. In 1992, after over a year of successful research and test burns at Jennison, NYSEG became the first utility in New York State licensed to burn scrap tires regularly to generate electricity. The plant can burn the equivalent of 4½ million tires (45,000 tons) per year in a blend of 25 percent tire chips with 75 percent coal, saving roughly 65,000 tons of coal per year.

At NYSEG, we realize how vital electricity is to our lives and to New York's economy. We also recognize the importance of producing electricity in an efficient and environmentally acceptable manner. We welcome you to Jennison Station and invite you to learn more about how NYSEG uses coal and tire chips to produce electricity.

JENNISON STATION . . . FACTS AND FIGURES

COAL HANDLING

Up to 100 trucks, each carrying about 22 tons of coal, arrive daily. The cost of coal represents one of NYSEG's largest operating expenses.

	UNIT #1	UNIT #2
COAL TO BUNKER	100 Tons/Hour	
COAL IN STORAGE	40,000 Tons	
COAL SUPPLY (APPROX)	45 Days	

BOILER

Coal fed onto a slowly moving grate is burned in the boiler. Water in tubes lining the boiler is turned into steam.

STEAM TEMPERATURE	850°F	900°F
STEAM PRESSURE	670 PSIG	670 PSIG
STEAM/HOUR	200,000 Lbs	200,000 Lbs
COAL BURNED/HOUR	26,000 Lbs	26,000 Lbs
TYPE OF BOILER	Traveling Grate Stoker	
BOILER BUILDING HEIGHT	77'	77'
CHIMNEY HEIGHT	150'	150'

TURBINE GENERATOR

The turbine-generator is the heart of the generating station. Energy from the steam spins the turbine which turns the rotor of the generator, producing electricity.

^{Turbine} NO. OF STAGES	18	18
^{Generator} OUTPUT	33,000 kw	38,000 kw
VOLTAGE	13,800	13,800
SPEED	3,600 RPM	3,600 RPM
COOLING	Hydrogen	Hydrogen
MANUFACTURER	General Electric	

CONDENSER

River water is drawn into the condenser to cool steam back into water so that it can be reused in the boiler.

CAPACITY	22,650 Gal/Min	22,650 Gal/Min
COOLING SURFACE	23,000 Sq. Ft.	23,000 Sq. Ft.
TEMP. DIFFERENTIAL	15-20°F	15-20°F

PRECIPITATOR

Electrostatic precipitators and mechanical precipitators remove fine particles of fly ash from the flue gases.

DAILY ASH LOAD	20 Tons	
DAILY ELECTRICAL USE	1,800 kwh	1,800 kwh
EFFICIENCY	99% +	99% +

NYSEG

GENERATION DEPT.
BINGHAMTON, N. Y.

TITLE

MAP TO JENNISON STATION

JENNISON

SCALE

DWG NO

CA037383 R

**operation
oswego
county, inc.**

ATTACHMENT 8-9

POST OFFICE BOX 4067 • OSWEGO, NEW YORK 13128 • PHONE (315) 343-1545 • FAX (315) 343-1546

December 13, 1994

Ms. Suzanne Low
Stone & Webster
One Penn Plaza
250 West 34th Street, 31st Floor
New York, NY 10019

Dear Suzanne:

Please find enclosed the recently passed legislation that brings the former Miller Brewery facility into the New York State designated Fulton Economic Development Zone.

Becoming a certified business within the Economic Development Zone (EDZ) has many benefits. The State Investment Tax Credits would amount to 19% over a period of 4 years (10%, 3%, 3%, 3%) on the original investment or the purchase and equipping of a manufacturing facility in the EDZ. The local utility, Niagara Mohawk Power Corporation, can offer a rate of around \$.02 - .03/KWH for electricity to a large user in the EDZ. (10 years of discounted electric rates)

The State also offers up to \$7,500.00 in wage tax credits for each new employee hired within the EDZ by an EDZ certified business.

This 19 year old facility has many valuable assets. I have highlighted a few of these assets below and attached a fact sheet prepared by the Robert A. Hood Real Estate Company.

- This site is located on the State Barge Canal system (3 locks south of Lake Ontario) that can access the St. Lawrence Seaway via lake and ocean going vessels.
- This site has its own rail sidings off of a main line Conrail track and tracks into the buildings at various points, 20 minutes to Exit 39 of the New York State Thruway (I-90), 20 minutes to I-81.
- The plant has coal fired boilers and a 6 MGW generator. A large water capacity 7 MGD with more available from the Metropolitan Water Board Line (62 MGD) or from the Oswego River. It has its own sewage treatment plant (5 MGD+) and also a large number (hundreds) of stainless steel tanks for processing and storage that were used in the beer brewing process.

Ms. Suzanne Low
December 13, 1994
Page 2

*Presently, the building is equipped to produce 3-4,000,000 barrels of beer per year, in the past it previously was capable of 9,000,000 barrels/year.

It is not possible for me to determine whether any of the equipment could be utilized in producing methanol or ethanol, but I am certain that Stone and Webster could make that determination.

In addition to the immediate factory and grounds, there is an additional 300 acres of undeveloped land available in this 450 acre site that could easily be developed.

Please share these facts with your client. As I am sure you already know from your survey, there is a great deal of sludge being developed at the International Paper plant in Oswego, the Schoeller Paper mill in Pulaski, the Southern Container Plant in Solvey/Syracuse, and the Armstrong International plant in Fulton. There is also soon to be built a new linerboard plant in Oswego, New York near the new 1040 megawatt gas fired cogeneration plant in Scriba/Oswego, New York. All of these paper making facilities are within 45 minutes of the Miller facility and are expected to generate about 64,000 tons of paper sludge per year. There are also many other sources of raw material that could be feedstock nearby at canning plants, Municipal Sewage Treatment Plants, etc., nearby.

If you feel that the Miller Brewing plant could be a viable candidate as a manufacturing facility for your client, Operation Oswego County, Inc. and the County of Oswego Industrial Development Agency stand ready to assist your client with the financing of further engineering feasibility studies. Please contact us with any questions you may have.

Sincerely yours,

OPERATION OSWEGO COUNTY, INC.

S. Webster Reid
Assistant Director

SWR/lm
Attachment

Robert L. Hood Company

Real Estate Consulting, Marketing, Asset Management

100 Clinton Square
Syracuse, New York 13202

(315) 423-9200 • FAX (315) 472-4645

**MILLER BREWING FACILITY
SUMMARY OF SALIENT FACTS**

LOCATION: Route 57 and Owen Road, Volney
Oswego County, New York

LAND AREA: 423 Acres

ZONING: Industrial

TOTAL BUILDING AREA: 1,375,633 Square Feet
800,000 sf warehouse/packaging
93,000 sf general office area
236,000 sf production
246,633 sf general purpose/limited use

Total building area is contained in 26 buildings which are mostly interconnected.

AGE OF BUILDINGS: Original construction in 1976 with additional improvements through 1982.

CONSTRUCTION: Generally steel frame with masonry and metal wall system.

CEILING HEIGHT: 26'-30' general ceiling heights throughout.

HEAT: 3 package boiler units gas/oil fuel
Decommissioned pulverized coal boiler on site.

WATER SUPPLY: 7,000,000 gallons per day capacity via a 60" main and 20" submain.

ELECTRICAL SERVICE: 20,000 KW capacity

TRUCK LOADING: 40 tallgate loading docks.

RAIL: Conrail service, interior loading capacity.

**CONTACT ROBERT L. HOOD, SIOR
(315) 423-9200** MEMBER
INDIVIDUAL MEMBERSHIP
IN THE SOCIETY OF
INDUSTRIAL AND OFFICE REALTORS® MEMBER
INTERNATIONAL
ASSOCIATION
OF BUSINESS
REAL ESTATE EXECUTIVESALL INFORMATION FURNISHED CONCERNING THIS PROPERTY WAS OBTAINED FROM
SOURCES CONSIDERED RELIABLE BUT NO WARRANTY OR REPRESENTATION IS MADE TO
THE ABSENCE OF DEFECTS AND THE PROPERTY IS SUBJECT TO PRIOR SALE OR
WITHDRAWAL.

ATTACHMENT 9-1

New York State Department of Economic Development

Office of Recycling Market Development

111 East Avenue, Suite 220
Rochester, New York 14604 716 325-1944
FAX: 716 325-5305

July 21, 1994

Rich Weber
Champion International Corp.
Anderson Ave.
Deferiet, New York 13628

Dear Mr. Weber:

You may recall, last month we spoke on the phone where I invited you to participate on a project with the New York State Department of Economic Development - Office of Recycling Market Development (ORMD) to find beneficial uses for your mill's sludge.

I am pleased to report that over the last month 25 mills in the state have expressed an interest in working with ORMD. Additionally, the New York State Energy Research and Development Authority (NYSERDA) has agreed to partner with us in support of this initiative. Jointly we are preparing to release a Request For Proposals (RFP) to hire a qualified consultant to conduct research that will strategically inform our economic and environmental assistance programs in the future.

I have included a copy of the "Project Description" which describes the goals, objectives, and time frames of our work. Please note, we are only seeking a consultant to complete Phases I and II. Phase III technical assistance needs will be determined at a later time.

We have also invited the New York State Department of Environmental Conservation to advise the project where appropriate.

In order for the project to move ahead as expeditiously as possible, we request your full cooperation in working with the selected consultant. In fact, we are planning on inviting you to a meeting this fall (late September - early October) where we would outline the project in detail, solicit your feedback, and introduce the consultant.

If you would like a copy of the RFP or have any recommendations as to qualified consultants that could bid on the project, please feel free to contact me at the above address.

We look forward to working with you to find beneficial uses for your sludge and recovering the economic benefits that are likely to result.

Sincerely,

Garrett Dolan
Recycling Market Development Specialist

C: NYSERDA

PROJECT DESCRIPTION
JOINT PUBLIC/PRIVATE VENTURE TO EXPEDITE THE DEVELOPMENT AND
APPLICATION OF PAPER MILL SLUDGE REUSE TECHNOLOGIES IN NYS

Goal statement - to develop/facilitate the movement of sludge from at least three paper mills currently reliant upon disposal capacity to beneficial use applications.

OBJECTIVES

- o To maximize the recovery and reuse of some or all components of paper mill sludge generated by mills using post-consumer fiber sources in New York State
- o To minimize mill reliance on solid waste disposal capacity for mill sludges
- o To improve the cost effectiveness of mill sludge management practices

There will be four major components to this venture: research, information dissemination, and implementation needs assessment, and implementation.

PHASE I RESEARCH

Description: Phase I research will be conducted to focus and guide the work for the remaining components of the project. The objective of this portion of the project is to broaden each venture partner's understanding of sludge management in New York State, and technology sources nationwide.

Research to be completed will include a survey of mills to learn more about sludge generation, management, characteristics, and costs on a mill specific and statewide basis. Beneficial use technologies will be identified and assessed in terms of current development status (i.e. commercial, pre-commercial), and potential for full scale commercialization. A final product of the phase I research will be a comprehensive matrix comparing the beneficial use technologies with the relevant attributes of sludge generated by New York mills.

The work for this phase would be completed by 1/12/84.

Costs: Costs for this phase could be shared between DED and NYSERDA. Participating mills will contribute to this phase by providing the necessary information about their sludge costs, characteristics, and management practices.

PHASE II INFORMATION DISSEMINATION

Description: The purpose of Phase II would be to disseminate the findings from Phase I. A workshop would be organized and held before the end of February, 1995 featuring presentations from the selected consultant, representatives of sludge reuse technology sources, and state representatives. Specifically, three activities will take place: participating companies would be made aware of the beneficial use technologies/market applications that have been identified as appropriate for their sludge; New York State Department of Economic Development - Office of Recycling Market Development (ORMD) and the New York State Energy Research and Development Authority (NYSERDA) will discuss the financial and technical assistance programs available to mills that wish to pursue the beneficial use technologies/market applications further; and, officials from the Department of Environmental Conservation (DEC) would be invited to discuss regulatory issues surrounding selected beneficial use technologies/market applications.

Costs: Costs for this phase would be shared between DED and NYSERDA.

PHASE III IMPLEMENTATION NEEDS ASSESSMENT

Description: Phase III would involve greater participation by mills interested in moving forward with the information gathered in phases I and II. Emphasis will be given to exploring opportunities for mills to work cooperatively to manage their sludges through the use of a particular technology. Interested mills, working alone or in cooperation with other mills, would identify the technical consultant of their choice to undertake an evaluation of the technical and economic feasibility of utilizing or accessing one or several of the sludge reuse technologies previously identified as being suitable.

A second component of this phase would be a case by case specific assessment of what is needed to begin moving mill sludges to certain beneficial use technology sources. This phase could include arranging meetings between state officials, technology sources, and mill officials to identify implementation issues and the resources available to overcome those barriers such as: capital financing, engineering assistance, training, regulatory barriers, performance testing, specification development, technology demonstrations, etc.

The feasibility analyses would be completed before the end of June, 1995.

Costs: Costs for the feasibility analyses could be offset by DED, and NYSERDA, but the participating mills would have a much larger financial position than in the earlier Phases.

PHASE IV IMPLEMENTATION

Description: Phase IV will focus exclusively on implementing technologies and/or market applications. This process will be an ongoing effort by ORMD and NYSERDA, and our limited financial resources will spent on a first-come first-serve basis.

Costs: Costs for implementation could be born by the following groups: DED (e.g. specification development, capital financing); NYSERDA (e.g. innovative technology demonstration grant(s)); BENEFICIAL USE TECHNOLOGIES/COMPANIES (e.g. cost sharing for business development; and, MILLS (e.g. capital financing).

ATTACHMENT 9-2

New York State Department of Environmental Conservation
6 Wolf Road, Albany, New York, 12233

Langdon Marsh
Commissioner

AUG 5 1994

Mr. Joseph Masin
Amoco Corporation
Amoco Research Center
P.O. Box 3011
Naperville, Illinois 60566-7011

Mr. Joseph Masin:

I am in receipt of your July 19, 1994 letter in which you inquired about the 6 NYCRR Part 360 (Part 360) permitting issues relating to a potential biomass-to-ethanol conversion facility.

Based upon the information you provided in your letter, the proposed conversion facility would not be viewed as a recycling facility, but would be considered either a refuse-derived fuel processing facility regulated under Subpart 360-3 or a nonspecific facility regulated under Section 360-1.9(b). A final determination as to the specific Part 360 regulatory requirements applicable to your conversion facility will depend upon the submission of additional information associated with both your conversion process and project, as well as the waste materials proposed to be used in the process, i.e., wood chips, other biomass wastes, and waste paper.

Should you desire to discuss your proposal further, please contact me at telephone (518) 457-6603, or Mr. Jeffrey C. Schmitt, Bureau of Resource Recovery, at telephone (518) 457-7336.

Sincerely,

John A. Willson, P.E.
Director
Division of Solid Waste

ATTACHMENT 9-3

July 19, 1994

John J. Wilson
Director, Division of Solid Waste
New York Department of Environmental Compliance
50 Wolf Road
Albany, New York 12233-4010

STATUS OF BIOMASS-TO-ETHANOL PROCESSING

We are interested in getting a determination of the NYDEC position on a process for converting biomass into ethanol and other products. We are aware that the draft request for proposals to recycle recovered paper for New York City (PIN 82794AD00069) specifically identifies an ethanol facility as complying technology, while excluding direct burning technologies. A reason for this may be that a biomass-to ethanol process produces, as a main product, ethanol that can be used as a replacement or supplement for gasoline. A liquid transportation fuel, like ethanol, is substantially different from a solid fuel or power supply. Ethanol from a biomass, corn, is already used in some gasolines sold in New York to help meet Clean Air Act requirements and is supportive of the Renewable Oxygenate Standard recently proposed by the EPA.

We are involved with Stone & Webster Engineering Corporation in the completion of a cost sharing agreement with the New York State Energy Research and Development Authority (Contract 3163-ERTER-ER-94) to identify and evaluate sites in New York City and other New York State urban locations for a potential biomass-to-ethanol conversion facility. The proposed process could consume wood chips and other biomass wastes as well as waste paper streams. The quality of the waste paper that could be used in the biomass-to-ethanol process can be below that which is currently used for recycling into paper manufacture because long fiber lengths need not be maintained. Commercialization of the process will develop beneficial uses for streams that would otherwise be consigned to landfills or decompose in fields. A byproduct of the biomass-to-ethanol process is composed of the unfermentable components in the feed, primarily lignin. Although we expect that this byproduct stream will be used as a low-sulfur solid fuel, its weight will be less than half of the biomass feed stock rate.

Part of the NYSEDA study requires site-specific determination of permitting and community interest issues. A determination that your department views a biomass-to-ethanol facility as compliant with the state's solid waste management plan, is supportive of state recycling programs, is viewed more favorable than waste-to-energy processes, etc., would help resolve some of these issues. An expedient reply stating your view on biomass-to-ethanol processing will allow the participants in this study to move a step further toward the determination of whether the construction of a commercial facility is economically attractive.

I would be pleased to give more details on our process if that would help your evaluation. I may be phoned at (708) 420-5416, or contacted via facsimile at (708) 420-5169. You also may contact the Stone & Webster project manager, Henry Gastwirth, at (212) 290-6155.

Joseph Masin

cc: H. Gastwirth, SWEC
R. H. Walker

ATTACHMENT 9-4

July 12, 1994

Mr. William Colden
Bureau Chief
Bureau of Waste Reduction and Recycling
Department of Environmental Conservation
50 Wolf Road
Albany, NY 12233-4015

Dear Mr. Colden:

NYNEX Information Resources Company is currently participating with Amoco Corporation, Stone & Webster Engineering, and Champion International in a New York State site evaluation study for a possible Amoco biomass-to-ethanol plant utilizing biomass conversion technology. This project is being partially funded by grants from the New York State Energy Research and Development Authority and the National Renewable Energy Laboratory.

NYNEX has two primary deliverables under this project: 1) A business assessment of ethanol as an alternative fuel in the Corporate vehicle fleet; 2) A business assessment of the Amoco process as an alternative end-use market for the recycling of a mixed paper waste stream.

As part of our research on the second issue, we have been conducting interviews with our recycling official contacts in New York City and in several upstate municipalities. Several of these officials raised the following question as a potential determining factor in their interest in the Amoco process: Does biomass conversion technology qualify as recycling under the NYS DEC definitions incorporated in the State's Solid Waste Management Plan?

Some time ago, we had a similar question regarding the status of composting under the state's Solid Waste Management Plan. And we appreciated your office's quick response and interpretation that composting is most assuredly considered recycling unless the end-product is to be used as daily landfill cover.

-2-

In order to make our current effort as complete and accurate as possible, could you please provide us with another interpretation--this time regarding the DEC position on biomass conversion technology as a form of recycling.

If you have any questions or need more information about the Amoco process, please let us know.

Sincerely,

John S. Balaguer
Director
Environmental Issues

ATTACHMENT 9-5

SUMMARY OF UCRRR WASTE CALCULATIONS ANNUAL, 1993

Waste Component	Disposal (Tons)	Recycling (tons)	Total (Tons)	Total Composition (Percent)
PAPER				
Newspaper	8,843.11	25,483.70	35,326.81	7.86%
Magazines	4,815.68	2,730.06	7,545.74	1.68%
Corrugated Cardboard	17,977.01	35,197.60	53,174.61	11.83%
Kraft Paper	3,834.03	292.59	4,126.62	0.92%
Coated Containers	3,213.68	194.29	3,407.97	0.76%
Paperboard	10,710.46	--	10,710.46	2.38%
Books	1,818.86	240.92	2,059.77	0.46%
Office Paper	8,020.47	20,033.75	28,054.22	7.71%
Other Paper	44,459.87	148.70	44,608.56	9.92%
Total Paper	103,680.47	91,542.79	195,223.26	43.52%
PLASTIC				
PET (#1)	448.61	117.55	566.16	0.13%
HDPE (#2)	2,513.27	1,266.07	3,779.34	0.84%
LDPE (#3)	6,624.86	--	6,624.86	1.47%
PVC (#3)	177.73	--	177.73	0.04%
LDPE (#4)	332.38	--	332.38	0.07%
LLDPE (#4)	5,838.38	--	5,838.38	1.31%
Polypropylene (#5)	813.37	--	813.37	0.18%
Polystyrene (#6)	3,648.67	--	3,648.67	0.81%
Other Containers (#7)	242.51	--	242.51	0.06%
Miscellaneous Plastics	6,610.80	653.25	7,264.05	1.62%
Total Plastic	27,330.57	2,036.87	29,367.44	6.53%
ORGANICS				
Food Waste	44,030.05	--	44,030.05	9.79%
Textiles/Leather	14,070.93	2,363.00	16,433.93	3.65%
Rubber	1,261.23	--	1,261.23	0.28%
Diapers	6,504.07	--	6,504.07	1.45%
Fines	6,319.18	--	6,319.18	1.41%
Other Organic	12,187.98	--	12,187.98	2.71%
Total Organics	84,384.22	2,363.00	86,747.22	19.30%
FERROUS METAL				
Food Containers/Bimetal	2,157.02	4,491.79	6,648.81	1.48%
Aerosols	518.39	2.16	520.55	0.12%
White/Enamelled*	518.88	61.58	580.46	0.13%
Auto Parts	1,145.24	--	1,145.24	0.25%
Other Ferrous*	0,106.78	762.89	869.67	0.19%
Total Ferrous Metal	12,442.92	5,318.32	17,761.24	3.77%

ATTACHMENT 9-6

SUMMARY OF OCMRA WASTE CALCULATIONS ANNUAL 1993

Waste Component	Disposal (Tons)	Recycling (Tons)	Total (Tons)	Total Composition (Percent)
NON-FERROUS METAL				
Aluminum Cans	436.88	830.77	1,267.65	0.28%
Aluminum Foil	763.19	--	763.19	0.17%
Other Aluminum	398.14	--	398.14	0.09%
Other Non-Ferrous	503.13	3,142.75	3,645.88	0.81%
Total Non-Ferrous Metal	2,101.35	3,973.52	6,074.86	1.35%
GLASS				
Clear Containers	3,659.56	3,512.24	7,171.80	1.60%
Green Containers	281.25	779.06	1,060.31	0.24%
Brown Containers	346.34	704.89	1,051.23	0.23%
Plate Glass	464.41	--	464.41	0.10%
Other Glass	1,778.93	9,426.95	11,205.88	2.49%
Total Glass	6,530.49	14,423.14	20,953.63	4.66%
WOOD				
Pallets	4,230.45	4,033.96	8,264.41	1.84%
Lumber	5,920.07	--	5,920.07	1.32%
Stumps/Heavy Sections	6.45	--	6.45	0.00%
Other Wood	16,819.61	2,453.45	19,273.06	4.29%
Total Wood	26,976.57	6,487.42	33,463.99	7.44%
INERT				
Asphalt	21,835.51	--	21,835.51	4.86%
Concrete/Brck/Rock	4,578.31	--	4,578.31	1.02%
Dirt	2,506.90	--	2,506.90	0.56%
Other Inert	23,721.38	--	23,721.38	5.28%
Total Inert	52,642.09	0.00	52,642.09	11.71%
YARD WASTE				
Leaves	1,019.16	1,207.09	2,226.25	0.50%
Grass	875.63	1,207.09	2,082.72	0.46%
Other Yard Waste	1,658.99	687.27	2,346.26	0.52%
Total Yard Waste	3,553.78	3,101.45	6,655.23	1.48%
HAZARDOUS				
Lead/Acid Batteries	130.58	--	130.58	0.03%
Dry Cell Batteries	120.61	--	120.61	0.03%
Other Hazardous	810.10	--	810.10	0.18%
Total Hazardous	1,061.29	0.00	1,061.29	0.24%
TOTAL	320,716.73	129,636.59	449,528.88	100.00%

-- Recycling tonnages were not reported for these components

* Portions of White Goods and Other Ferrous are segregated from the disposed waste stream by OCMRA personnel for recycling.

ATTACHMENT 9-7

ERIE COUNTY CRA

PLANNING AREA:

TOWNS:

ALDEN	AURORA	BOSTON	BRANT
CHEEKTOWAGA	CLARENCE	COLDEN	COLLINS
CONCORD	EDEN	ELMA	EVANS
HAMBURG	HOLLAND	LANCASTER	MARILLA
NEWSTEAD	N. COLLINS	ORCHARD PARK	SARDINIA
WALES	W. SENECA		

VILLAGES:

AKRON	ALDEN	ANGOLA	BLASDELL
DEPEW	E. AURORA	FARNHAM	HAMBURG
LANCASTER	N. COLLINS	ORCHARD PARK	SLOAN
SPRINGVILLE			

and the
CITY OF LACKAWANNA

ATTACHMENT 9-8

page 2 of 3 (1000-2000)

WASTE DATA TONS/YEAR

ITEM	111 % OF MSW	MSW GEN 1999	RECYCL RATE 1999	QNTY RECY 1999	MSW GEN 1997	RECYCL RATE 1997	QNTY RECY 1997	1 MSW GEN 1999	RECYCL RATE 1999	QNTY RECY 1999	MSW GEN 1999	RECYCL RATE 1999	QNTY RECY 1999	MSW GEN 2000	RECYCL RATE 2000	QNTY RECY 2000
POPULATION		118,436			118,436			118,436			118,436			118,436		
MSW GENERATED (TPY)		661.2			610.1			660.4			661.2			661.2		
MSW PROJECTED (TPY)		363,263.8			367,311.6			361,498.0			363,263.8			363,263.8		
PROJECTED MSW TON/CAP/YEAR		0.00			0.00			0.00			0.00			0.00		
RECYCLED MSW TON/CAP/YEAR		311,140.8			308,898.0			308,898.0			311,140.8			311,140.8		
PERCENT MSW TON/CAP/YEAR		0.78			0.74			0.73			0.78			0.78		
PERCENT (TONS/YR 1999) (TONS/YR 2000)		-2%			-8%			-8%			-10%			-10%		
AL	42.0%	130,870.1	43.80%	60,881.0	138,825.1	38.44%	78,658.8	126,854.3	65.10%	63,789.8	127,880.1	66.88%	86,783.8	127,880.1	115.5%	80,775.1
COMPOSTED	12.0%	37,330.8	43.80%	16,381.8	38,835.8	81.43%	22,809.8	38,728.8	73.71%	27,873.8	38,823.1	81.08%	28,332.2	38,823.1	88.41%	24,881.2
ONP	11.0%	36,781.2	74.88%	28,783.8	36,281.1	87.34%	34,283.8	36,188.8	88.32%	34,807.1	36,800.1	88.32%	34,346.1	36,800.1	88.32%	34,408.3
ONE PAPER	0.5%	20,224.8	37.37%	1,858.8	18,882.8	84.08%	11,288.8	18,882.8	58.87%	11,711.3	18,728.2	58.87%	11,813.7	18,728.2	81.11%	12,228.8
THREE PAPER	0.0%	24,881.2	18.00%	3,882.8	24,882.2	20.40%	8,837.3	24,882.8	28.00%	8,888.8	24,882.8	28.80%	8,844.7	24,882.8	38.88%	8,888.8
MAGAZINES	4.0%	17,818.8	18.83%	2,888.1	18,218.8	27.30%	3,288.1	18,243.2	32.78%	4,818.8	18,118.8	38.84%	4,278.1	18,173.1	41.41%	8,844.8
BR	0.2%	24,881.2	24.88%	8,888.8	24,882.2	24.88%	2,888.8	24,882.8	24.88%	8,888.8	24,882.8	24.88%	8,888.8	24,882.8	24.88%	8,888.8
CLEAR	0.5%	18,888.8	12.12%	1,888.8	18,743.8	34.71%	8,888.8	18,712.8	88.23%	8,888.8	18,822.1	88.23%	8,888.8	18,822.1	88.23%	8,888.8
BROWN	1.8%	8,888.8	18.88%	817.4	8,888.8	21.28%	1,888.8	8,888.8	21.28%	1,888.8	8,888.8	21.28%	1,888.8	8,888.8	21.28%	1,888.8
AMBER/UNKNOWN	1.1%	4,888.8	18.88%	882.8	3,888.8	21.28%	882.8	3,888.8	21.28%	882.8	3,888.8	21.28%	882.8	3,888.8	21.28%	882.8
OTHER	0.8%	2,888.8	18.88%	182.8	2,888.8	18.88%	218.8	2,888.8	18.88%	218.8	2,888.8	18.88%	218.8	2,888.8	18.88%	218.8
FLAT	0.8%	1,888.8	8.74%	182.8	1,888.8	8.74%	182.8	1,888.8	8.74%	182.8	1,888.8	8.74%	182.8	1,888.8	8.74%	182.8
ALB	0.8%	28,817.8	28.30%	2,888.1	28,888.1	48.34%	18,228.3	28,818.8	43.84%	11,888.8	28,788.2	48.22%	12,811.2	28,888.1	81.28%	12,828.8
FERROUS CANS	3.0%	8,234.2	43.20%	4,888.8	8,288.8	88.88%	8,888.8	8,288.8	88.88%	8,288.8	8,288.8	88.88%	8,288.8	8,288.8	88.88%	8,288.8
OTHER FERROUS	4.5%	14,281.3	30.18%	3,888.1	14,813.8	28.21%	3,888.1	14,773.3	30.11%	4,131.3	14,888.8	33.88%	4,888.8	14,888.8	38.88%	4,888.8
ALUMINUM CANS	0.8%	1,888.8	28.38%	410.8	1,888.8	48.38%	888.8	1,888.8	48.38%	888.8	1,888.8	48.38%	888.8	1,888.8	48.38%	888.8
OTHER NON-FERROUS	0.8%	1,888.8	12.88%	188.8	1,888.8	18.38%	248.8	1,888.8	18.38%	248.8	1,888.8	18.38%	248.8	1,888.8	18.38%	248.8
TPY	0.8%	24,881.2	11.28%	2,888.1	24,882.2	18.38%	3,888.1	24,882.8	28.38%	8,888.8	24,882.8	28.38%	8,888.8	24,882.8	28.38%	8,888.8
PLASTIC CONTAINERS	4.0%	12,888.8	21.88%	2,888.1	12,778.8	27.38%	3,288.1	12,743.3	32.88%	8,888.8	12,713.8	38.88%	12,813.8	12,713.8	41.88%	8,888.8
OTHER PLASTIC	3.0%	8,234.2	2.10%	188.8	8,288.8	4.28%	388.8	8,288.8	4.28%	388.8	8,288.8	4.28%	388.8	8,288.8	4.28%	388.8
PLASTIC FILM	1.0%	3,111.4	2.10%	88.8	3,088.2	4.28%	128.8	3,088.8	4.28%	128.8	3,088.8	4.28%	128.8	3,088.8	4.28%	128.8
BRAND LEATHER (N)	0.2%	8,228.8	8.74%	388.8	8,288.8	7.45%	488.8	8,288.8	7.45%	488.8	8,288.8	7.45%	488.8	8,288.8	7.45%	488.8
TEXT	0.2%	8,228.8	1.74%	88.8	8,288.8	4.28%	388.8	8,288.8	4.28%	388.8	8,288.8	4.28%	388.8	8,288.8	4.28%	388.8
CO	0.0%	8,231.2	1.42%	488.8	8,288.8	1.28%	118.8	8,288.8	1.41%	118.8	8,288.8	1.41%	118.8	8,288.8	1.41%	118.8
NO WASTE	0.0%	8,231.2	0.20%	1,888.1	8,288.8	0.28%	1,888.1	8,288.8	0.28%	1,888.1	8,288.8	0.28%	1,888.1	8,288.8	0.28%	1,888.1
Q WASTE	10.0%	48,871.1	88.88%	48,888.8	48,888.8	88.88%	48,888.8	48,888.8	88.88%	48,888.8	48,888.8	88.88%	48,888.8	48,888.8	88.88%	48,888.8
LEAFED	8.3%	18,888.8	88.88%	18,888.8	18,888.8	88.88%	18,888.8	18,888.8	88.88%	18,888.8	18,888.8	88.88%	18,888.8	18,888.8	88.88%	18,888.8
GRASS	0.0%	18,888.8	81.00%	18,888.8	18,888.8	82.00%	18,888.8	18,888.8	84.00%	18,888.8	18,888.8	85.00%	18,888.8	18,888.8	86.00%	18,888.8
BRUSH/STUMPS	0.7%	18,888.8	88.88%	18,888.8	18,888.8	88.88%	18,888.8	18,888.8	88.88%	18,888.8	18,888.8	88.88%	18,888.8	18,888.8	88.88%	18,888.8
Q INCORPORATED	1.2%	8,288.8	8.88%	18.1	8,288.8	8.88%	18.1	8,288.8	8.88%	18.1	8,288.8	8.88%	18.1	8,288.8	8.88%	18.1
BEHOLD HAZARDOUS	0.8%	2,888.1	8.78%	7.1	2,888.1	8.78%	7.1	2,888.1	8.78%	7.1	2,888.1	8.78%	7.1	2,888.1	8.78%	7.1
BATTERIES (RAYCELL)	0.08%	248.8	8.84%	7.1	278.2	3.28%	7.1	278.2	4.28%	11.7	278.2	8.88%	11.7	278.2	7.08%	11.7
C OTHER	1.0%	3,111.4	0.28%	88.8	3,088.2	0.27%	11.4	3,088.8	0.48%	16.8	3,088.8	0.58%	16.8	3,088.8	0.68%	16.8
TOTALS (TPY)	100.0%	311,140.8	37.18%	118,878.4	308,898.0	44.18%	141,888.8	308,898.0	68.84%	63,789.8	308,898.0	82.87%	103,871.2	308,898.0	88.88%	88,888.8
MSW (TPY) POST-RECYCLING		188,888.1			188,888.1			188,888.1			188,888.1			188,888.1		
MSW TON/CAP/TPY POST-RECYCLING		0.67			0.64			0.67			0.67			0.67		
MSW TON/CAP/TPY CHANGE FROM 1999 TO 2000 GENERATION (7) =		-41.88%			-8.72%			-54.48%			-57.88%			-88.81%		

ATTACHMENT 9-9

Primary and Secondary Wastewater Composition Calculated from 1997 Tonnages

	PRIMARY WASTEWATER (a)		SECONDARY WASTEWATER (b)	
	TOTAL	GROSS	TOTAL	GROSS
	TONS	MSW	TONS	MSW
	1997	COMPOSITION	1997	COMPOSITION
MSW				
- PAPER	300,435	41.3%	212,968	39.3%
- PLASTIC	56,479	7.7%	41,048	8.7%
- GLASS	67,679	9.2%	44,437	8.1%
- WHITE/AUTO PARTS	4,112	0.5%	5,377	1.0%
- METALS	33,423	7.3%	31,796	5.9%
- YARD/LEAVES	96,141	13.1%	48,979	12.7%
- WOOD	18,135	2.0%	17,885	3.3%
- FOOD	62,796	11.3%	59,734	11.0%
- RUBBER/LEATHER/TIRES	9,915	1.3%	8,317	1.5%
- TEXTILES	19,341	2.5%	16,803	3.1%
- MISC INORGANIC	1,094	0.1%	3,120	0.9%
- OTHER/OTHER	24,145	3.3%	23,138	4.3%
TOTAL MSW	742,734,538	100.0%	571,462,754	100.0%
OTHER WASTES				
- CONSTRUCTION & DEMOLITION	136,533	31.9%	128,707	30.8%
- NON-HAZARDOUS INDUSTRIAL WASTE	0	0.0%	31,211	6.5%
- PAPER FIBER WASTE	127,494	29.8%	0	0.0%
- WASTE OIL	5,332	1.2%	2,776	0.7%
- WWTP SLUDGE	88,183	20.7%	51,075	12.2%
- CAR/SCHAP METAL	30,084	7.0%	4,001	1.0%
- OTHER NON-PROC.	40,431	9.4%	201,784	49.8%
TOTAL OTHER WASTE	428,957	100.0%	419,574	100.0%
GROSS WASTE	1,171,691	100.0%	991,028	100.0%
NOTES:				
a. Primary collected mostly at ANSWER, Saratoga, Troy, Schenectady, ERCSWMA, Sand Lake and Cobles.				
b. Secondary collected mostly at Cohoes, Chease, MOA, Union and ONEIDA.				

ATTACHMENT 9-10

PAPER GENERATION AND RECYCLING IN SCHENECTADY COUNTY

SCHENECTADY COUNTY	ESTIMATED GENERATION ¹		1993 ESTIMATED RECYCLING ²		1994 6 MONTH MRF SALES ³	
	TPD	TPY	TPY	RATE	TPY	RATE
PAPER TOTAL	165	60,225	8,369	13.90%	5,716	9.49%
newspaper	47	17,246	5,260	30.50%	4,410	25.57%
magazines	22	8,103	161	1.99%		0.00%
corrugated	39	14,337	1,305	9.10%	944	6.58%
other paperboard	24	8,935		0.00%		0.00%
books	4	1,456		0.00%	24	1.65%
office paper	18	6,442	1,643	25.50%	272	4.22%
other paper	10	3,741		0.00%	66	1.76%

¹Schenectady County Draft Integrated Solid Waste Management Plan, Table 1.2.4-1, William F. Cosulich, June 1991.

²Estimates reported by municipalities based on information provided by private waste haulers.

³Based on receipts from sales of materials.

RECYCLING OF PAPER WASTES BY TYPE AND TOTAL
In Upstate New York

ATTACHMENT 9-11

AGENCY/CITY	REGION	WASTE IN TONS PER YEAR								TOTAL
		NEWS	CORR	MAG	PHONE BOOK	JUNK MAIL	PAPER BOARD	HIGRADE	OTHER	
Dutchess Co. RFA	3	6,500	5,437	0	0	0	0	2,016	1,684	15,637
Orange Co.	3	7,908	92	0	15	0	0	0	385	8,400
Putnam Co.	3	2,711	329	218	0	144	0	183	0	3,503
Rockland Co.	3	9,812	561	0	0	0	0	22	3,018	13,413
Sullivan Co.	3	816	600	0	0	0	0	16	0	1,432
Ulster Co.	3	18,496	3,573	1,391	52	0	0	2,128	1,931	27,619
Westchester Co.	3	0	0	0	0	0	0	301	35,314	35,615
Region 3 ton/year										105,619
Region 3 ton/day										269
Albany Co./Albany	4	13,567	3,953	501	7	40	27	2,290	641	20,426
Columbia Co.	4	1,129	327	0	0	0	0	0	473	1,929
Delaware Co.	4	840	1,679	0	0	0	0	4,770	506	7,795
Greene Co.	4	906	448	0	0	0	0	32	0	1,386
MOBA SWM Author.	4	2,065	1,550	0	0	0	0	0	477	4,092
Rensselaer Co.	4	1,316	413	3	0	0	0	2	605	2,340
Schoenclady Co.	4	5,734	585	316	0	511	0	0	24	7,183
Region 4 ton/year										45,151
Region 4 ton/day										124
Cattaraugus Co.	5	551	1,020	84	0	0	0	400	0	2,035
Essex Co.	5	153	354	24	0	0	0	15	0	546
Franklin SWM	6	183	179	207	0	0	0	30	34	633
Fulton Co.	6	578	288	0	6	0	0	0	292	1,464
Hamilton Co.	5	250	204	0	0	0	0	0	0	454
Saratoga Co./Saratoga Spring	5	6,622	20,584	13,241	0	0	5,209	85	221	45,973
Warren Co.	5	1,059	591	205	5	0	0	7	0	1,867
Washington Co.	5	564	988	773	2	0	155	51	18	2,562
Region 5 ton/year										55,534
Region 5 ton/day										152
Jefferson Co.	6	1,558	1,959	0	0	0	0	0	1,384	4,891
Lewis Co.	6	341	295	0	0	0	0	29	0	636
Oriskany-Herkimer	6	10,463	7,538	682	144	0	339	446	313	19,927
St. Lawrence SWDA	6	0	0	0	0	0	0	0	8,718	8,718
Region 6 ton/year										35,172
Region 6 ton/day										96
Browns Co.	7	0	0	0	0	0	0	0	0	0
Cayuga Co.	7	975	2,582	0	0	0	0	0	0	3,557
Chenango Co.	7	856	1,101	0	0	0	0	0	549	2,506
Columbia Co.	7	690	1,240	0	0	0	0	0	106	2,236
Madison Co.	7	1,473	1,351	0	0	0	0	0	1,865	4,689
Oneida Co./RRW/Syracuse	7	28,128	40,407	2,059	250	887	0	20,033	306	82,070
Orangetown Co.	7	3,548	2,090	400	12	0	0	242	50	6,342
Tioga Co.	7	1,525	274	481	0	0	0	0	0	2,280
Tompkins Co.	7	1,884	1,650	0	0	0	0	124	1,937	5,595
Region 7 ton/year										119,275
Region 7 ton/day										327
Chemung Co.	8	3,227	2,400	0	0	1,241	68	3	0	6,938
GLDFF Region SWM	8	2,292	1,167	0	0	0	1	105	1	3,566
Monte Co./Rochester	8	35,211	3,408	2,129	0	0	0	709	1,810	43,258
Ontario Co.	8	2,555	1,386	0	0	0	0	0	394	4,335
Schuyler Co.	8	72	129	0	0	0	0	4	0	205
W. Finger Lakes	8	3,573	1,258	0	0	263	0	48	5	5,247
Steuben Co.	8	1,330	1,572	0	0	0	0	16	0	2,918
Region 8 ton/year										66,478
Region 8 ton/day										182
Allegany Co.	9	608	606	0	0	0	0	0	0	1,222
Cattaraugus Co.	9	2,040	1,371	0	0	0	0	63	671	4,045
Chautauque Co.	9	3,094	4,798	0	0	112	0	11	296	8,313
Erle Co./Buffalo	9	9,472	1,788	388	0	0	2	153	18,522	31,303
Wheeler Co.	9	4,400	7,205	0	0	0	0	0	0	11,605
Region 9 ton/year										55,488
Region 9 ton/day										155